UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(X) ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2013

OR

(_) TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission file number 1-11388

PLC Systems Inc.

(Exact name of registrant as specified in its charter)

Yukon Territory, Canada	**04-3153858**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
459 Fortune Boulevard, Milford, Massachusetts	**01757**
(Address of principal executive offices)	*(Zip Code)*

(508) 541-8800
(Registrant's telephone number, including area code)

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

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

Common stock, no par value
(Title of class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ( ) No (X)

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

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes (X) No ( )

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes (X) No ( )

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

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.

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ( ) No (X)

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant, based on the last sale price for such stock on June 30, 2013, was $2,898,000. As of March 14, 2014, 124,998,195 shares of common stock, no par value per share, were outstanding and an additional 35,666,667 shares had been paid for and reserved for issuance but not yet issued.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement, which will be issued in connection with the 2014 Annual Meeting of Shareholders, are incorporated by reference in Part III of this annual report on Form 10-K.

Forward-Looking Statements

This annual report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Statements containing terms such as "believes", "plans", "expects", "anticipates", "intends", "estimates" and similar expressions contain uncertainty and are forward-looking statements. Forward-looking statements are based on current plans and expectations and involve known and unknown important risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Such important factors and uncertainties include, but are not limited to the considerations described in the section of this report entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations – Forward-Looking Statements.”

PART I

Item 1. *Business*

Overview

We are a medical device company specializing in innovative technologies for the cardiac and vascular markets. Our key strategic growth initiative is our newest product, RenalGuard®.

RenalGuard is designed to reduce the potentially toxic effects that contrast media can have on the kidneys when it is administered to high-risk patients during certain medical imaging procedures. It is believed that allowing contrast media to dwell in the kidneys of certain higher risk patients can lead to contrast-induced nephropathy ("CIN"), a potentially deadly form of acute kidney injury. By inducing and maintaining a high urine flow rate before, during and after these medical imaging procedures, we believe the incidence rates of CIN in at-risk patients can be reduced. RenalGuard facilitates this increased urine clearance automatically, enabling the body to more rapidly void the contrast media, thereby reducing its overall resident time and toxic effects in the kidney.

The RenalGuard System consists of a proprietary, patented console and accompanying single-use sets. RenalGuard operates by first collecting and measuring patient urine outputs and then in real-time precisely matching these urine outputs with a prescribed replacement fluid by means of intravenous infusion. With its automated matched fluid replacement capability, RenalGuard is intended to promote and maintain high urine outputs and minimize the risk to patients of over- or under-hydration during image-guided catheterization procedures where contrast media are routinely administered.

We obtained a CE Mark for RenalGuard in December 2007 and began our initial commercialization efforts in the European Union ("EU") in Italy in April 2008. Since then, we have expanded our sales efforts for RenalGuard to other countries in the EU and additional countries around the world where we have received the necessary approvals to do so. In the U.S. we must first successfully complete a pivotal clinical study assessing the safety and effectiveness of RenalGuard in reducing the rates of CIN in at-risk patients and obtain United States of America ("U.S.") Food and Drug Administration ("FDA") pre-market approval in order to market RenalGuard. The first patient was enrolled in the U.S. pivotal study in January 2012.

RenalGuard Program

Our near term focus for our RenalGuard program is to (1) establish a broader distribution network in the EU and countries outside the EU where we have the approval to market RenalGuard, (2) assist our distributors in their ongoing efforts to sell RenalGuard and increase adoption and use of our technology, (3) continue to move our U.S. clinical trial forward by continuing to drive enrollment, (4) leverage the positive data from the two Italian studies that have been published to drive additional RenalGuard sales, and (5) continue to focus on seeking to raise additional capital needed for 2014 and beyond.

U.S. Clinical Trial

RenalGuard is currently an investigational device in the U.S. In December 2006, we received FDA approval to conduct our first human clinical trial utilizing RenalGuard under an investigational device exemption ("IDE"). This pilot clinical trial was designed to evaluate the safety of RenalGuard and the ability of our RenalGuard System to accurately measure and balance fluid inputs and outputs on up to 40 patients undergoing a catheterization imaging procedure where contrast media would be administered.

We enrolled a total of 23 patients in this pilot study. Based upon the positive safety data collected in the study and discussions with the FDA, we stopped enrolling new patients in the pilot study in November 2007. We submitted an IDE supplement to the FDA in February 2008 seeking approval to move from our pilot study to a pivotal clinical trial to study the safety and effectiveness of RenalGuard in the prevention of CIN. In November 2008, the FDA granted us approval to begin our pivotal study, but we deferred commencing this study until we could raise the necessary additional capital needed to conduct the study.

We modified the pivotal trial protocol based upon insights learned from the clinical trials of RenalGuard in Europe as well as other clinical developments since 2008. In October 2011, we received final approval from the FDA to commence the U.S. pivotal trial to study the efficacy of the Company's RenalGuard Therapy® and RenalGuard System(TM) in the prevention of CIN using the modified protocol.

Our U.S. trial, the CIN-RG trial is a pivotal study under the supervision of principal investigators at Northwestern University Medical School, University of Vermont College of Medicine and Mount Sinai School of Medicine. It is designed as an adaptive, randomized controlled trial at up to 30 sites in the U.S. Enrollment in the trial will include at least 326 patients and potentially up to 652 patients, depending upon the outcome of a sample size re-estimation after 163 patients. The sample size re-estimation, often used in adaptive trials, enables investigators to ensure that the trial is sufficiently powered so that the final results are statistically meaningful. The first patient was enrolled in the CIN-RG trial at Mount Sinai Hospital in New York in January 2012. On the trial's listing on ClinicalTrials.gov (http://www.clinicaltrials.gov/ct2/show/NCT01456013), we currently list 11 sites that are enrolling patients.

Italian Clinical Studies

The first of two investigator-sponsored studies in Italy, the MYTHOS trial, is a randomized, open-label controlled clinical trial conducted at the Centro Cardiologico Monzino-University of Milan ("CCM") in Milan, Italy. The MYTHOS trial was designed to determine the safety and effectiveness of RenalGuard in preventing CIN in at-risk patients. The trial results were published in the *Journal of the American College of Cardiology JACC -- Cardiovascular Interventions* in January 2012.

The trial data presented is on 170 enrolled patients with chronic kidney disease ("CKD") who underwent elective or urgent percutaneous coronary interventions ("PCI"). The results indicate that patients who were at higher risk for renal failure and who were treated with RenalGuard while undergoing imaging procedures developed CIN at a rate 74% lower than those who were treated with overnight hydration. Developing CIN has been found to lead to a range of serious and potentially deadly outcomes in patients who already have compromised kidney function. The trial also found that patients treated with RenalGuard had significantly fewer in-hospital adverse events than those treated with overnight hydration.

The second investigator-sponsored study, the REMEDIAL II trial, was a multi-center, randomized, open-label controlled clinical trial based at the Clinica Mediterranea in Naples, Italy and three other hospitals in Italy.

The results of REMEDIAL II were presented at the American College of Cardiology's annual conference in April 2011 and published in September 2011 in *Circulation*, a peer-reviewed journal of the American Heart Association. In this trial, the investigators reported that patients treated with RenalGuard and N-acetylcysteine ("NAC") developed CIN at a much lower rate than patients in the control group who were treated with an infusion of sodium bicarbonate and NAC. A combination of sodium bicarbonate and NAC remains the current standard of care for the prevention of CIN in many healthcare institutions worldwide. The results provided strong scientific data that RenalGuard Therapy® is more effective than sodium bicarbonate and N-acetylcysteine in preventing contrast-induced acute kidney injury ("CI-AKI") in high-risk patients.

The lead author, Dr. Carlo Briguori, reported on data from 294 patients with CKD who underwent elective catheterization procedures. The primary end point for the study used a definition of CIN as a rise in serum creatinine ("SCr") of 0.3mg/dl over the patient's baseline reading. The RenalGuard-treated group had a CIN incidence rate 46% lower than the control group using this definition of CIN. In secondary endpoints, Dr. Briguori also reported a 60% reduction in CIN in the RenalGuard-treated group compared to the control group when defining CIN as a 0.5mg/dl absolute rise in SCr and an 80% reduction of CIN in the RenalGuard-treated group over the control group when defining CIN as a 25% rise over baseline SCr. Notably, the trial also found that RenalGuard Therapy significantly reduced the need for in-hospital dialysis in high risk patients. In the control group, seven patients (4.8%) required some level of dialysis, compared to only one patient (0.7%), or 85% fewer, in the RenalGuard-treated group required dialysis.

We hope that the scientific data from these published papers regarding MYTHOS and REMEDIAL II, will both increase the adoption rate of our RenalGuard technology and enable us to continue to raise the additional capital we will need to advance our RenalGuard program in the future.

CIN

The diagnosis and treatment of cardiovascular disease rely heavily on cardiovascular imaging. Interventional cardiologists and radiologists are increasingly becoming involved at earlier stages in the management and treatment of patients suffering from cardiovascular disease, as noninvasive imaging and interventional treatment techniques, such as angioplasty procedures and stent placements, increase in demand and outpace the use of invasive surgical options.

We estimate that approximately seven million cardiovascular diagnostic and interventional imaging procedures are performed worldwide each year. These less invasive, image-guided medical procedures require the use of an iodine-based radiocontrast media, or dye, to facilitate the capture and display of x-ray images. These contrast agents are known to be toxic to the kidneys, whose main function is to filter and remove wastes and fluids, such as this dye, from the body. Patients who undergo a diagnostic or interventional imaging procedure and who present themselves with a certain level of pre-existing impaired renal (kidney) function are especially susceptible to the toxic effects of these contrast agents and to developing CIN.

We believe CIN is a major and growing problem due to the increasing number of older patients, diabetics and patients with pre-existing renal impairment requiring interventional procedures that use radiographic contrast media. CIN is the third most common cause of in-hospital acute renal failure. It is associated with increased in-hospital mortality rates, and increases in long-term mortality, major in-hospital adverse cardiac events, and risk of renal dialysis therapy. Any of these can result in prolonged hospital stays and increased medical costs. We believe that approximately 10% to 20% of all patients undergoing image-guided cardiology and radiology procedures are at risk of developing CIN. The one year mortality rate for patients who develop CIN may be as high as 38%.

Potential Market Size

Based upon a market research study that was performed for us as well as other sources, we estimate that there are approximately 4 million diagnostic and interventional cardiology and radiology imaging procedures requiring the use of contrast agents that are performed annually in the U.S. alone, and an estimated 7 million worldwide. Patients with other significant risk factors besides renal insufficiency, such as congestive heart failure, anemia, peripheral vascular disease, diabetes and being over the age of 75, are also at risk for developing CIN. This population continues to grow. Specifically, the Heart Disease and Stroke Statistics – 2013 Update, or 2013 HSSU, which was published by the American Heart Association, estimates that there were 171 million individuals with diabetes worldwide in 2000 and that number is projected to rise to 366 million by 2030. It is estimated that more than 26 million people in the U.S. have chronic kidney disease ("CKD") and another 20 million are at increased risk for CKD.

At-risk patients with renal insufficiency are easily identified with a routine blood analysis involving the level of a waste product in the blood called serum creatinine and an industry-standard calculation called a estimated glomerular filtration rate ("eGFR"). eGFR can be calculated using serum creatinine concentration and some or all of the following variables: sex, age, weight and race, as suggested by the National Kidney Foundation. A decrease in creatinine clearance is generally accepted as a good indicator of kidney disease. CIN is usually defined as an increase in serum creatinine of 25% over baseline within four days of a procedure where contrast is administered.

Of the estimated 7 million diagnostic and interventional imaging procedures performed worldwide each year that involve the use of contrast agents, we believe that 15% of the patients in these cases, or approximately 1 million patients, could be considered at-risk for CIN and thus benefit from the use of RenalGuard.

RenalGuard Sales and Marketing

We obtained a CE Mark for RenalGuard in December 2007 and began our initial commercialization efforts in the EU in Italy in April 2008. Since then, we have expanded our sales efforts for RenalGuard to other countries in the EU and additional countries around the world where we have received the necessary approvals to do so.

To date we have relied exclusively on independent distributors to sell our product into international markets and we expect to continue this sales strategy for the foreseeable future. Distributors who we contract with to market our product typically also represent at least several other company product lines and have demonstrated experience selling their full spectrum of products into cardiovascular centers throughout their territory. Our distribution agreements typically set forth minimum annual purchase requirements over the term of the contract, although these annual minimums may be waived by us in our sole discretion. Typically our distribution agreements provide our distributors the exclusive right to market our products in a specific territory and generally have a duration that ranges between three and five years.

Our international distributors determine the programs, including sale, lease, rental and usage-based offerings, which they believe will be most effective in selling our products to hospitals in their territory. Our distributors' marketing efforts are directed primarily at interventional cardiologists and nephrologists, whose influence are both believed to be critical in a hospital's decision to acquire our products.

In the U.S., we must first successfully complete a pivotal clinical study assessing the safety and effectiveness of RenalGuard in reducing the rates of CIN in at-risk patients and obtain FDA pre-market approval in order to market RenalGuard.

RenalGuard System and Therapy

RenalGuard is designed to reduce the toxic effects that contrast media can have on the kidneys, which may lead to a reduction in the incidence of CIN in at-risk patients. RenalGuard Therapy® is based upon existing published literature, including the industry-recognized PRINCE study, that supports the theory that inducing and maintaining high urine output through the kidneys allows the body to rapidly eliminate contrast, reducing its toxic effects.

Our RenalGuard System is a real-time automated measurement and matched fluid replacement device. The system is comprised of a fluid balancing system and a console with a delivery mechanism for sterile replacement fluid, including detectors, monitors and alarms. It is a closed loop system where the urine produced by the patient through a standard Foley-type catheter is continuously measured. A unique sterile disposable kit is required for each procedure.

Our RenalGuard Therapy entails the use of a standard FDA-approved loop diuretic that induces the required high urine output that is measured and in real-time replaced with an equal volume of sterile solution, such as saline, by the RenalGuard System. This matched fluid replacement is intended to reduce the risk of over- or under-hydration, which can lead to increased patient risks, including pulmonary edema – a swelling and/or fluid accumulation in the lungs that leads to impaired gas exchange and may cause respiratory failure.

Potential Benefits of RenalGuard

We are attempting to bring RenalGuard to market as the first product to address this problem. We believe it is a safe, innovative technology capable of achieving significant market adoption due to its evidence-based therapy and straightforward integration into hospital environments where contrast agents are routinely used.

Evidence-based Therapy

The effectiveness of RenalGuard Therapy has now been demonstrated in two randomized, open-label controlled clinical trials. Both of these studies reported that inducing very high urine outputs with precise matching of intravascular volume significantly reduced the incidence of CIN in at-risk patients.

Straightforward Hospital Integration

We believe RenalGuard can easily be integrated into hospital environments where contrast agents are routinely used. It leverages existing hospital resources to protect at-risk patients within the current therapy window. RenalGuard is designed to be simple to operate and to have features that are similar to devices currently used by hospital staff, and because it is automated, it lessens the burden on staff to constantly monitor patients.

Other Potential Markets

We plan to focus our short-term marketing efforts on the interventional cardiovascular and radiology markets and the reduction of CIN in imaging procedures requiring the use of contrast. In addition, we believe that our RenalGuard Therapy and System may be attractive to hospitals as an automated fluid balancing system that could be used in certain intensive patient monitoring settings within the hospital, such as the intensive care unit, or where fluid management is critical, such as in post-kidney transplant patients where the replacement of fluid losses is necessary to avoid the risk of damage to the transplanted kidney.

Current Treatment Methods for CIN

The only clinically accepted and routinely utilized preventive measure for patients at risk for CIN is pre- and post- procedure overnight hydration, which is inconvenient, expensive and time-consuming for hospital staff. There is currently no FDA-approved device or drug for CIN prevention. Due to the attractiveness of the potential market, we believe that there are a number of other companies developing or investigating potential new CIN preventive drugs, devices and therapies.

Preventive measures being used in clinical practice today include:

Mucomyst®

N-acetylcysteine (Mucomyst®) is both a renal vasodilator and antioxidant. It is prescribed by a doctor prior to the start of an interventional procedure and is taken by the patient in prearranged doses that may start the day before the procedure. This therapy is employed by many physicians due to an extremely low risk profile and cost. A team of Brazilian researchers recently published data on the largest trial of Mucomyst to date, the ACT Trial. They reported that after studying Mucomyst in 2,308 patients, the rate of CIN was identical between the group of patients who received the drug and those who did not. While additional research is continuing into this therapy, the results of the ACT trial have reduced the use of Mucomyst as a preventative therapy at many centers.

Sodium bicarbonate

Sodium bicarbonate is a pre-mixed pharmaceutical solution that is given intravenously on the same day as the procedure, prior to the start. A small number of published studies that have evaluated utilizing sodium bicarbonate as a preventive measure. Meta-analysis of these studies and larger studies of the therapy have failed to demonstrate a clear benefit to sodium bicarbonate. We believe that the lack of solid clinical evidence for this therapy has led to the a tapering off of the use of sodium bicarbonate at many hospitals.

Device-Based Competition

Benephit Catheter

In January 2009, AngioDynamics Inc. acquired certain assets of FlowMedica, Inc., including its Benephit® CV Infusion System, which is a catheter designed to deliver drugs and/or fluid directly to the renal arteries during an interventional procedure. This system is FDA 510(k)-cleared and CE-marked for the infusion of physician-specified agents in the peripheral vasculature. We believe market challenges for this approach may include the lack of clear supporting clinical data, concerns regarding complications of direct renal intervention and the cost of the catheter.

CINCOR System

Osprey Medical Systems has announced that it has received CE Mark for its CINCOR system and is seeking to begin its Pivotal U.S. Trial in 2013. CINCOR is a catheter based system that is designed to be placed in the coronary sinus. The system attempts to reduce the incidence of CIN by removing a fraction of the contrast from the patient's blood as it flows through the coronary sinus. Osprey's public statements list the CINCOR price as between $1,500-$2,000. We believe market challenges for this approach may include concerns regarding complications of placing a catheter in the coronary sinus, lack of clear supporting clinical data, and the significant cost of the system. Additionally, published reports to date only indicate that CINCOR removes on average 32% of the contrast injected, which still allows a significant volume of potentially dangerous contrast to pass to the patient's kidney. While RenalGuard can be used in any procedure where iodinated contrast is used, CINCOR only works for coronary interventions, so the technology cannot be used in patients undergoing peripheral catheterizations, transcatheter aortic-valve implantation (TAVI), or contrast enhanced CT, all of which represent significant markets for RenalGuard. Recently Osprey Medical announced the termination of their study of the CINCOR system as they transition to their newest product, the AVERT System.

AVERT System

Osprey Medical Systems has announced that it has received U.S. FDA 510 (k) clearance for its AVERT system and planned to begin limited U.S. commercialization in parallel with a U.S. Trial in the fourth quarter of 2013. AVERT is a pressure relief system that connects to manual contrast injection systems and is designed to help reduce the volume of contrast used during a procedure. Analyst reports list the AVERT price as between $350-$400. We believe market challenges for this approach may include a high residual rate of CIN caused by the contrast that is still used during the procedure. Further, we believe the system is limited as it is used only in cath labs which employ manual injection systems. Hospitals that use power injectors for contrast injection would expect limited benefit from the AVERT system, since those systems have been shown to demonstrate a similar reduction in contrast volume.

Products and Customers

RenalGuard sales accounted for 100% of our revenues for the years ended December 31, 2013 and 2012, respectively.

Our distributor of RenalGuard in Italy, Artech, accounted for 68% and 35% of our RenalGuard revenues in the years ended December 31, 2013 and 2012, respectively. ACIST, our distributor in France and Germany, accounted for 11% and 10% of our total revenues in the years ended December 31, 2013 and 2012, respectively. Discomed, our distributor in Brazil, accounted for 8% and 29% of our total revenues in the years ended December 31, 2013 and 2012, respectively.

Manufacturing

In 2011 we began manufacturing our RenalGuard consoles by a contract manufacturer located in New England. Our RenalGuard sterile disposable kit continues to be manufactured for us by a separate outside contract manufacturer also located in New England. We believe that our outside contract manufacturers will have sufficient capacity to meet market demands anticipated in the coming year for our RenalGuard product.

Our facilities and those of our outside contract manufacturers are subject to periodic inspection by regulatory authorities to ensure compliance with FDA and EU quality system regulations.

Government Regulation

RenalGuard is subject to extensive regulation by the FDA and other regulatory authorities in the U.S. and abroad. The Federal Food, Drug, and Cosmetic Act (the "FDC Act") and other federal and state statutes and regulations govern the research, design, development, manufacturing, preclinical and clinical testing, installation, storage, packaging, recordkeeping, servicing, labeling, distribution and promotion of medical devices in the U.S.

As a device manufacturer, we are also required to register with the FDA. As such, we are subject to inspection on a routine basis for compliance with the FDA's Quality Systems regulations. These regulations require that we manufacture our products and maintain our documents in a prescribed manner with respect to manufacturing, testing and control activities. Further, we are required to comply with various FDA requirements for reporting. The FDC Act and medical device reporting regulations require that we provide information to the FDA on deaths or serious injuries alleged to have been caused or contributed to by the use of our products, as well as product malfunctions that would likely cause or contribute to death or serious injury if the malfunction were to recur. The FDA also prohibits an approved device from being marketed for unapproved uses. Our product promotion and advertising is subject to continuing FDA regulation. The failure to comply with the applicable regulatory requirements may subject us to a variety of administrative or judicially imposed sanctions, including the FDA's refusal to approve pending or supplemental applications, withdrawal of an approval or clearance, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, and civil and criminal penalties against that company or its officers, directors or employees. Failure to comply with regulatory requirements could have a material adverse effect on our business, financial condition and results of operations.

From time to time, legislation is drafted and introduced in Congress that could significantly change the statutory provisions governing the approval, manufacturing and marketing of drug products and medical devices. In addition, FDA regulations and guidance are often revised or reinterpreted by the agency in ways that may significantly affect our business and our products. It is impossible to predict whether legislative changes will be enacted, or FDA regulations, guidance, or interpretations changed, and what the impact of such changes, if any, may be.

Various foreign countries in which our products are or may be sold impose additional or different regulatory and testing requirements. The international regulatory approval process varies from country to country and is subject to change in a given country as regulatory requirements change. Thus, the time required for an approval may differ and there can be substantial delays in obtaining approval after the relevant applications are filed. There is no assurance that foreign regulatory authorities will approve the use or sale of our products in a particular country on a timely basis, or at all.

Proprietary Processes, Patents, Licenses and Other Rights

It is our practice to file patent applications to protect our technology, inventions and product improvements. We also rely on trade secret protection for certain confidential and proprietary information.

We have been issued 9 U.S. patents, 1 European patent, 1 Canadian patent and 1 Japanese patent related to our RenalGuard System and its use in preventing CIN. The U.S. patents have terms that expire from 2024 through 2029.

In addition, we currently have five full patent applications pending at the U.S. Patent Office in connection with the prevention of CIN related to RenalGuard, as well as two provisional patent applications. We have international patent applications pending on five of these RenalGuard patents, including individual patent applications pending in the EU and Japan.

Although we believe our patents to be strong, litigation by a competitor seeking to invalidate these patents could have a material adverse effect on our business, financial condition and results of operations. No assurance can be given that the existing patents will be held valid if challenged, that any additional patents will be issued or that the scope of any patent protection will exclude competitors. The breadth of claims in medical technology patents involves complex legal and factual issues and therefore can be highly uncertain.

We also rely upon unpatented proprietary technology and trade secrets that we seek to protect, in part, through confidentiality agreements with employees and other parties. No assurance can be given that these agreements will not be breached, that we will have adequate remedies for any breach, that others will not independently develop or otherwise acquire substantially equivalent proprietary technology and trade secrets or disclose such technology or that we can meaningfully protect our rights in such unpatented technology. In addition, others may hold or receive patents that contain claims covering products developed by us.

We believe our patents to be valid and enforceable. However, there has been substantial litigation regarding patent and other intellectual property rights in the medical device industry. Litigation, which could result in substantial cost and diversion of our efforts, may be necessary to enforce our patents, to protect our trade secrets, to defend ourselves against claimed infringement of the rights of others and to determine the scope and validity of the proprietary rights of others. Adverse determinations in litigation could subject us to significant liabilities to third parties, require us to seek licenses from third parties and prevent us from manufacturing, selling or using our products, any of which could have a material adverse effect on our business, financial condition and results of operations.

Research and Development

Research and development expenses were approximately $2,118,000 and $2,031,000 for the years ended December 31, 2013 and 2012, respectively. Our current and near term development efforts will be focused exclusively on advancing our RenalGuard program.

We continue to monitor technologies that may be applicable to the market for CIN prevention. No assurance can be given that our research and development goals will be implemented successfully.

Employees

As of March 25, 2014, we had 6 full-time employees worldwide, including our executive officers. Of these, three are in general and administrative positions, two are involved in clinical/research and development and one is involved in manufacturing/regulatory affairs. None of our employees are represented by a union. We consider our relationship with our employees to be good.

Company Information

We were incorporated in British Columbia, Canada on March 3, 1987. We transferred our jurisdiction of incorporation to the Yukon Territory of Canada in March 1999. Our principal offices are located at 459 Fortune Boulevard, Milford, Massachusetts 01757. Our telephone number is (508) 541-8800. Our Internet address is *www.plcmed.com*. As used herein, the references to PLC, we, our and the Company mean, unless the context requires otherwise, PLC and its subsidiaries, PLC Medical Systems, Inc. and PLC Systemas Medicos Internacionais (Deutschland) GmbH.

Item 1A. ***Risk Factors***

Pursuant to the instructions to Item 1A. of Form 10-K, we are not required to provide this information because we are a smaller reporting company.

Item 1B. ***Unresolved Staff Comments***

Not applicable.

Item 2. ***Properties***

We maintain our principal executive offices and conduct our operations in 6,000 square feet of leased space in Milford, Massachusetts. The lease on this space expires on August 31, 2014. The total base rental payments for the year ending December 31, 2014 through Augusts 31, 2014 are $30,000. We are also responsible for certain operating and maintenance costs and real estate taxes.

Item 3. ***Legal Proceedings***

We are not presently involved in any material litigation proceedings.

Item 4. ***Mine Safety Disclosures***

Not applicable.

PART II

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

Since November 17, 2008, our common stock has been quoted on both the Pink Sheets and the OTC Bulletin Board (the "OTCBB") under the symbol "PLCSF". On March 14, 2014, the last quoted sale price of our common stock was $0.04 per share.

The following table sets forth the highest and lowest of any bid price for our common stock on the Pink Sheets or the OTCBB. Any bid price listed represents inter-dealer quotations without retail markup, markdown or commission and may not necessarily represent actual transactions.

2012	**High**	**Low**
First Quarter	$ 0.35	$ 0.10
Second Quarter	$ 0.34	$ 0.16
Third Quarter	$ 0.30	$ 0.15
Fourth Quarter	$ 0.24	$ 0.13

2013	**High**	**Low**
First Quarter	$ 0.25	$ 0.11
Second Quarter	$ 0.23	$ 0.08
Third Quarter	$ 0.11	$ 0.06
Fourth Quarter	$ 0.06	$ 0.04

As of March 14, 2014, there were 606 record holders of our common stock. We believe that there are approximately 5,744 beneficial owners of our common stock.

Dividends

We have never paid cash dividends. We currently intend to retain all future earnings, if any, for use in our business and we do not anticipate paying any cash dividends in the foreseeable future. The terms of our secured convertible debt financing prohibits the payment of any cash dividends without the prior written consent of the holders of a majority of the principal amount of the outstanding convertible notes.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information about the securities authorized for issuance under our equity compensation plans as of December 31, 2013:

Plan Category	(a) Number of securities to be issued upon exercise of outstanding options, and other rights	(b) Weighted-average exercise price of outstanding options, and other rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders(1)	10,086,000	$ 0.15	7,877,000(2)
Equity compensation plans not approved by security holders	-	-	-
Total	10,086,000	$ 0.15	7,877,000

(1) Consists of the following equity compensation plans: (i) 2000 Employee Stock Purchase Plan, as amended (the "2000 ESPP"); (ii) 2000 Equity Incentive Plan; and (iii) 2005 Stock Incentive Plan.

(2) Includes 294,461 shares issuable under the 2000 ESPP, including shares issuable in connection with the current offering period, which ends on May 31, 2013.

Canadian Tax Matters

This summary is applicable to a holder or prospective purchaser of our common stock who (i) is not (and is not deemed to be) a resident in Canada, (ii) does not (and is not deemed to) use or hold the common stock in, or in the course of, carrying on a business in Canada, (iii) is not an insurer that carries on an insurance business in Canada and elsewhere, and (iv) holds the common stock as capital property.

This summary is based on the current provisions of the Income Tax Act (Canada), the regulations thereunder and the Canada – United States Income Tax Convention (1980), as amended (the "Tax Convention"). This summary is not exhaustive of all possible Canadian federal income tax consequences and does not take into account provincial, territorial or foreign income tax considerations. This summary is of a general nature only and is not intended to be, nor should it be construed to be, legal or tax advice to any holder of the common stock and no representation with respect to Canadian federal income tax consequences to any holder of common stock is made herein. Accordingly, prospective purchasers and holders of the common stock should consult their own tax advisers with respect to their individual circumstances.

Sales or Other Dispositions of Shares

A capital gain realized on the disposition of common stock by a person resident in the U.S. (a "non-resident") will not be subject to tax under the Income Tax Act (Canada) unless the shares held by the non-resident are "taxable Canadian property" at the time of disposition. In general, common stock will be taxable Canadian property if the particular non-resident used (or in the case of a non-resident insurer, used or held) the common stock in carrying on business in Canada or where at any time during the five-year period immediately preceding the realization of the gain, not less than 25% of the issued and outstanding shares of any class or series of shares of the company, which were listed on a prescribed stock exchange, were owned by the particular non-resident, by persons with whom the particular non-resident did not deal at arms' length, or by any combination thereof. The AMEX, but not the OTCBB, is a prescribed stock exchange for the purposes of the Income Tax Act (Canada). If common stock constitutes taxable Canadian property, relief nevertheless may be available under the Tax Convention. Under the Tax Convention, gains from the alienation of common stock owned by a non-resident who has never been resident in Canada generally will be exempt from Canadian capital gains tax if the shares do not relate to a permanent establishment or fixed base which the non-resident has or had in Canada, and if not more than 50% of the value of the shares was derived from real property situated in Canada. With regard to a non-resident qualifying for benefits under the Tax Convention, it is the Canada Revenue Agency's published administrative position that certain entities that are treated as being fiscally transparent for U.S. federal income tax purposes (i.e., limited liability companies) will not qualify as residents of the U.S. for the purposes of the Tax Convention.

Taxation of Dividends on Common Stock

In the event that dividends on our common stock are paid, credited or deemed to be paid or credited to a non-resident, the non-resident will be subject to Canadian withholding tax at a rate of 25% of the gross amount of the dividend. Under the Tax Convention, the withholding tax rate is reduced to 15% of the gross amount of the dividend. Also under the Tax Convention, dividends may be exempt from Canadian withholding tax if paid to certain non-residents (i.e., certain tax exempt organizations). Prospective purchasers and holders of our common stock should consult their own tax advisors with regard to any possible exemption from withholding tax on dividends paid on our common stock.

Passive Foreign Investment Company Implications

Because we are incorporated outside the U.S., and our cash and investments are significant to our total assets, we must monitor rules regarding possible classification as a passive foreign investment company under U.S. Federal tax rules. While currently not classified as such, future classification as a passive foreign investment company could result in certain adverse tax consequences including, but not limited to, the allocation of a portion of our taxable income to our shareholders.

Item 6. ***Selected Financial Data***

Pursuant to Item 301(c) of Regulation S-K, we are not required to provide this information because we are a smaller reporting company.

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

Overview

We are a medical device company specializing in innovative technologies for the cardiac and vascular markets. Our key strategic growth initiative is our newest marketable product, RenalGuard.

RenalGuard is designed to reduce the potentially toxic effects that contrast media can have on the kidneys when it is administered to patients during certain medical imaging procedures. It is believed that allowing contrast media to dwell in the kidneys of certain higher risk patients can lead to CIN, a potentially deadly form of acute kidney injury. By inducing and maintaining a high urine flow rate before, during and after these medical imaging procedures, we believe the incidence rates of CIN in at-risk patients can be reduced. RenalGuard facilitates this increased urine clearance automatically, enabling the body to more rapidly void the contrast media, thereby reducing its overall resident time and toxic effects in the kidney.

The RenalGuard System consists of a proprietary console and accompanying single-use sets. RenalGuard operates by first collecting and measuring patient urine outputs and then in real-time precisely matching these urine outputs with a prescribed replacement fluid by means of intravenous infusion. With its automated matched fluid replacement capability, RenalGuard is intended to promote and maintain high urine outputs and minimize the risk to patients of over- or under-hydration during image-guided catheterization procedures where contrast media are routinely administered.

We obtained a CE Mark for RenalGuard in December 2007 and began our initial commercialization efforts in the EU in Italy in April 2008. We are now marketing RenalGuard in several additional countries around the world. In the U.S. we must first successfully complete a pivotal clinical study assessing the safety and effectiveness of RenalGuard in reducing the rates of CIN in at-risk patients and obtain FDA pre-market approval in order to market RenalGuard. The first patient was enrolled in the U.S. pivotal study in January 2012.

Our distributor of RenalGuard in Italy, Artech, accounted for 68% and 35% of our total revenues in the years ended December 31, 2013 and 2012, respectively. ACIST, our distributor in France and Germany, accounted for 11% and 9% of our total revenues in the years ended December 31, 2013 and and 2012, respectively. Discomed, our distributor in Brazil, accounted for 8% and 29% of our total revenues in the years ended December 31, 2013 and 2012, respectively.

Our management reviews a number of key performance indicators to assist in determining how to allocate resources and run our day-to-day operations. These indicators include (1) actual prior quarterly sales trends, (2) projected sales for the next four quarters, (3) research and development progress as measured against internal project plan objectives, (4) budget to actual financial expenditure results, (5) inventory levels (both our own and our distributors'), and (6) short term and long term projected cash flows of the business.

Critical Accounting Policies and Estimates

Our financial statements are based upon the application of significant accounting policies, many of which require us to make significant estimates and assumptions (see Note 2 to the Consolidated Financial Statements). We believe that the following are some of the more material judgment areas in the application of our accounting policies that currently affect our financial condition and results of operations.

Inventories

Inventories are stated at average cost (computed on a first-in, first-out method) and include allocations of labor and overhead. We regularly review slow-moving and excess inventories, and write down inventories to net realizable value if the ultimate expected proceeds from the disposals of excess inventory are less than the carrying cost of the inventory.

Accounts Receivable

Accounts receivable are stated at the amount we expect to collect from the outstanding balances. We continuously monitor collections from customers, and we maintain a provision for estimated credit losses based upon historical experience and any specific customer collection issues that we have identified. Historically, we have not experienced significant losses related to our accounts receivable. Collateral is not generally required. If the financial condition of our customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances might be required.

Warranty and Preventative Maintenance Costs

We warranty our products against manufacturing defects under normal use and service during the warranty period. We obtain similar warranties from a majority of our suppliers.

We evaluate the estimated future unrecoverable costs of warranty and preventative maintenance services for our installed base of RenalGuard consoles and single-use sets on a quarterly basis and adjust our warranty reserve accordingly. We consider all available evidence, including historical experience and information obtained from supplier audits. Historically, we have not experienced significant costs related to warranty and preventative maintenance.

Valuation of Convertible Notes and Warrant Liabilities

The valuation of our convertible notes and our warrant liabilities as derivative instruments utilizes certain estimates and judgments that affect the fair value of the instruments. Fair values are estimated by utilizing valuation models that consider current and expected stock prices, volatility, dividends, forward yield curves and discount rates. Such amounts and the recognition of such amounts are subject to significant estimates that may change in the future.

Revenue Recognition

We recognize revenue when the following basic revenue recognition criteria have been met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services rendered; (3) the price to the buyer is fixed or determinable; and (4) collectability is reasonably assured. Determination of criteria (3) and (4) are based on management's judgments regarding the fixed nature of the price to the buyer charged for products delivered or services rendered and collectability of the sales price. We assess credit worthiness of customers based upon prior history with the customer and assessment of financial condition. Our shipping terms are customarily Free On Board ("FOB") shipping point.

We generally record product revenue, including sales of RenalGuard consoles and single-use sets at the time of shipment, if all other revenue recognition criteria have been met. As of December 31, 2013 and 2012, we had deferred revenue balances of $0 and $317,000, respectively, related to shipments to our distributor in Italy, Artech, because not all revenue recognition criteria were met. During the years ended December 31, 2013 and 2012, we recognized $317,000 and $381,000, respectively, in revenue previously deferred upon the receipt of cash.

Results of Operations

Results for the past two years and the related percent of total revenues were as follows:

	2013	2012	Increase/(decrease) over 2012	
	$	$	$	%
	(dollars in thousands)			
Total revenues	$ 1,274	$ 1,080	$ 194	18%
Total cost of revenues	531	541	(10)	(2)
Gross profit	743	539	204	38
Selling, general and administrative expenses	3,329	2,633	696	26
Research and development expenses	2,118	2,031	87	4
Total operating expenses	5,447	4,664	783	17
Loss from operations	(4,704)	(4,125)	(579)	14
Interest expense	(337)	(555)	218	(39)
Other income	19	--	19	100
Foreign currency transaction gains	17	14	3	21
Financing costs associated with convertible notes	--	(80)	80	100
Change in fair value of warrant and options liabilities	6,964	(1,617)	8,581	531
Change in fair value of convertible notes	4,814	(2,024)	6,838	338
Loss on extinguishment of convertible notes	(3,274)	--	(3,274)	(100)
Total other income (expense)	8,203	(4,262)	12,465	292
Net Income (Loss)	$ 3,499	$ (8,387)	$ 11,886	142%

Product Sales

Revenues increased $194,000 or 18% in 2013 as compared to 2012. RenalGuard Console sales decreased $91,000 or 24% in 2013 as compared to 2012 due to a lower volume of RenalGuard consoles sold to international distributors. RenalGuard single use set revenues increased $297,000 or 44% in 2013 as compared to 2012 due to a higher volume of RenalGuard single-use sets sold to international distributors. As of December 31, 2012, we had deferred revenue of $317,000 related to shipments to our distributor in Italy, Artech, because not all revenue recognition criteria were met. During 2013 and 2012 we recognized revenue of $317,000 and $381,000, respectively, related to Artech sales which had previously been deferred.

Gross Profit

Gross profit was $743,000, or 58% of total revenues, in 2013, as compared with gross profit of $539,000, or 50% of total revenues, in 2012. Gross margin generated from the low volume of RenalGuard revenues was sufficient to offset the fixed manufacturing costs incurred during 2013.

Selling, General and Administrative Expenses

Selling, general and administrative expenditures increased 26% in 2013 as compared to 2012. The increase was due to higher investor relations expense incurred in relation to the February 2013 financing during the year ended December 31, 2013 as compared to the year ended December 31, 2012 (See Note 8).

Research and Development Expenses

Research and development expenditures increased 4% in 2013 as compared to 2012 due to continued costs of operating the RenalGuard U.S. clinical trial costs.

As we continue our U.S clinical trial for our RenalGuard program, we expect our research and development expenses to significantly increase in 2014.

Other Income (Expense)

Between February 2011 and September 2013, the Company entered into convertible note arrangements and amendments thereto as described in Note 9 of the Consolidated Financial Statements. As a result of these three transactions, interest expense of $337,000 and $555,000 in the years ended December 31, 2013, and 2012, respectively, was recorded. In addition, financing costs associated with these transactions of $80,000 was recorded in the year ended December 31, 2012.

The Company accounts for its outstanding common stock warrants, certain common stock options and convertible notes at fair value. Changes in the fair value of these instruments are recorded as a component of Other Income (Expense). The Company recorded other income of $6,964,000 in the year ended December 31, 2013 as compared to other expense of $1,617,000 in the year ended December 31, 2012, as a result of fair value adjustments related to outstanding common stock warrants and options. The Company recorded other income of $4,814,000 in the year ended December 31, 2013 as compared to other expense of $2,024,000 in the year ended December 31, 2012, as a result of fair value adjustments related to the outstanding convertible notes. The Company also recorded other expense of $3,274,000 in the year ended December 31, 2013, related to extinguishment of the outstanding convertible notes and warrants.

Net Income (Loss)

In 2013, we recorded net income of $3,499,000, as compared to a net loss of $8,387,000 in 2012, primarily due to other income related to the fair value adjustments of our outstanding convertible notes, warrants and SPA options.

Liquidity and Capital Resources

We compete in the highly regulated and competitive medical device market place where products can take significant time to develop, gain regulatory approval and then introduce to distributors and end users. We have incurred recurring quarterly operating losses over the past few years as we have worked to bring our RenalGuard System through development and initial commercialization efforts outside the United States. We expect such operating losses will continue until such time, if ever, that RenalGuard product sales increase sufficiently to generate profitable results.

Under the terms of the Securities Purchase Agreement entered into in February 2011, we had the opportunity to raise up to an additional $2 million from the Holders of the Convertible Notes in two separate $1 million tranches, based upon meeting certain operational milestones within certain periods of time. The deadline for achieving the operational milestones for the first $1 million tranche expired in February 2012 without our achieving such milestones; however, the investors agreed to waive both the deadline and the achievement of these milestones as a condition for the investment of the first additional $1 million and invested such funds in July 2012. On February 22, 2013 we entered into a Securities Purchase Agreement with a number of accredited investors which revised certain terms of this Securities Purchase Agreement, including the cancellation of remaining milestone investments. See Note 9 to our Consolidated Financial Statements for additional disclosure surrounding this amendment.

On July 2, 2012 we entered into an Amendment and Waiver to Securities Purchase Agreement to amend our Securities Purchase Agreement to provide for the issuance of (i) an additional $1,000,000 of 5% Senior Secured Convertible Debentures maturing on July 2, 2015, (ii) warrants exercisable for a period of five years to purchase up to 10,000,000 shares of common stock at an exercise price of $0.15 per share and (iii) warrants exercisable for a period of five years to purchase up to 10,000,000 shares of common stock at an exercise price of $0.25 per share. On February 22, 2013 we entered into a Securities Purchase Agreement with a number of accredited investors which revised certain terms of this Securities Purchase Agreement, including the cancellation of the $0.25 warrants and a repricing of the $0.15 Warrants. See Note 9 to our Consolidated Financial Statements for additional disclosure surrounding this amendment.

On January 16, 2013 we entered into an Amendment and Waiver to Securities Purchase Agreement to amend our Securities Purchase Agreement to provide for the issuance of (i) an additional $250,000 of 5% Senior Secured Convertible Debentures maturing on January 16, 2016 and (ii) warrants exercisable for a period of five years to purchase up to 2,500,000 shares of common stock at an exercise price of $0.15 per share. See Note 9 to our Consolidated Financial Statements for additional disclosure surrounding this amendment.

Under the February 2013 Securities Purchase Agreement with a number of accredited investors, we sold an aggregate of 26,933,333 shares of common stock at $0.15 per share and (the "February 2013 Warrants") to purchase an additional 26,933,333 shares of common stock with gross proceeds of $4,040,000. We utilized the proceeds of the private placement for general working capital purposes, to pay for investor relations services, for payment of fees to Palladium Capital, LLC, the exclusive placement agent, and for legal, blue sky and related expenses. After payment of the placement agent fees and these other expenses, we received net proceeds of approximately $3.5 million. See Note 8 to our Consolidated Financial Statements for additional disclosure surrounding this agreement.

On September 18, 2013, we entered into a Securities Purchase Agreement with a number of accredited investors, whereby we sold an aggregate of 29,166,668 shares of common stock and warrants to purchase an additional 29,166,668 shares of common stock with gross proceeds of $1,750,000 to these accredited investors. We intend to utilize the proceeds of the private placement for general working capital purposes, to pay for investor relations services, for payment of fees to Palladium Capital, LLC, the exclusive placement agent, and for legal, blue sky and related expenses. After payment of the placement agent fees and these other expenses, we received net proceeds of approximately $1.6 million. See Note 8 to our Consolidated Financial Statements for additional disclosure surrounding this agreement.

Unrestricted cash and cash equivalents totaled $769,000 as of December 31, 2013, an increase of $511,000 from $258,000 as of December 31, 2012. As of December 31, 2013 and 2012, the maturity date principal of convertible debt was $4,494,355 and $5,000,000, respectively, and is due June 2015. We have historically funded our working capital requirements through cash received from public and private offerings of our common stock and to a lesser extent, through our sales of products and services. We believe that our existing resources, based on our currently projected financial results, are sufficient to fund operations through the first quarter of 2014. Based upon current and anticipated revenue projections from foreign sales of our RenalGuard product, and the anticipated costs of our U.S. clinical trial, we expect that we will need to raise additional capital during April 2014.

Our plan is to seek additional capital through the sale of equity and/or debt securities to fund operations. However, there can be no assurance that such capital will be available at all, or if available, that the terms of such financing will not be dilutive to our existing stockholders. The holders of the Convertible Notes (and holders of the Common Stock and the Warrants issued in the February 2013 and September 2013 Securities Purchase Agreements) have certain rights to participate in any subsequent financing. If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of the company by our stockholders would be diluted. In addition, any debt securities would have rights, preferences and privileges senior to our common stock and we may sell equity or other convertible debt financing securities which would have rights, preferences and privileges senior to our common stock.

If we are unable to generate adequate cash flows or obtain sufficient additional funding when needed, we may have to take certain actions including, but not limited to, cutting back our operations, selling some or all of our assets, licensing potentially valuable technologies to third parties, and/or ceasing some or all of our operations. As a result of this, our auditors have issued a going concern opinion on our financial statements.

Cash flows used in operating activities in the twelve months ended December 31, 2013 were $4,804,000 due to our net income, offset by non-cash activity including 1) the change in fair value of convertible notes and warrant liabilities 2) non-cash interest expense; 3) depreciation expense; 4) stock-based compensation expense; 5) modification of convertible notes and warrants; and 6) retirement of warrants. Cash flows from financing activities in the twelve months ended December 31, 2013 were $5,329,000 from the issuance of 56,100,000 shares of common stock with net proceeds of $5,079,000 and convertible notes with proceeds of $250,000. The effect of exchange rate changes was a $14,000 decrease in cash.

Forward-Looking Statements

This annual report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. Statements containing terms such as "believes", "plans", "expects", "anticipates", "intends", "estimates" and similar expressions contain uncertainty and are forward-looking statements. Forward-looking statements are based on current plans and expectations and involve known and unknown important risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Such important factors and uncertainties include, but are not limited to:

- We expect to incur significant net losses in future quarters;
- We will require additional capital in the immediate future. Such capital may not be available, or if available, may not be on terms acceptable to us. If we are unable to raise such capital, we will need to suspend or cease operations;
- We have received a 'going concern' opinion in our consolidated financial statements indicating that our cash balance as of December 31, 2013, combined with recurring net losses and negative cash flows from operations, raises substantial doubt about our ability to continue as a going concern for the next 12 months. As noted above, we are investigating ways to raise additional capital to continue our operations;
- Our quarterly operating results have varied in the past and will continue to vary significantly in the future, causing volatility in our stock price;

- With the sale of our TMR business in February 2011, our future prospects are solely dependent upon the successful commercialization of RenalGuard. To date we have recorded only a limited amount of sales of RenalGuard, principally to a single customer in one country, Italy. Sales of RenalGuard alone are currently insufficient, and may never grow to be sufficient, to sustain our ongoing operations;
- Our ability to effectively market RenalGuard outside the U.S. is largely dependent on the reception of the results of the MYTHOS and REMEDIAL II investigator-sponsored clinical trials. We have no assurance that the results from these two trials will be viewed as clinically meaningful or that they will lead to increased sales of RenalGuard;
- We may never be successful in establishing a broad distribution channel for RenalGuard outside the U.S., and any distribution channel we may establish may never generate sufficient sales for us to attain profitability;
- If we are required to change our pricing models to compete successfully, our margins and operating results may be adversely affected;
- We commenced our U.S. pivotal clinical trial in 2012 to study RenalGuard, which is necessary to obtain FDA pre-market approval to market RenalGuard in the U.S. This study will take us a significant amount of time and money to complete and will require us to raise additional capital in the future. We can provide no assurance that we will be able to complete this study or, if we are able to complete it, that RenalGuard will be shown to be safe or effective in preventing CIN, or that the degree of any positive safety and efficacy results will be sufficient to either obtain FDA approval or otherwise successfully market our product. Furthermore, the completion of a U.S. pivotal clinical trial is dependent upon many factors, some of which are not entirely within our control, including, but not limited to, our ability to successfully recruit investigators, the availability of patients meeting the inclusion criteria of our clinical study, the competition for these particular study patients amongst other clinical trials being conducted by other companies at these same study sites, the ability of the sites participating in our study to successfully enroll patients in our trial, and proper data gathering on the part of the investigating sites. Should a U.S. pivotal clinical trial take longer than we expect, our competitive position relative to existing preventative measures, or relative to new devices, drugs or therapies that may be developed could be seriously harmed and our ability to successfully fund the completion of the trial and bring RenalGuard to market may be adversely affected;
- Our RenalGuard System has only had limited testing in a clinical setting in the United States and we may need to modify it substantially in the future for it to be commercially acceptable in the broader market;
- Any potential future modifications required to make RenalGuard commercially acceptable for the broader market may result in substantial additional costs and/or market introduction delays;
- Rapid technological change in the medical device industry could make our products obsolete and requires substantial research and development expenditures and responsiveness to customer needs. We expect to continue to face substantial competition from different treatment modalities and if we do not compete effectively with these alternatives our market share may never grow and could decline;
- An inability to obtain third party reimbursement for RenalGuard could materially affect future demand for our product. We know of no existing Medicare coverage or other third party reimbursement that currently would be available in the U.S. to either hospitals or physicians that would help defray the additional cost that would result from the future purchase and/or use of our RenalGuard System. We also can provide no assurance that we will ever be able to obtain Medicare coverage or other third party reimbursement for the use of RenalGuard, which could materially and adversely affect the potential future demand for our product;
- Securing patent protection over our intellectual property ideas in the field of CIN prevention is, we believe, critical to our plans to successfully differentiate and market our RenalGuard System and grow our future revenues. However, we can provide no assurance as to how strong our issued patents will prove to be. Furthermore we can provide no assurance that we will be successful in securing any additional patent protection for our intellectual property ideas in this field or that our efforts to obtain patent protection will not prove more difficult, and therefore more costly, than we are otherwise expecting. Finally, even if we are successful in securing patent protection for some of our pending patent applications, or for additional intellectual property ideas in this field, we cannot predict when in the future any such potential patents may be issued, how strong such additional patent protection will prove to be, or whether these patents will be issued in a timely enough fashion to afford us any commercially meaningful advantage in marketing our RenalGuard System against other potentially competitive devices;
- We are exposed to risks associated with outsourcing activities, which could result in supply shortages that could affect our ability to meet customer needs;
- If we deliver systems with defects, our credibility may be harmed, sales and market and regulatory approvals acceptance of our systems may decrease and we may incur liabilities associated with those defects;
- If we require additional capital in the future, it may not be available, or if available, may not be on terms acceptable to us;
- We are exposed to various risks related to the regulatory environment for medical devices. Compliance with medical device health and safety regulations may be very costly, and the failure to comply could result in liabilities, fines and cessation of our business;

- Our share price will fluctuate based upon a number of factors including, but not limited to:
  - actual or anticipated fluctuations in our results of operations;
  - changes in estimates of our future results of operations by us or securities analysts;
  - announcements of technological innovations or new products or services by us or our competitors;
  - changes affecting the medical device industry;
  - announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
  - additions or departures of key technical or management personnel;
  - issuances of debt or equity securities;
  - significant lawsuits, including patent or stockholder litigation;
  - changes in the market valuations of similar companies;
  - sales of our common stock by us or our stockholders in the future;
  - dilution caused by the conversion of convertible debt currently outstanding or which may be issued to our current secured lender and its assignees as well as the exercise of warrants issued to this lender, as well as by the exercise of employee stock options or the issuance of shares on the vesting of restricted stock units;
  - trading volume of our common stock; and
  - other events or factors that may directly or indirectly affect the value or perceived value of our business and/or prospects, including the risk factors identified in this prospectus.
- We have pledged all of our assets to our secured debtholders. We are not currently permitted, nor do we currently intend, to pay any cash dividends on our common stock in the foreseeable future and therefore our shareholders may not be able to receive a return on their shares unless they sell them at an amount greater than the price paid for such shares;
- Our secured debtholders may be able to exert significant control over the company through restrictive covenants contained in such debt agreements or through the conversion to our equity securities of the convertible debt and warrants issued and/or issuable to these debtholders;
- Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall. Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our stock plans, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall;
- U.S. broker-dealers may be discouraged from effecting transactions in shares of our common stock because they may be considered penny stocks and thus be subject to the penny stock rules; and
- Our ability to recruit and retain management and other qualified personnel is crucial to our ability to develop, market, sell and support our products.

Off-Balance Sheet Arrangements

None.

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

Pursuant to Item 305(e) of Regulation S-K, we are not required to provide this information because we are a smaller reporting company.

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

All financial statements and other information required to be filed hereunder are filed as Appendix A hereto, are listed under Item 15(a) and are incorporated herein by reference.

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

Not applicable.

Item 9A. ***Controls and Procedures***

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2013. The term "disclosure controls and procedures", as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's (the "SEC's") rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based upon the evaluation of our disclosure controls and procedures as of December 31, 2013, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fiscal quarter ended December 31, 2013 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. The term "internal control over financial reporting" is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act as a process designed by, or under the supervision of, a company's principal executive and principal financial officers and effected by the company's board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

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

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2013. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control-Integrated Framework* issued in 1992.

Based on this assessment, our management has concluded that, as of December 31, 2013, our internal control over financial reporting was effective based on those criteria.

This annual report on Form 10-K does not include an attestation report of our independent registered public accounting firm regarding internal control over financial reporting. Pursuant to Item 308(b) of Regulation S-K, we are not required to provide such an attestation report because we are a smaller reporting company.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

The information required by this item is incorporated herein by reference to our definitive proxy statement to be filed with the SEC in connection with our 2013 Annual Meeting of Shareholders (referred to as our Definitive Proxy Statement) under the captions "Proposal 1 - Election of Directors" and "Section 16(a) Beneficial Ownership Reporting Compliance."

We have adopted a code of ethics that applies to all employees, including our principal executive officer, principal financial officer and principal accounting officer. We undertake to provide a copy of our code of ethics to any person without charge, upon request to PLC Systems Inc., c/o Chief Financial Officer, 459 Fortune Boulevard, Milford, Massachusetts 01757. We intend to disclose waivers and amendments of provisions of the code, if any, for our principal executive officer, principal financial officer and principal accounting officer and that relate to any element of the code of ethics definition enumerated in applicable SEC rules by posting such information, if any, on our Internet website, *www.plcmed.com*.

Item 11. ***Executive Compensation***

The information required by this item is incorporated herein by reference to our Definitive Proxy Statement under the caption "Proposal 1 - Election of Directors."

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

The information required by this item is incorporated herein by reference to our Definitive Proxy Statement under the captions "Securities Authorized for Issuance Under Equity Compensation Plans" and "Security Ownership of Certain Beneficial Owners and Management."

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

The information required by this item is incorporated herein by reference to our Definitive Proxy Statement under the captions "Certain Relationships and Related Transactions" and "Corporate Governance."

Item 14. ***Principal Accountant Fees and Services***

The information required by this item is incorporated herein by reference to our Definitive Proxy Statement under the caption "Principal Accountant Fees and Services."

PART IV

Item 15. ***Exhibits and Financial Statement Schedules***

(a) *Financial Statements*. The following documents are filed hereto and are included as part of this annual report on Form 10-K.

	Page
Report of Independent Registered Public Accounting Firm	F-2
Consolidated Balance Sheets as of December 31, 2013 and 2012	F-3
Consolidated Statements of Operations for the years ended December 31, 2013 and 2012	F-4
Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2013 and 2012	F-5
Consolidated Statements of Stockholders' Equity (Deficit) for the years ended December 31, 2013 and 2012	F-6
Consolidated Statements of Cash Flows for the years ended December 31, 2013 and 2012	F-7
Notes to Consolidated Financial Statements	F-8

All schedules for which provision is made in the applicable accounting regulation of the SEC that are not required under the related instructions or are inapplicable have been omitted.

(b) *Exhibits*.

The exhibits filed as part of this annual report on Form 10-K are set forth on the Exhibit Index immediately preceding such exhibits, and are incorporated herein by reference.

(c) *Financial Statement Schedules*.

See Item 15(a) above.

SIGNATURES

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

PLC SYSTEMS INC.

Date: March 31, 2014

By: /s/ Mark R. Tauscher
Mark R. Tauscher
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Name	Capacity	Date
/s/ Mark R. Tauscher Mark R. Tauscher	President, Chief Executive Officer and Chairman of the Board (Principal Executive Officer)	March 31, 2014
/s/ Gregory W. Mann Gregory W. Mann	Chief Financial Officer and Director (Principal Financial and Principal Accounting Officer)	March 31, 2014
/s/ Benjamin L. Holmes Benjamin L. Holmes	Director	March 31, 2014
/s/ Brent Norton, M. D Brent Norton, M. D.	Director	March 31, 2014
/s/ Albert Kyle Albert Kyle	Director	March 31, 2014

PLC SYSTEMS INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

	Page
Report of Independent Registered Public Accounting Firm	F-2
Consolidated Balance Sheets as of December 31, 2013 and 2012	F-3
Consolidated Statements of Operations for the years ended December 31, 2013 and 2012	F-4
Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2013 and 2012	F-5
Consolidated Statements of Stockholders' Equity (Deficit) for the years ended December 31, 2013 and 2012	F-6
Consolidated Statements of Cash Flows for the years ended December 31, 2013 and 2012	F-7
Notes to Consolidated Financial Statements	F-8

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
PLC Systems Inc.:

We have audited the accompanying consolidated balance sheets of PLC Systems Inc. as of December 31, 2013 and 2012, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity (deficit), and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements 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 included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of 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 statements, 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of PLC Systems Inc. as of December 31, 2013 and 2012, and the results of their operations and their cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses and negative cash flows from operations, which raises substantial doubt about its ability to continue as a going concern. Management's plans concerning these matters are described in Note 1. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ McGladrey LLP

Boston, Massachusetts
March 31, 2014

PLC SYSTEMS INC.
CONSOLIDATED BALANCE SHEETS
December 31, 2013 and 2012
(In thousands)

	2013	2012
ASSETS		
Current assets:		
Cash and cash equivalents	$ 769	$ 258
Restricted cash	30	--
Accounts receivable, net of allowance of $2 at December 31, 2013 and 2012, respectively	502	402
Inventories	117	182
Prepaid expenses and other current assets	99	178
Total current assets	1,517	1,020
Equipment, furniture and leasehold improvements, net	37	67
Other assets	4	4
Total assets	$ 1,558	$ 1,091
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable	$ 425	$ 377
Accrued compensation	39	78
Accrued other	519	368
Deferred revenue	--	317
Total current liabilities	983	1,140
Convertible notes	4,537	8,098
Warrant and option liabilities	2,680	3,800
Commitments and contingencies (Note 7)		
Stockholders' equity (deficit):		
Common stock, no par value, unlimited shares authorized, 125,000 shares issued and outstanding; 35,666 unissued and reserved at December 31, 2013; and 32,434 shares issued and outstanding at December 31, 2012	97,190	93,893
Additional paid in capital	48	1,540
Accumulated deficit	(103,615)	(107,114)
Accumulated other comprehensive loss	(265)	(266)
Total stockholders' deficit	(6,642)	(11,947)
Total liabilities and stockholders' deficit Total liabilities and stockholders' equity	$ 1,558	$ 1,091

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

PLC SYSTEMS INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
For The Years Ended December 31, 2013 and 2012
(In thousands, except per share data)

	2013	2012
Revenues	$ 1,274	$ 1,080
Cost of revenues	531	541
Gross profit	743	539
Operating expenses:		
Selling, general and administrative	3,329	2,633
Research and development	2,118	2,031
Total operating expenses	5,447	4,664
Loss from operations	(4,704)	(4,125)
Other income (expense):		
Interest expense	(337)	(555)
Foreign currency transaction gains	17	14
Financing costs associated with convertible notes	--	(80)
Change in fair value of warrant and options liabilities	6,964	(1,617)
Change in fair value of convertible notes	4,814	(2,024)
Loss from the extinguishment of convertible notes	(3,274)	--
Other income	19	--
Total other income (expense)	8,203	(4,262)
Net income (loss)	$ 3,499	$ (8,387)
Net income (loss) per weighted average share, basic:	$ 0.05	$ (0.27)
Net income (loss) per weighted average share, diluted:	$ 0.03	--
Weighted average shares outstanding:		
Basic	77,061	31,139
Diluted	112,728	--

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

PLC SYSTEMS INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
For the Years Ended December 31, 2013 and 2012
(In thousands)

	2013	2012
Net income (loss)	$ 3,499	$ (8,387)
Other comprehensive income (loss):		
Foreign currency translation adjustments	1	(16)
Other comprehensive income (loss)	1	(16)
Comprehensive income (loss)	$ 3,500	$ (8,403)

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

PLC SYSTEMS INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)
For The Years Ended December 31, 2013 and 2012
(In thousands)

	Common Stock		Additional Paid in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total
	Shares	Amount				
Balance, December 31, 2011	30,351	$ 93,893	$ 996	$ (98,727)	$ (250)	$ (4,088)
Stock based compensation	--	--	80	--	--	80
Issuance of restricted stock	2,083	--	464	--	--	464
Net loss	--	--	--	(8,387)	--	(8,387)
Other comprehensive income	--	--	--	--	(16)	(16)
Balance, December 31, 2012	32,434	$ 93,893	$ 1,540	$ (107,114)	$ (266)	$ (11,947)
Stock based compensation	--	--	145	--	--	145
Issuance of restricted stock	417	--	56	--	--	56
Issuance of common stock	60,833	(168)	(1,693)	--	--	(1,861)
Exercise of warrants	23,011	2,655	--	--	--	2,655
Conversion of notes	8,305	810	--	--	--	810
Net income	--	--	--	3,499	--	3,499
Other comprehensive loss	--	--	--	--	1	1
Balance, December 31, 2013	125,000	$ 97,190	$ 48	$ (103,615)	$ (265)	$ (6,642)

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

PLC SYSTEMS INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
For The Years Ended December 31, 2013 and 2012
(In thousands)

	2013	2012
Cash flows from operating activities:		
Net income (loss)	$ 3,499	$ (8,387)
Depreciation and amortization	53	43
Stock-based compensation expense	201	544
Change in fair value of warrant and options liabilities	(6,964)	1,617
Change in fair value of convertible notes	(4,814)	2,024
Loss on extinguishment of convertible notes	3,274	--
Financing costs associated with convertible notes	--	80
Non-cash interest expense	95	331
Change in assets and liabilities:		
Restricted cash	(30)	--
Accounts receivable	(80)	48
Inventory	42	56
Prepaid expenses and other assets	81	58
Accounts payable	48	228
Deferred revenue	(319)	32
Accrued liabilities	110	161
Net cash flows used in operating activities	(4,804)	(3,165)
Cash flows from investing activities:		
Purchase of property and equipment	--	(74)
Net cash used for investing activities	--	(74)
Cash flows from financing activities:		
Net proceeds from sale of common stock and warrants	5,079	--
Net proceeds from issuance of convertible notes and warrants	250	920
Net cash provided by financing activities	5,329	920
Effect of exchange rate changes on cash and cash equivalents	(14)	(8)
Net (decrease) increase in cash and cash equivalents	511	(2,327)
Cash and cash equivalents at beginning of period	258	2,585
Cash and cash equivalents at end of period	$ 769	$ 258
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 107	$ 217
Supplemental disclosure of non-cash financing activities:		
Cashless exercise of warrants	$ 2,655	$ --
Cashless conversion of convertible notes	$ 810	$ --

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

1. Business and Liquidity

PLC Systems Inc. ("PLC" or the "Company") is a medical device company specializing in innovative technologies for the cardiac and vascular markets. Over the past five years, the Company has begun initial commercialization outside the United States of its product, RenalGuard®, which currently represents the Company's key strategic growth initiative and primary business focus. The RenalGuard System consists of a proprietary console and accompanying single-use sets and is designed to reduce the potentially toxic effects that contrast media can have on the kidneys when it is administered to patients during certain medical imaging procedures. The Company conducts business operations as one operating segment.

For the year ended December 31, 2013, the Company incurred a net loss from operations of approximately $4,704,000, used cash in operations of approximately $4,804,000, and as of December 31, 2013 has an accumulated deficit of approximately $103,615,000. As of December 31, 2013, cash and cash equivalents were $769,000. Management expects that quarterly losses and negative cash flows from operations will continue during 2014. These factors raise substantial doubt about the Company's ability to continue as a going concern. The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

Based upon the current financial condition of the Company and the expectation of continued quarterly losses from operations during 2014, management is currently investigating ways to raise additional capital that can be completed in the next several weeks. The Company believes that its existing resources, based on its currently projected financial results, are sufficient to fund operations through April 2014. Based upon current and anticipated revenue projections from foreign sales of our RenalGuard product, and the anticipated costs of its U.S. clinical trial, we expect that we will need to raise additional capital during the remainder of 2014.

2. Significant Accounting Policies

Basis of Presentation

The consolidated financial statements include the accounts of PLC and its two wholly owned subsidiaries, PLC Medical Systems, Inc. and PLC Systemas Medicos Internacionais (Deutschland) GmbH. All intercompany accounts and transactions have been eliminated.

Use of Estimates

The preparation of financial statements in accordance with generally accepted accounting principles requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Significant estimates include revenue recognition, warranty, inventory valuation, accounts receivable, and convertible notes and warrant liabilities. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents. Cash at December 31, 2013 and 2012, respectively, consisted of deposits held in bank checking accounts.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentration of credit risk include cash, cash equivalents and accounts receivable. At times, the Company possesses cash balances above federally-insured limits. The Company believes it minimizes its exposure to potential concentrations of credit risk by placing its cash equivalents in high-quality financial institutions. At December 31, 2013 and 2012, the majority of the cash and cash equivalents balance was invested with a single financial institution.

Artech, the Company's distributor in Italy, accounted for 68% and 35% of the Company's revenues for the years ended December 31, 2013 and 2012, respectively. ACIST, the Company's distributor in France and Germany, accounted for 11% and 9% of the Company's revenues for the year ended December 31, 2013 and 2012, respectively. Discomed, the Company's distributor in Brazil, accounted for 8% and 29% of the Company's revenues for the years ended December 31, 2013 and 2012, respectively. At December 31, 2013, Artech, Discomed and ACIST accounted for 83%, 0% and 3%, respectively of gross accounts receivable.

Concentration of Revenues

All of the Company's revenues for the years ended December 31, 2013 and 2012, respectively, were derived from the sales of RenalGuard.

Net sales to unaffiliated customers (by origin) are summarized below (in thousands):

	South America	North America	Europe	Other	Total
2013					
Net sales	$ 96	$ 31	$ 1,040	$ 107	$ 1,274
2012					
Net sales	$ 312	$ 35	$ 588	$ 145	$ 1,080

Accounts Receivable

Accounts receivable is stated at the amount the Company expects to collect from the outstanding balances. The Company continuously monitors collections from customers and maintains a provision for estimated credit losses based upon historical experience and any specific customer collection issues that the Company has identified. Historically, the Company has not experienced significant losses related to its accounts receivable. Collateral is generally not required. If the financial condition of its customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances could be required.

Inventories

Inventories are stated at average cost (computed on a first-in, first-out method) and include allocations of labor and overhead. The Company regularly reviews slow-moving and excess inventories, and writes down inventories to net realizable value if the ultimate expected proceeds from the disposals of excess inventory are less than the carrying cost of the inventory.

Equipment, Furniture, Leasehold Improvements and Long-Lived Assets

Equipment, furniture and leasehold improvements are stated on the basis of cost. Depreciation is computed principally on the straight-line method for financial reporting purposes.

Depreciation and amortization are based on the following useful lives:

Equipment (in years)	2 - 5
Office furniture and fixtures (in years)	5
Leasehold improvements	Shorter of life of lease or useful life

The carrying amount of long-lived assets is reviewed whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. When required, recoverability of these assets is measured by comparing the carrying amount of the asset to the future undiscounted cash flows the asset is expected to generate. If the asset is considered to be impaired, the amount of any impairment is measured as the difference between the carrying value and the fair value of the impaired asset. During the years ended December 31, 2013 and 2012, the Company did not recognize any asset impairment charges.

Warranty and Preventative Maintenance Costs

The Company evaluates the estimated future unrecoverable costs of warranty and preventative maintenance services for its installed base products on a quarterly basis and adjusts its warranty reserve accordingly. The Company considers all available evidence, including historical experience and information obtained from supplier audits. There was no reserve for warranty and preventative maintenance costs recorded at December 31, 2013 and 2012.

Valuation of Convertible Notes and Warrant Liabilities

The valuation of our convertible notes and our warrant liabilities as derivative instruments utilizes certain estimates and judgments that affect the fair value of the instruments. Fair values are estimated by utilizing valuation models that consider current and expected stock prices, volatility, dividends, forward yield curves and discount rates. Such amounts and the recognition of such amounts are subject to significant estimates that may change in the future.

Revenue Recognition

The Company recognizes revenue when the following basic revenue recognition criteria have been met:
(1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services rendered; (3) the price to the buyer is fixed or determinable; and (4) collectability is reasonably assured. Determination of criteria (3) and (4) are based on management's judgments regarding the fixed nature of the price to the buyer charged for products delivered or services rendered and collectability of the sales price. The Company assesses credit worthiness of customers based upon prior history with the customer and assessment of financial condition. The Company's shipping terms are customarily Free On Board ("FOB") shipping point.

The Company typically records all product revenue at the time of shipment if all other revenue recognition criteria are met. As of December 31, 2012, the Company had a deferred revenue balance of $317,000, related to shipments to its distributor in Italy, Artech, because not all revenue recognition criteria were met. During the years ended December 31, 2013 and 2012, the Company recognized $317,000, and $381,000, respectively, in revenue of previously deferred revenue upon the receipt of cash. The Company had deferred cost of goods sold of $85,000 as of December 31, 2012, which was classified as prepaid expenses and other current assets on the Consolidated Balance Sheets due to Artech revenue recognition criteria not being met. This amount was recorded as cost of revenues for the year ended December 31, 2013.

Foreign Currency Translation

Assets and liabilities of the Company's foreign subsidiary are translated into U.S. dollars at end-of-period exchange rates, while income and expense items are translated at average rates of exchange prevailing during the year. Exchange gains and losses arising from translation are accumulated as a separate component of stockholders' equity. The Company records the impact from foreign currency transactions as a component of other income (expense).

Income Taxes

The Company uses an asset and liability based approach in accounting for income taxes. Deferred income tax assets and liabilities are recognized for the future tax consequences attributed to differences between the financial statement and tax basis of existing assets and liabilities using enacted rates applicable to the periods in which the differences are expected to affect taxable income. A valuation allowance is established, when necessary, to reduce deferred tax assets to the amount estimated by us to be realizable.

Research and Development

Research and development costs are expensed as incurred.

Fair Value Measurements

The Company measures and reports fair value in accordance with Accounting Standards Codifications ("ASC") 820 – *Fair Value Measurements and Disclosures* (ASC 820). ASC 820 defines fair value, establishes a framework for measuring fair value in accordance with generally accepted accounting principles and expands disclosures about fair value investments.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of an asset should reflect its highest and best use by market participants, principal (or most advantageous) markets, and an in-use or an in-exchange valuation premise. The fair value of a liability should reflect the risk of nonperformance, which includes, among other things, the Company's credit risk.

Valuation techniques are generally classified into three categories: the market approach; the income approach; and the cost approach. The selection and application of one or more of the techniques may require significant judgment and are primarily dependent upon the characteristics of the asset or liability, and the quality and availability of inputs. Valuation techniques used to measure fair value under ASC 820 must maximize the use of observable inputs and minimize the use of unobservable inputs. ASC 820 also provides fair value hierarchy for inputs and resulting measurement as follows:

Level 1

Quoted prices (unadjusted) in active markets that are accessible at the measurement date for identical assets or liabilities;

Level 2

Quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability; and inputs that are derived principally from or corroborated by observable market data for substantially the full term of the assets or liabilities; and

Level 3

Unobservable inputs for the asset or liability that are supported by little or no market activity and that are significant to the fair values.

Fair value measurements are required to be disclosed by the Level within the fair value hierarchy in which the fair value measurements in their entirety fall. Fair value measurements using significant unobservable inputs (in Level 3 measurements) are subject to expanded disclosure requirements including a reconciliation of the beginning and ending balances, separately presenting changes during the period attributable to the following: (i) total gains or losses for the period (realized and unrealized), segregating those gains or losses included in earnings, and a description of where those gains or losses included in earning are reported in the statement of income.

The Company's assets and liabilities measure at fair value on a recurring basis include convertible notes, warrants and certain options to purchase common stock. See Note 10 for related fair value disclosures.

Earnings Per Share

Basic earnings per share is calculated using the Company's weighted-average outstanding common shares. Diluted earnings per share is calculated using: the weighted-average outstanding common shares; the dilutive effect of applying the "if converted method" to convertible notes and investor warrants with cashless exercise provisions; and the dilutive effect of applying the treasury stock method to stock options and warrants. In applying the if-converted method to convertible notes and investor warrants with cashless exercise provision, the Company has adjusted net income (loss) to exclude the impact of fair value changes and interest expense associated with these instruments for the purpose of calculating diluted earnings per share. The following table reconciles net income (loss) and weighted average shares outstanding used in computing basic and diluted earnings per share:

	For the Year Ended December 31,	
	2013	2012
Net income (loss)	$ 3,499	$ (8,387)
Change in fair value of warrants	--	--
Change in fair value of convertible notes	--	--
Interest Expense on convertible notes	--	--
Net income (loss) available to common stockholders, plus assumed conversions	3,499	(8,387)
Basic weighted-average shares outstanding	77,061	31,139
Effect of dilutive securities:		
Convertible notes	--	--
Right to shares	35,667	--
Warrants	--	--
Stock Options	--	--
Weighted-average shares-diluted	112,728	31,139
Net income per share-basic	$ 0.05	$ (0.27)
Net income per share-diluted	$ 0.03	$ --

For the year ended December 31, 2012, 47,096,000 shares attributable to outstanding convertible notes, options and warrants were excluded from the calculation of diluted earnings per share as their effect would have been antidilutive. For the year ended December 31, 2013, outstanding convertible notes, options and warrants to purchase 248,336,287 shares of common stock, respectively, were excluded from the calculations of diluted earnings per share as their effect would have been anti-dilutive.

During the year ended December 31, 2013, options and warrants to purchase 40,711,000 shares of common stock, were excluded from the calculations of diluted earnings per share as their effect would have been anti-dilutive. In addition, when applying the "if converted" method to the convertible debt and warrants with cashless exercise provisions, the net impact of eliminating the fair value changes of the convertible debt and warrants would result in a net loss for the twelve months ended December 31, 2013. Accordingly, these instruments were excluded from the calculations of diluted earnings per share for the twelve months ended December 31, 2013 as their effect would have been antidilutive.

3. Inventories

Inventories consist of the following at December 31 (in thousands):

	2013	2012
Raw materials	$ 80	$ 143
Finished goods	37	39
	$ 117	$ 182

4. Equipment, Furniture and Leasehold Improvements

Equipment, furniture and leasehold improvements consist of the following at December 31 (in thousands):

	2013	2012
Equipment	$ 509	$ 488
Office furniture and fixtures	218	218
Leasehold improvements	4	4
	731	710
Less accumulated depreciation and amortization	694	643
	$ 37	$ 67

Depreciation expense was $53,000 and $43,000 for the years ended December 31, 2013 and 2012, respectively.

5. Stockholders' Equity

The Company has unlimited authorized shares of preferred stock. The Board of Directors is authorized to fix designations, relative rights, preferences and limitations in the preferred stock at the time of issuance.

The Company has never declared nor paid dividends on any of its capital stock and does not expect to do so in the foreseeable future.

6. Stock Based Compensation

Stock Option Plans

In May 2005, the Company's shareholders approved the 2005 Stock Incentive Plan (the "2005 Plan"). Incentive stock options are issuable only to employees of the Company, while non-qualified stock options may be issued to non-employee directors, consultants and others, as well as to employees. Under the 2005 Plan, the per share exercise price of incentive stock options may not be less than the fair market value of the common stock on the date the option is granted. The 2005 Plan provides that the Company may not grant non-qualified stock options at an exercise price less than 85% of the fair market value of the Company's common stock.

In June 2013, the Company's shareholders approved the 2013 Stock Incentive Plan (the "2013 Plan"). The 2013 Plan allows for an additional 11,382,600 incentive stock options which may be issued to non-employee directors, consultants and others, as well as to employees. Under the 2013 Plan, the per share exercise price of incentive stock options may not be less than the fair market value of the common stock on the date the option is granted. The 2013 Plan provides that the Company may not grant non-qualified stock options at an exercise price less than 85% of the fair market value of the Company's common stock.

The Company grants stock options to its non-employee directors. New non-employee directors receive an initial grant of an option to purchase shares of the Company's common stock that generally vest in quarterly installments over three years. Once the initial grant has fully vested, non-employee directors (other than the Chairman of the Board) receive an annual grant of an option to purchase additional shares of the Company's common stock that generally will vest in four equal quarterly installments. The Chairman of the Board receives an annual grant of an option to purchase at least 45,000 shares of the Company's common stock that generally vests in four equal quarterly installments. All such options have an exercise price equal to the fair market value of the Company's common stock on the date of grant.

During the year ended December 31, 2011, the Company granted options to purchase 565,000 shares of the Company's common stock to employees with performance-based vesting, and granted options to purchase 112,500 shares of the Company's common stock to non-employee directors which vest quarterly over one year. Management determined that as of June 30, 2012, it was probable that the performance conditions associated with the performance-based vesting were to be met in July 2012 with the closing of the second tranche convertible notes. Therefore, the related expense was recorded in the year ended December 31, 2012.

During the year ended December 31, 2012, the Company granted options to employees to purchase 355,000 shares of the Company's common stock, which vest ratably over a three year period and granted options to purchase 112,500 shares of the Company's common stock to non-employee directors that vest quarterly over one year.

During the year ended December 31, 2013, the Company granted options to employees to purchase 5,050,000 shares of the Company's common stock, which vest ratably over a three year period. Certain of these grants were issued to former employees to replace 502,000 options that were cancelled during the year ended December 31, 2013. Additionally, the Company granted 589,000 options to non-employee directors that vest quarterly over a one year period.

During the years ended December 31, 2013 and 2012, the Company issued an aggregate of 416,668 and 2,083,338 shares of restricted common stock, respectively, to Garden State Securities, Inc. and JFS Investments, Inc. in exchange for certain investor relations and related consulting services to the Company. These shares vested immediately but are restricted from being sold for a period of six months from the date of issuance. The contract with Garden State Securities, Inc. and JFS Investments, Inc. terminated in February 2013. No further stock issuances will occur under this agreement. The issuance of these shares resulted in $56,000 and $464,000 of compensation expense in the years ended December 31, 2013 and 2012, respectively.

As of December 31, 2013, there were 1,317,000 shares of common stock available to be granted under the 2005 Plan, and 6,266,000 shares of common stock available to be granted under the 2013 Plan.

The following is a summary of option activity under all plans (in thousands, except per option data):

	Number of Options	Weighted Average Exercise Price	Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Outstanding, December 31, 2011	5,602	$ 0.21		
Granted	468	0.17		
Exercised	--	--		
Forfeited	(3)	0.55		
Expired	--	--		
Cancelled	(475)	0.24		
Outstanding, December 31, 2012	5,592	$ 0.21		
Granted	5,639	0.09		
Exercised	--	--		
Forfeited	(643)	0.10		
Expired	--	--		
Cancelled	(502)	0.16		
Outstanding, December 31, 2013	10,086	$ 0.15	5.53	$ 0
Exercisable, December 31, 2013	5,386	$ 0.19	2.08	$ 0

Stock-Based Compensation Expense

The Company recorded employee compensation expense of $145,000 and $80,000 for the years ended December 31, 2013 and 2012, respectively. The Company also recorded non-employee compensation expense of $56,000 and $464,000 related to the issuance of restricted common shares during the year ended December 31, 2013 and 2012, respectively. As of December 31, 2013, the Company had $333,000 of total unrecognized compensation cost related to its unvested options, which is expected to be recognized over a weighted average period of 1.79 years.

The weighted average fair value of options issued during the years ended December 31, 2013 and 2012 was estimated using the Black-Scholes model and was $0.09 and $0.16, respectively, per share.

	Year Ended December 31,	
	2013	2012
Expected life (years)	3.00 - 6.00	5.00 - 6.00
Interest rate	0.73 - 1.67%	0.19 - 0.69%
Volatility	195.75 - 217.52	204.1 - 216.2%
Expected dividend yield	None	None
Value of option granted	$0.07 - 0.09	$0.12 - 0.17

The expected life was calculated in 2013 and 2012 using the simplified method. The risk-free interest rate is based upon the U.S. Treasury yield curve in effect at the time of the grant for the expected term. Expected volatility is based exclusively on historical volatility data of the Company's common stock. The Company estimates an expected forfeiture rate by analyzing historical forfeiture activity and considering how future forfeitures are expected to differ from historical forfeitures. The Company expects that all outstanding options at December 31, 2013 will fully vest over their requisite service period. Actual results, and future changes in estimates, may differ substantially from the Company's current estimates.

Stock Purchase Plan

The Company has a 2000 Employee Stock Purchase Plan (the "Purchase Plan") for all eligible employees whereby shares of the Company's common stock may be purchased at six-month intervals at 95% of the average of the closing bid and ask prices of the Company's common stock on the last business day of the relevant plan period. Employees may purchase shares having a value not exceeding 10% of their gross compensation during an offering period, subject to certain additional limitations. There was no activity in 2013 or 2012. At December 31, 2013, 294,461 shares were reserved for future issuance under the Purchase Plan.

7. Commitments

Lease Commitments

The Company leases its corporate office under an operating lease agreement that expires in August 2014. In addition to the minimum lease payments, the agreement requires payment of the Company's pro-rata share of property taxes and building operating expenses.

As of December 31, 2013, future minimum lease payments are estimated to be approximately $30,000 during the year ended December 31, 2014.

Total rent expense was $40,000 in 2013 and 2012, respectively.

During the year ended December 31, 2011, the Company began manufacturing its RenalGuard consoles and sterile disposable kits by two separate outside contract manufacturers. The contracts with these manufacturers do not contain minimum purchase requirements or any future commitments. Purchases are made upon request to the manufacturer. During the year ended December 31, 2013 there are still no minimum purchase requirements or any future commitments for these contracts.

During the year ended December 31, 2011, the Company hired a clinical research organization ("CRO") to assist with managing its clinical trial. The contract with the CRO does not contain minimum purchase requirements or any future commitments, and payments are made once services are provided. During the year ended December 31, 2013 there are still no minimum purchase requirements or any future commitments for this contract.

8. Sale of Common Stock

September 2013 Financing

On September 18, 2013 the Company entered into a Securities Purchase Agreement (the "September SPA") with a number of accredited investors, whereby the Company sold an aggregate of 29,166,668 shares of common stock at $0.06 per share (the "September Purchase Price") and issued warrants to purchase an additional 29,166,668 shares of common stock (the "September Investor Warrants") with gross proceeds to the Company of $1,750,000. After payment of the placement agent fees and other expenses, the Company received net proceeds of approximately $1,575,000. As part of the fee for its placement agent services, the Company also issued Palladium Capital Advisors a warrant to purchase 1,485,333 shares of common stock (together with the September Investor Warrants, the "September 2013 Warrants") on the same terms and conditions as the investors under the September SPA. The shares of common stock sold in the offering are subject to certain piggyback registration rights as well as certain other protections, including price protection, as discussed below.

The September SPA provides that for a period of 24 months after the later of (i) September 18, 2013, or (ii) the public announcement of FDA approval for RenalGuard for sale in the United States, and so long as the investors hold the shares purchased pursuant to the September SPA, if the Company issues or sells any shares of common stock or any common stock equivalent at a price less than the September Purchase Price (a "Share Dilutive Issuance"), the Company shall issue additional shares of common stock so that total amount paid by the investor to acquire the shares, divided by the number of shares held by the investor pursuant to the September SPA, plus the additional shares issued as a result of a Share Dilutive Issuance, equals the price per share paid in the Share Dilutive Issuance. This provision also extends to any common shares that are issued pursuant to an exercise of the September 2013 Warrants.

In conjunction with the September 2013 SPA, the Company entered into a Right To Shares Agreement with one of the investors. Pursuant to this agreement, in lieu of issuing 16,666,667 of the common shares purchased by the investor, the Company shall be obligated to issue, and the investor has the right to up to 16,666,667 shares of the Company's common stock. No additional consideration will be paid upon the issuance of the shares and the subscription amount has been paid in full by the investor and is non-refundable. The Company is obligated to deliver the shares to the investor within 3 days of the investor's request for the share issuance. If the Company fails to deliver the shares within 3 days of the request, under certain circumstances defined in the Right To Shares Agreement, the Company may be obligated to reimburse the investor in cash for losses that the investor incurs as a result of not having access to the shares (the "Buy-In Shares"). As of December 31, 2013, the Company has reserved, but not issued 16,666,667 shares of common stock pursuant to the Right To Shares Agreement.

The September SPA also provides the investors with the option, for a period through June 18, 2014, to purchase on the same terms and with the same rights as the September 2013 SPA up to 50% of the shares of common stock purchased by the purchaser at the initial closing ("September 2013 SPA Option"). The investors would also receive a warrant for every option share exercised with the same terms as the warrants issued in the September SPA. To date, no shares have been purchased under the September 2013 SPA Option. The following is a summary of the September 2013 SPA Option for the year ended December 31, 2013:

September 2013 SPA Option	Shares	Exercise Price
Beginning balance at September 18, 2013	14,583,334	0.06
Ending balance at December 31, 2013	14,583,334	0.06

The September 2013 Warrants have a term of five-years and are immediately exercisable for an aggregate 30,625,001 shares of common stock purchased at an exercise price of $0.08 per share. The exercise price of the September 2013 Warrants shall be adjusted in the event of (a) stock splits, stock dividends, combinations, reclassifications, mergers, consolidations, distributions of assets or evidence of indebtedness, sales or transfers of substantially all assets, share exchanges or similar events, and (b) dilutive issuances of (i) common stock or (ii) common stock equivalents at an effective price per share that is lower than the then exercise price. The September 2013 Warrants may be exercised on a cashless basis if at any time there is no effective registration statement within 180 days after the closing date of the private placement covering the resale of the shares of common stock underlying the September 2013 Warrants. The September 2013 Warrants contain limitations on the holder's ability to exercise the September 2013 Warrants in the event such exercise causes the holder to beneficially own in excess of 4.99% of the Company's issued and outstanding common stock, subject to a discretionary increase in such limitation by the holder to 9.99% upon 61 days' notice. To date, none of the September 2013 Warrants have been exercised. The following is a summary of the September 2013 Warrants for the year ended December 31, 2013:

The September 2013 Warrants	Warrants	Exercise Price
Beginning balance at September 18, 2013	30,625,001	$ 0.08
Ending balance at December 31, 2013	30,625,001	$ 0.08

In June 2008, the FASB issued ASC 815-40-15 (formerly EITF 07-5, *Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity's Own Stock*), which was effective for the Company in 2009. This issued guidance requires that derivative instruments be evaluated for certain contingencies and anti-dilution provisions that would affect their equity classification as a derivative under ASC 815, *Derivatives and Hedging* (ASC 815) and requires the instruments to be classified as liabilities and reported at fair value.

Upon issuance, the September 2013 Warrants and the September 2013 SPA Option were not considered indexed to the Company's own stock and therefore are required to be accounted for as freestanding derivative instruments and classified as a liability. A Monte Carlo simulation was used to estimate the fair value of the September 2013 Warrants and September 2013 SPA Option resulting in grant date fair values of $1,807,000 and $1,166,000, respectively (see Note 10 – *Fair Value Measurements*). As of December 31, 2013, the September 2013 Warrants have been marked to fair value resulting in a derivative liability of $627,000. The impact to other income for the change in fair value of the September 2013 Warrants for the year ended December 31, 2013 was a gain of $1,180,000. As of December 31, 2013, the September 2013 SPA Options have been marked to fair value resulting in a derivative liability of $292,000. The impact to other income for the change in fair value of the September 2013 SPA Option for the year ended December 31, 2013 was a gain of $874,000.

The Company also assessed the provisions of the Buy-In Share feature of the Rights To Shares Agreement as an embedded derivative pursuant to ASC 815-15, *Embedded Derivatives,* and has concluded that the feature meets the definition of a derivative and is not clearly and closely related to the Rights To Shares equity host agreement. The Buy-In Shares feature has been bifurcated from the Rights To Shares agreement and accounted for separately. The value of this feature was nominal as of the issuance date and December 31, 2013.

Allocation of SPA Proceeds

The Company first allocated the proceeds of the September SPA to the fair value of the September 2013 Warrants and September 2013 SPA Option. When the issuance costs were considered, the aggregate fair value of the September 2013 Warrants and September 2013 SPA Option exceeded the net proceeds of the September SPA. The Company first recorded the difference as a reduction of additional paid in capital to the extent available, with the reminder accounted for as a reduction in common stock.

February 2013 Financing

On February 22, 2013, the Company entered into a Securities Purchase Agreement (the "February SPA") with a number of accredited investors, whereby the Company sold an aggregate of 26,933,333 shares of common stock at $0.15 per share (the "February Purchase Price") and issued warrants to purchase an additional 26,933,333 shares of common stock (the "February Investor Warrants") with gross proceeds to the Company of $4,040,000. After payment of the placement agent fees and other expenses, the Company received net proceeds of approximately $3,504,000. As part of the fee for its placement agent services, the Company also issued Palladium Capital Advisors a warrant to purchase 1,885,333 shares of common stock (together with the Investor Warrant, the "February 2013 Warrants") on the same terms and conditions as the investors under the February SPA. The shares of common stock sold in the offering are subject to certain piggyback registration rights as well as certain other protections, including price protection, as discussed below.

The February SPA provides that for a period of 24 months after the later of (i) February 22, 2013, or (ii) the public announcement of FDA approval for RenalGuard for sale in the United States, and so long as the investors hold the shares purchased pursuant to the February SPA; in the event that the Company issues or sells any shares of common stock or any common stock equivalent at a price less than the Purchase Price (a "Share Dilutive Issuance"), the Company shall issue additional shares of common stock so that total amount paid by the investor to acquire the shares, divided by the number of shares held by the investor pursuant to the February SPA, plus the additional shares issued as a result of a Share Dilutive Issuance, equals the price per share paid in the Share Dilutive Issuance. This provision also extends to any common shares that are issued pursuant to an exercise of the February 2013 Warrants. As required under the terms of the February SPA, in connection with the September SPA, the Company issued to the investors in the February 2013 Financing an additional 40,400,001 shares of Common Stock due to these anti-dilutive provisions being triggered by the lower purchase price for shares issued in the September SPA.

In conjunction with the February SPA, the Company entered into a Right To Shares Agreement with one of the investors. Pursuant to this agreement, in lieu of issuing 7,000,000 of the common shares purchased by the investor, the Company shall be obligated to issue, and the investor has the right to up to 7,000,000 shares of the Company's common stock. No additional consideration will be paid upon the issuance of the shares and the subscription amount has been paid in full by the investor and is non-refundable. The Company is obligated to deliver the shares to the investor within 3 days of the investor's request for the share issuance. If the Company fails to deliver the shares within 3 days of the request, under certain circumstances defined in the Right To Shares Agreement, the Company may be obligated to reimburse the investor in cash for losses that the investor incurs as a result of not having access to the shares (the "Buy-In Shares"). As of December 31, 2013, the Company has reserved, but not issued 19,000,000 shares of common stock pursuant to the Right To Shares Agreement, as adjusted for the anti-dilution issuance described above.

The February SPA also provided the investors with the option, for a period through November 21, 2013, to purchase on the same terms and with the same rights as the February 2013 SPA up to 50% of the shares of common stock purchased by the purchaser at the initial closing ("February 2013 SPA Option"). The investors would also receive a warrant for every option share exercised with the same terms as the warrant issued in the February SPA. No shares were purchased under the February 2013 SPA Option prior to the expiration date. The following is a summary of the February 2013 SPA Option for the year ended December 31, 2013:

February 2013 SPA Option	**Shares**	**Exercise Price**
Beginning balance at February 22, 2013	13,466,667	0.15
Less: Expired	(13,466,667)	0.15
Ending balance at December 31, 2013	--	--

The February 2013 Warrants have a term of five-years and were immediately exercisable for an aggregate 28,818,666 shares of common stock purchased at an exercise price of $0.20 per share. The exercise price of the 2013 Warrants shall be adjusted in the event of (a) stock splits, stock dividends, combinations, reclassifications, mergers, consolidations, distributions of assets or evidence of indebtedness, sales or transfers of substantially all assets, share exchanges or similar events, and (b) dilutive issuances of (i) common stock or (ii) common stock equivalents at an effective price per share that is lower than the then exercise price. Due to the September SPA, certain anti-dilution rights were triggered, resulting in the issuance of an additional 43,228,001 warrants with an exercise price of $0.08. All previously issued warrants related to the February 2013 financing have been repriced to $0.08. The February 2013 Warrants may be exercised on a cashless basis if at any time there is no effective registration statement within 180 days after the closing date of the private placement covering the resale of the shares of common stock underlying the February 2013 Warrants. The February 2013 Warrants contain limitations on the holder's ability to exercise the February 2013 Warrant in the event such exercise causes the holder to beneficially own in excess of 4.99% of the Company's issued and outstanding common stock, subject to a discretionary increase in such limitation by the holder to 9.99% upon 61 days' notice. The following is a summary of the February 2013 Warrants for the year ended December 31, 2013:

The February 2013 Warrants	**Warrants**	**Exercise Price**
Beginning balance at February 22, 2013	28,818,666	$ 0.20
Add: Anti-dilution adjustment	43,228,001	0.08
Ending balance at December 31, 2013	72,046,667	$ 0.08

In June 2008, the FASB issued ASC 815-40-15 (formerly EITF 07-5, *Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity's Own Stock*), which was effective for the Company in 2009. This issued guidance requires that derivative instruments be evaluated for certain contingencies and anti-dilution provisions that would affect their equity classification as a derivative under ASC 815, *Derivatives and Hedging* (ASC 815) and requires the instruments to be classified as liabilities and reported at fair value.

Upon issuance, the February 2013 Warrants and February 2013 SPA Option were not considered indexed to the Company's own stock and therefore are required to be accounted for as freestanding derivative instruments and classified as a liability. A Monte Carlo simulation was used to estimate the fair value of the February 2013 Warrants and February 2013 SPA Option resulting in grant date fair values of $2,759,000 and $1,211,000, respectively (see Note 10 – *Fair Value Measurements*). As of December 31, 2013, the February 2013 Warrants have been marked to fair value resulting in a derivative liability of $1,441,000. The impact to other income for the change in fair value of the February 2013 Warrants for the year ended December 31, 2013 was a gain of $1,318,000. As of December 31, 2013, the February 2013 SPA Option has expired and has a fair value of $0. The impact to other income for the change in fair value of the February 2013 SPA Option for the year ended December 31, 2013 was a gain of $1,211,000.

The Company also assessed the provisions of the Buy-In Share feature of the Rights To Shares Agreement as an embedded derivative pursuant to ASC 815-15, *Embedded Derivatives,* and has concluded that the feature meets the definition of a derivative and is not clearly and closely related to the Rights To Shares equity host agreement. The Buy-In Shares feature has been bifurcated from the Rights To Shares agreement and accounted for separately. The value of this feature was nominal as of the issuance date and December 31, 2013.

Allocation of SPA Proceeds

The Company first allocated the proceeds of the February SPA to the fair value of the February 2013 Warrants and February 2013 SPA Option. When the issuance costs were considered, the aggregate fair value of the February 2013 Warrants and February 2013 SPA Option exceeded exceeded the net proceeds of the February SPA. The Company recorded the difference as a reduction of additional paid in capital.

The SPA requires the Company to use $1,000,000 of the proceeds received from the February SPA for investor relations. The Company engaged an investor relations firm and made an initial payment of $500,000 on the date of the February SPA closing. During the quarters ended September 30, 2013 and December 31, 2013 the Company paid an additional $250,000 and $220,000, respectively. The Company has recorded the remaining $30,000 cash held in escrow as restricted cash on the Consolidated Balance Sheet. The Company is amortizing the investor relations payments over the one-year estimated period of performance for the investor relations services, resulting in the recording of $970,000 in expense for the year ended December 31, 2013.

9. ***Convertible Notes and Warrant Liabilities***

On February 22, 2011 (the "Original Issue Date"), the Company entered into a Securities Purchase Agreement ("Purchase Agreement") and a 5% Senior Secured Convertible Debenture Agreement (the "Note Agreement") with GCP IV LLC (the "Investors" or "Holders") pursuant to which the Company agreed to issue and sell in a private placement to the Investors an aggregate principal amount of $4,000,000 of convertible notes due February 22, 2014 (the "2011 Convertible Notes") and warrants to purchase 40,000,000 shares of common stock at $0.15 per share (the "2011 Warrants"). Under the terms of the Purchase Agreement, the Company had the opportunity to raise up to an additional $2,000,000 from the Holders in two separate $1,000,000 tranches, based upon meeting certain operational milestones within certain periods of time. The deadline for achieving the operational milestones for the first $1,000,000 tranche expired in February 2012 without the Company achieving such milestones; however, the Investors agreed to waive both the deadline and the achievement of these milestones as a condition for the investment of the first additional $1,000,000 tranche (the "2012 Convertible Notes") and issuance of warrants to purchase up to 10,000,000 shares of common stock at $0.15 per share and warrants to purchase up to 10,000,000 shares of common stock at $0.25 per share (the "2012 Warrants") which was completed on July 2, 2012. On January 16, 2013 the Company entered into an amendment and waiver to the Purchase Agreement to provide for the issuance of an additional $250,000 of 5% Senior Secured Convertible Debentures (the "Third Tranche Convertible Notes") maturing on January 16, 2016 and warrants exercisable for a period of five years to purchase up to 2,500,000 shares of common stock at an exercise price of $0.15 per share (the "Third Tranche Warrants").

The convertible notes and warrants and the Purchase Agreement covering both are secured by a security interest in all assets of the Company and its subsidiaries and all such obligations are guaranteed jointly and severally by the Company's subsidiaries. The convertible notes also contain non-financial covenants which limit the Company and its subsidiaries from incurring subsequent indebtedness, incurring liens, and amending organizational documents, repurchasing or repaying other debt, paying cash dividends and entering into affiliate transactions.

On February 22, 2013, simultaneous with the closing of the February SPA, the Company entered into an Amendment and Waiver Agreement (the "February Amendment and Waiver Agreement") with the Holder under which the Holder agreed to (a) increase the number of shares exercisable under the 2011 and 2012 Warrants from an aggregate 50,000,000 shares to 81,578,946 shares and to modify both the exercise price and the Volume Weighted Average Price ("VWAP price") of the 2011 and 2012 Warrants to $0.098 and $0.155, respectively, (b) return to the Company for forfeiture the remaining warrants previously issued to purchase an aggregate 12,500,000 shares of common stock, (c) extend the due date for the 2012 Convertible Notes from February 22, 2014 to June 30, 2015, (d) until February 22, 2014, without the prior written consent from the majority of the investors under the February SPA, forbear from declaring any Event of Default (as defined in the original debenture), and (e) relinquish its right to purchase up to an additional $750,000 in debentures under the terms of the original Purchase Agreement.

On September 18, 2013, simultaneous with the closing of the September SPA, the company entered into an Amendment and Waiver Agreement ("the September Amendment and Waiver Agreement") under which the holders of the term debentures have agreed to (a) extend the payment due date for the interest on the debentures to June 30, 2015, modify the conversion price for the debentures to $0.06, and set the VWAP Price of the warrants originally issued in 2011 and 2012 to $0.3705.

As of December 31, 2013 and 2012, the maturity date principal of convertible debt outstanding was $4,494,355 and $5,000,000 respectively, and is due in June 2015. The Company has also accrued approximately $144,000 and $8,000 of interest payable to the convertible note holders at December 31, 2013 and 2012. The terms of the individual tranches of convertible notes and warrants issued pursuant to this agreement and the impact of the Amendment and Waiver Agreement are discussed below.

2011 Convertible Notes

The September Amendment and Waiver Agreement extends the payment due date for the interest on the debentures to June 30, 2015. Interest is calculated on the basis of a 360-day year and accrues daily commencing on the Original Issue Date until payment in full of the outstanding principal, together with all accrued and unpaid interest, liquidated damages and other amounts that may become due in connection with the 2011 Convertible Notes, has been made.

The Holders may convert the outstanding principal amount of the Convertible Notes into shares of the Company's common stock at the conversion price of $0.06 per share as per the September 2013 Amendment and Waiver Agreement. The conversion price is subject to adjustment in the event of (a) stock splits, stock dividends, combinations, reclassifications, mergers, consolidations, distributions of assets or evidence of indebtedness, sales or transfers of substantially all assets, share exchanges or similar events, and (b) certain dilutive issuances of (i) common stock or (ii) common stock equivalents at an effective price per share that is lower than the then conversion price. During the year ended December 31, 2013, holders converted $755,645 of the 2011 convertible notes into 8,304,837 shares of the Company's common stock.

At any time after February 2012, and upon entering into a change of control transaction or Fundamental Transaction, as defined in the Debenture Agreement, the Company may deliver a notice to the Holders of its irrevocable election to redeem all of the then outstanding principal of the 2011 Convertible Notes for cash in an amount equal to the sum of (a) the greater of (i) the outstanding amount of the 2011 Convertible Notes divided by the conversion price on the date of the mandatory default amount, as defined in the Purchase Agreement, is either (A) demanded or (B) paid in full, whichever has a lower conversion price, multiplied by the VWAP of the date of the mandatory default amount is either (x) demanded or otherwise due or (y) paid in full, whichever has higher VWAP, plus all accrued and unpaid interest, or (ii) 130% of the outstanding principal amount of the Notes, plus 100% of accrued and unpaid interest, and (b) all other amounts, costs, expenses and liquidated damages due under the various agreements covering issuance of the Convertible Notes. Such amount would include the liquidated damages due under the default provision of the Purchase Agreement.

Due to the February 2013 Amendment and Waiver Agreement, the Company is required to repay, in cash, any outstanding principal amount of the 2011 Convertible Notes on June 30, 2015 and is not permitted, except upon entering into a change of control transaction or fundamental transaction as noted above, to prepay any portion of the principal amount without prior written consent of the Holders.

2011 Warrants

On February 22, 2011, in connection with the issuance of the 2011 Convertible Notes, the Company issued warrants for the purchase of up to 40,000,000 shares of common stock at the exercise price of $0.15 per share and with an expiration date of February 22, 2016 (the "2011 Warrants"). On February 22, 2013, as per the terms of the February Amendment and Waiver Agreement, the Company canceled the original warrants and re-issued new warrants for the purchase of up to 65,263,156 shares of common stock at an exercise price of $0.098 per share.

The 2011 Warrants are exercisable by a cashless exercise to purchase shares of the Company's common stock. The Exercise Price of the 2011 Warrants shall be adjusted in the event of (a) stock splits, stock dividends, combinations, reclassifications, mergers, consolidations, distributions of assets or evidence of indebtedness, sales or transfers of substantially all assets, share exchanges or similar events, and (b) certain dilutive issuances of (i) common stock or (ii) common stock equivalents at an effective price per share that is lower than the then Exercise Price.

In connection with a Fundamental Transaction, as defined in the Purchase Agreement, that is an all-cash transaction, the Company shall have the right to purchase from the Holders all, but not less than all, of the unexercised portion of the Warrants by paying in cash to the Holders an amount equal to 30% of the Exercise Price multiplied by the number of shares of Common Stock for which the Warrants are exercisable immediately prior to such change of control transaction.

During the year ended December 31, 2013, 47,322,376 of the 2011 Warrants were exercised pursuant to the cashless exercise provisions resulting in the issuance of 19,608,926 shares of common stock.

The following is a summary of the 2011 Warrants outstanding for the year ended December 31, 2013:

	2011 Warrants	Exercise Price
Beginning balance – December 31, 2012	40,000,000	$ 0.15
Less: Canceled	(40,000,000)	0.15
Add: Issued	65,263,156	0.098
Less: Exercised	(47,322,376)	0.098
Ending Balance – December 31, 2013	17,940,780	$ 0.098

2012 Convertible Notes

The 2012 Convertible Notes contain the same terms as the 2011 Convertible Notes and require payment of interest at the rate of 5% per annum, payable upon the maturation of the debenture and mature on July 2, 2015. The 2012 Convertible Notes provide the Investors the option at any time prior to the repayment of the notes to convert any portion of the balance into fully-paid and non-assessable restricted shares of common stock of the Company at a conversion price of $0.06 per share as per the September 2013 Amendment and Waiver Agreement. The conversion price is subject to adjustment in the event of (a) stock splits, stock dividends, combinations, reclassifications, mergers, consolidations, distributions of assets or evidence of indebtedness, sales or transfers of substantially all assets, share exchanges or similar events, and (b) certain dilutive issuances of (i) common stock or (ii) common stock equivalents at an effective price per share that is lower than the then conversion price.

The 2012 Convertible Notes may be redeemed at the option of the Company on the same terms as the 2011 Convertible Notes only in connection with a change of control or other fundamental transaction of the Company and subject to the satisfaction of other conditions including, without limitation, that the shares issuable upon conversion of the debentures are freely tradable and that there is no event of default.

2012 Warrants

On July 2, 2012, in conjunction with the issuance of the 2012 Convertible Notes, the Company issued warrants for the purchase of up to 20,000,000 shares of common stock with five year terms. The warrants were issued to allow the Investors to purchase up to 10,000,000 shares of common stock at an initial purchase price of $0.15 per share and the remaining 10,000,000 shares of common stock at an initial purchase price of $0.25 per share. The terms of the 2012 Warrants are identical to those of the 2011 Warrants, except that the 2012 Warrants are exercisable for a period of five years from the date of issuance and contain different exercise prices. On February 22, 2013, as per the terms of the February Amendment and Waiver Agreement, the Company canceled the original warrants and re-issued new warrants for the purchase of up to 16,315,790 shares of common stock at an initial purchase price of $0.098. During the year ended December 31, 2013, 9,250,535 of the 2012 Warrants were exercised pursuant to the cashless exercise provisions resulting in the issuance of 3,401,809 shares of common stock.

The following is a summary of the 2012 Warrants outstanding at December 31, 2013:

$0.15 Warrants	Warrants	Exercise Price
Beginning balance at December 31, 2012	10,000,000	$ 0.15
Less: Canceled	(10,000,000)	0.15
Add: Issued	16,315,790	0.098
Less: Exercised	(9,250,535)	0.098
Ending balance at December 31, 2013	7,065,255	$ 0.098

$0.25 Warrants	Warrants	Exercise Price
Beginning balance at December 31, 2012	10,000,000	$ 0.25
Less: Canceled	(10,000,000)	0.25
Ending balance at December 31, 2013	—	$ —

Third Tranche Convertible Notes

The Third Tranche Convertible Notes, which were issued on January 16, 2013, contain the same terms as the 2011 and 2012 Convertible Notes and require payment of interest at the rate of 5% per annum, payable upon the maturation of the debenture on January 16, 2016. The Third Tranche Convertible Notes provide the Investors the option at any time prior to the repayment of the notes to convert any portion of the outstanding Third Tranche balance into fully-paid and non-assessable restricted shares of common stock of the Company at a conversion price of $0.06 per share. The conversion price is subject to adjustment in the event of (a) stock splits, stock dividends, combinations, reclassifications, mergers, consolidations, distributions of assets or evidence of indebtedness, sales or transfers of substantially all assets, share exchanges or similar events, and (b) certain dilutive issuances of (i) common stock or (ii) common stock equivalents at an effective price per share that is lower than the then conversion price.

The Third Tranche Convertible Notes may be redeemed at the option of the Company on the same terms as the 2011 and 2012 Convertible Notes only in connection with a change of control or other fundamental transaction of the Company and subject to the satisfaction of other conditions including, without limitation, that the shares issuable upon conversion of the debentures are freely tradable and that there is no event of default.

Third Tranche Warrants

On January 16, 2013, in connection with the Third Tranche Convertible Notes, the Company issued warrants for the purchase of up to 2,500,000 shares of common stock with five year terms. The warrants were issued to allow the Investors to purchase up to 2,500,000 shares of common stock at an initial purchase price of $0.15 per share. On February 22, 2013, per the terms of the Amendment and Waiver Agreement, the Third Tranche Warrants were canceled. The following is a summary of the 2012 Warrants outstanding for the year ended December 31, 2013:

Third Tranche Warrants	Warrants	Exercise Price
Beginning balance at December 31, 2012	—	$ —
Add: Issued	2,500,000	0.15
Less: Canceled	(2,500,000)	0.15
Ending balance at December 31, 2013	—	$ —

Accounting for the 2011 Convertible Notes, 2012 Convertible Notes, Third Tranche Convertible Notes, 2011 Warrants, 2012 Warrants, and Third Tranche Warrants

2011 Convertible Notes, 2012 Convertible Notes, and Third Tranche Convertible Notes

The Company has determined that the 2011 Convertible Notes, 2012 Convertible Notes and Third Tranche Convertible Notes constitute hybrid instruments that have the characteristics of a debt host contract containing several embedded derivative features that would require bifurcation and separate accounting as a derivative instrument pursuant to the provisions of ASC 815. The Company has identified all of the derivatives associated with each convertible note. As permitted under ASC 825-10-10 – *Financial Instruments*, as it relates to the fair value option, the Company has elected, as of the original issuance date of each convertible note, to measure the 2011 Convertible Notes, 2012 Convertible Notes, and the Third Tranche Convertible Notes in their entirety at fair value with changes in fair value recognized in the Consolidated Statements of Operations as either a gain or loss until the notes are settled. As such, the Company has appropriately valued the embedded derivatives as a single hybrid contract together with the convertible notes. This election was made by the Company after determining the aggregate fair value of the convertible notes to be more meaningful in the context of the Company's financial statements than if separate fair values were assigned to each of the multiple embedded instruments contained in the convertible notes.

Pursuant to the guidance of ASC 815-40-15 (formerly EITF 07-5, Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity's Own Stock), the 2011 Warrants, 2012 Warrants and Third Tranche Warrants were not considered indexed to the Company's own stock. As a result these instruments have been account for as freestanding derivative instruments and classified as a liability recorded at fair value at each reporting period.

The February 2013 and September 2013 Amendment and Waiver Agreements triggered greater than 10% changes in the present value of cash flows of the convertible notes and associated warrants. As a result, the Company has treated the Amendment and Waiver Agreements as debt extinguishments where the carrying value of the convertible notes and warrants prior to the amendments were removed from the Company's books and the fair value of the amended convertible notes and warrants was recorded. The resulting difference in value was recorded as an aggregate $3,274,000 loss on the extinguishment of debt during the year ended December 31, 2013. The impact to each of the convertible notes and associated warrants is discussed below.

2011 Convertible Notes and 2011 Warrants

Upon issuance of the 2011 Convertible Notes, the Company allocated the proceeds received to the 2011 Convertible Notes and 2011 Warrants on a relative fair value basis. As a result of such allocation, the Company determined the initial carrying value of the Notes to be $3,208,000. The debt discount in the amount of $792,000 (resulting from the allocation of proceeds) was being amortized to interest expense using the effective interest method over the expected term of the 2011 Convertible Notes. The carrying value of the 2011 Convertible Notes has been adjusted to fair value each reporting period. During the year ended December 31, 2012, the Company amortized $265,000 of the debt discount to interest expense and recorded a $918,000 loss in the adjustment to the fair value of the notes as a component of other income (expense).

The Company has accounted for the February 2013 Amendment and Waiver Agreement as an extinguishment of debt at February 22, 2013. The fair value of the 2011 Convertible Notes prior to the extinguishment was replaced by the fair value of the amended 2011 Convertible Notes, resulting in a fair value of $6,070,000 as of February 22, 2013. In connection with the extinguishment of the debt as of February 22, 2013, the Company had amortized $38,000 of the debt discount and wrote off the remaining debt discount of $265,000.

The Company has also accounted for the September 2013 Amendment and Waiver Agreement as an extinguishment of debt at September 18, 2013. The fair value of the 2011 Convertible Notes prior to the extinguishment was replaced by the fair value of the amended 2011 Convertible Notes, resulting in a fair value of $4,920,000 as of September 18, 2013. As of December 31, 2013, the 2011 Convertible Notes have been marked to fair value resulting in a derivative liability of $3,290,000. The impact to other income (expense) for the loss on extinguishment and adjustments to fair value for the year ended December 31, 2013 was a loss of $1,362,000 and a gain of $3,810,000, respectively.

During the year ended December 31, 2013, certain holders of the 2011 Convertible Notes converted approximately $756,000 of convertible note principal into 8,305,000 shares of common stock. The conversions resulted in the reclassification of $810,000 in conversion date fair value of the shares as a component of the common stock balance in stockholders' equity within the balance sheet.

As a result of the February 2013 Amendment and Waiver Agreement the carrying value of the 2011 Warrants was adjusted at February 22, 2013 to reflect the revised terms. As of December 31, 2013, the 2011 Warrants have been marked to fair value resulting in a derivative liability of $179,000. The impact to other income (expense) for the loss on extinguishment and adjustments to fair value for the year ended December 31, 2013 was a loss of $1,916,000 and a gain of $1,320,000, respectively. The impact to other income (expense) for adjustments to fair value for the year ended December 31, 2012 was expense of $918,000.

During the year ended December 31, 2013, certain holders of the 2011 Warrants exercised warrants to purchase 47,322,376 shares of common stock pursuant to the cashless exercise provisions resulting in the issuance of 19,609,000, shares of the Company's common stock. The cashless exercise resulted in the reclassification of $2,417,000 in the exercise date fair value of the 2011 Warrants exercised as a component of the common stock balance within stockholders' equity in the balance sheet.

2012 Convertible Notes and 2012 Warrants

Upon issuance of the 2012 Convertible Notes, the Company allocated the proceeds received to the Second Tranche Convertible Notes and 2012 Warrants on a relative fair value basis. As a result of such allocation, the Company determined the initial carrying value of the Second Tranche Convertible Notes to be $417,000. The debt discount in the amount of $583,000 (resulting from the allocation of proceeds) was being amortized to interest expense using the effective interest method over the expected term of the 2012 Convertible Notes. The carrying value of the 2012 Convertible Notes has been adjusted to fair value each reporting period. During the year ended December 31, 2012 the Company amortized $66,000 of the debt discount to interest expense and recorded a loss of $1,105,000 in fair value adjustment as a component of other income (expense).

The Company has accounted for the February 2013 Amendment and Waiver Agreement as an extinguishment of debt at February 22, 2013. The fair value of the 2012 Convertible Notes prior to the extinguishment was replaced by the fair value of the amended 2012 Convertible Notes, resulting in a fair value of $1,516,000 as of February 22, 2013. In connection with the extinguishment of debt as of February 22, 2013, the Company had amortized $55,000 of the debt discount and wrote off the remaining debt discount of $462,000.

The Company has also accounted for the September 2013 Amendment and Waiver Agreement as an extinguishment of debt at September 18, 2013. The fair value of the 2012 Convertible Notes prior to the extinguishment was replaced by the fair value of the amended 2012 Convertible Notes, resulting in a fair value of $1,390,000 as of September 18, 2013. As of December 31, 2013, the 2012 Convertible Notes have been marked to fair value resulting in a derivative liability of $1,010,000. The impact to other income (expense) for the loss on extinguishment and adjustments to fair value for the year ended December 31, 2013 was a loss of $355,000 and a gain of $988,000, respectively.

As a result of the February 2013 Amendment and Waiver Agreement the carrying value of the 2012 Warrants was adjusted at February 22, 2013 to reflect the revised terms. As of December 31, 2013, the 2012 Warrants have been marked to fair value resulting in a derivative liability of $141,000. The impact to other income (expense) for the loss on extinguishment and adjustments to fair value for the year ended December 31, 2013 was a gain of $168,000 and a gain of $1,253,000, respectively. The impact to other income (expense) for adjustments to fair value for the year ended December 31, 2012 was expense of $1,100,000.

During the year ended December 31, 2013, certain holders of the 2012 Warrants exercised warrants to purchase 9,250,535 shares of common stock pursuant to the cashless exercise provisions resulting in the issuance of 3,401,809 shares of the Company's common stock. The cashless exercise resulted in the reclassification of $238,000 in the exercise date fair value of the 2012 Warrants exercised as a component of common stock in stockholders' equity.

Third Tranche Convertible Notes and Third Tranche Warrants

Upon issuance of the Third Tranche Convertible Notes in January 2013, the Company allocated the proceeds received to the Third Tranche Convertible Notes and Third Tranche Warrants on a relative fair value basis. As a result of such allocation, the Company determined the initial carrying value of the Third Tranche Convertible Notes to be $142,000. The Third Tranche Convertible Notes were immediately marked to fair value, resulting in a derivative liability in the amount of $394,000. The debt discount in the amount of $108,000 (resulting from the allocation of proceeds) was being amortized to interest expense using the effective interest method over the expected term of the Convertible Notes.

The Company has accounted for the February 2013 Amendment and Waiver Agreement as an extinguishment of debt at February 22, 2013. The fair value of the Third Tranche Convertible Notes prior to the extinguishment was replaced by the fair value of the amended Third Tranche Convertible Notes, resulting in a fair value of $386,000 as of February 22, 2013. In connection with the extinguishment of debt as of February 22, 2013, the Company had amortized $2,000 of the debt discount and wrote off the remaining debt discount of $106,000.

The Company has accounted for the September 2013 Amendment and Waiver Agreement as an extinguishment of debt at September 18, 2013. The fair value of the Third Tranche Convertible Notes prior to the extinguishment was replaced by the fair value of the amended Third Tranche Convertible Notes, resulting in a fair value of $361,000 as of September 18, 2013. As of December 31, 2013, the Third Tranche Convertible Notes have been marked to fair value resulting in a derivative liability of $237,000. The impact to other income (expense) for the loss on extinguishment and adjustments to fair value was a loss of $109,000 and a gain of $16,000 for the year ended December 31, 2013, respectively.

Upon issuance of the Third Tranche Warrants, the Company allocated $108,000 of the initial proceeds to the Third Tranche Warrants and immediately marked them to fair value resulting in a derivative liability of $300,000. As of December 31, 2013, the Third Tranche Warrants have been canceled as per the terms of the February 2013 Amendment and Waiver Agreement. The impact to other income (expense) for the extinguishment and adjustments to fair value was a gain of $300,000 and a loss of $192,000 for the year ended December 31, 2013, respectively.

Financing Costs

The Company incurred financing costs associated with obtaining the July 2, 2012 financing which totaled $80,000 and were recorded in other income (expense) in the year ended December 31, 2012.

10. Fair Value Measurements

The following summarizes the Company's assets and liabilities measured at fair value as of December 31, 2012:

		Fair Value Measurements at Reporting Date Using:		
Description	**Balance as of December 31, 2012**	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs(Level 2)**	**Significant Unobservable Inputs (Level 3)**
Liabilities				
Convertible notes	$ 8,098,000	$ —	$ —	$ 8,098,000
Warrant liabilities	$ 3,800,000	$ —	$ —	$ 3,800,000
Total Liabilities	$ 11,898,000	$ —	$ —	$ 11,898,000

The following summarizes the Company's assets and liabilities measured at fair value as of December 31, 2013:

		Fair Value Measurements at Reporting Date Using:		
Description	**Balance as of December 31, 2013**	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs(Level 2)**	**Significant Unobservable Inputs(Level 3)**
Liabilities				
Convertible notes	$ 4,537,000	$ —	$ —	$ 4,537,000
Warrant and option liabilities	$ 2,680,000	$ —	$ —	$ 2,680,000
Total Liabilities	$ 7,217,000	$ —	$ —	$ 7,217,000

A summary of changes in the 2011 Convertible Notes, 2012 Convertible Notes, Third Tranche Convertible Notes, 2011 Warrants, 2012 Warrants, Third Tranche Warrants, and the February 2013 Warrants, February 2013 SPA Options, September 2013 Warrants, and September 2013 SPA Options as of December 31, 2012, February 22, 2013, September 18, 2013 and December 31, 2013 is as follows:

	Fair Value of 2011 Convertible Notes	Fair Value of 2011 Warrant Liabilities	Fair Value of 2012 Convertible Notes	Fair Value of 2012 Warrant Liabilities	Fair Value of Third Tranche Convertible Notes	Fair Value of Third Tranche Warrant Liabilities	February 2013 Warrants	February 2013 SPA Option	September 2013 Warrants	September 2013 SPA Options	Total
Balance December 31, 2011	$ 5,327,000	$ 1,600,000	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 6,927,000
Amortization of debt discount	$ 265,000	$ —	$ 66,000	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 331,000
Allocation of initial proceeds	$ —	$ —	$ 417,000	$ 583,000	$ —	$ —	$ —	$ —	$ —	$ —	$ 1,000,000
Fair value adjustment	$ 918,000	$ 400,000	$ 1,105,000	$1,217,000	$ —	$ —	$ —	$ —	$ —	$ —	$ 3,640,000
Balance December 31, 2012	$ 6,510,000	$ 2,000,000	$ 1,588,000	$1,800,000	$ —	$ —	$ —	$ —	$ —	$ —	$11,898,000
Allocation of initial proceeds	$ —	$ —	$ —	$ —	$ 142,000	$ 108,000	$ —	$ —	$ —	$ —	$ 250,000
Initial fair value adjustment	$ —	$ —	$ —	$ —	$ 252,000	$ 192,000	$ —	$ —	$ —	$ —	$ 444,000
January 16, 2013	$ 6,510,000	$ 2,000,000	$ 1,588,000	$1,800,000	$ 394,000	$ 300,000	$ —	$ —	$ —	$ —	$12,592,000
Amortization of debt discount	$ 38,000	$ —	$ 55,000	$ —	$ 2,000	$ —	$ —	$ —	$ —	$ —	$ 95,000
Fair value adjustment	$ (370,000)	$ —	$ (72,000)	$ —	$ (8,000)	$ —	$ —	$ —	$ —	$ —	$ (450,000)
Carrying value of old debt at modification	$ (6,178,000)	$ —	$ (1,571,000)	$ —	$ (388,000)	$ —	$ —	$ —	$ —	$ —	$ (8,137,000)
Fair value of new debt at modification	$ 6,070,000	$ —	$ 1,516,000	$ —	$ 386,000	$ —	$ —	$ —	$ —	$ —	$ 7,972,000
Modification of warrants	$ —	$ 1,916,000	$ —	$ 632,000	$ —	$ —	$ —	$ —	$ —	$ —	$ 2,548,000
Cancellation/retirement of warrants	$ —	$ —	$ —	$ (800,000)	$ —	$ (300,000)	$ —	$ —	$ —	$ —	$ (1,100,000)
Fair value of instruments at issuance	$ —	$ —	$ —	$ —	$ —	$ —	$2,759,000	$1,211,000	$ —	$ —	$ 3,970,000
February 22, 2013	$ 6,070,000	$ 3,916,000	$ 1,516,000	$1,632,000	$ 386,000	$ —	$2,759,000	$1,211,000	$ —	$ —	$17,490,000
Fair value adjustment	$ (1,932,000)	$ (716,000)	$ (536,000)	$ (970,000)	$ (136,000)	$ —	$ (742,000)	$ (807,000)	$ —	$ —	$ (5,839,000)
Carrying value of old debt at modification	$ (3,450,000)	$ —	$ (980,000)	$ —	$ (250,000)	$ —	$ —	$ —	$ —	$ —	$ (4,680,000)
Fair value of new debt at modification	$ 4,920,000	$ —	$ 1,390,000	$ —	$ 361,000	$ —	$ —	$ —	$ —	$ —	$ 6,671,000
Conversion of debentures and warrants	$ (688,000)	$(2,152,000)	$ —	$ (238,000)	$ —	$ —	$ —	$ —	$ —	$ —	$ (3,078,000)
Fair value of instruments at issuance	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 1,807,000	$1,166,000	2,973,000
September 18, 2013	$ 4,920,000	$ 1,048,000	$ 1,390,000	$ 424,000	$ 361,000	$ —	$2,017,000	$ 404,000	$ 1,807,000	$1,166,000	$13,537,000
Conversion of debentures and warrants	$ (122,000)	$ (265,000)	$ —	$ —	$ —	$ —	$ —	$ --	$ —	$ —	$ (387,000)
Fair value adjustment	$ (1,508,000)	$ (604,000)	$ (380,000)	$ (283,000)	$ (124,000)	$ —	$ (576,000)	$ (404,000)	$(1,180,000)	$ (874,000)	$ (5,933,000)
December 31, 2013	$ 3,290,000	$ 179,000	$ 1,010,000	$ 141,000	$ 237,000	$ —	$1,441,000	$ --	$ 627,000	$ 292,000	$ 7,217,000

The following is a roll forward of the Company's Level 3 instruments for the year ended December 31, 2013:

	Convertible Notes	Warrants	Total
Balance December 31, 2012	8,098,000	3,800,000	11,898,000
Issuances	142,000	7,051,000	7,193,000
Amortization of debt discount	95,000	--	95,000
Debt extinguishment and modification of warrants	1,826,000	1,448,000	3,274,000
Conversion of debentures and warrants	(810,000)	(2,655,000)	(3,465,000)
Fair value adjustments	(4,814,000)	(6,964,000)	(11,778,000)
December 31, 2013	4,537,000	2,680,000	7,217,000

Valuation – Methodology and Significant Inputs Assumptions

Fair values for the Company's derivatives and financial instruments are estimated by utilizing valuation models that consider current and expected stock prices, volatility, dividends, market interest rates, forward yield curves and discount rates. Such amounts and the recognition of such amounts are subject to significant estimates that may change in the future. The methods and significant inputs and assumptions utilized in estimating the fair value of the warrant liabilities, 2013 SPA Options and Convertible Notes as of the December 31, 2012 balance sheet date, February 22, 2013 Amendment and Waiver Agreement date, September 18, 2013 Amendment and Waiver agreement, and the December 31, 2013 balance sheet date are discussed below. Each of the measurements is considered a Level 3 measurement as a result of at least one significant unobservable input.

2011 Warrants

A Black-Scholes-Merton option-pricing model, with dilution effects, was utilized to estimate the fair value of the 2011 Warrants as of December 31, 2012, February 22, 2013, and December 31, 2013. This model is widely used in estimating value of European options dependent upon a non-paying dividend stock and fixed inputs. This model is subject to the significant assumptions discussed below and requires the following key inputs with respect to the Company and/or instrument:

Input	December 31, 2012	February 22, 2013	December 31, 2013
Stock Price	$ 0.15	$ 0.14	$ 0.04
Exercise Price	$ 0.15	$ 0.15	$ 0.098
Expected Life (in years)	3.15	3.00	2.15
Stock Volatility	100%	100%	95%
Risk-Free Rate	0.39%	0.40%	0.21%
Dividend Rate	0%	0%	0%
Outstanding Shares of Common Stock	32,434,430	59,576,097	160,664,862

2012 Warrants

$0.15 Warrants

A Black-Scholes-Merton option-pricing model, with dilution effects, was also utilized to estimate the fair value of the $0.15 Warrants as of December 31, 2012, February 22, 2013, and December 31, 2013.

Input	December 31, 2012	February 22, 2013	December 31, 2013
Stock Price	$ 0.15	$ 0.14	$ 0.04
Exercise Price	$ 0.15	$ 0.15	$ 0.098
Expected Life (in years)	4.50	4.38	3.50
Stock Volatility	100%	100%	100%
Risk-Free Rate	0.63%	0.70%	1.02%
Dividend Rate	0%	0%	0%
Outstanding Shares of Common Stock	32,434,430	59,576,097	160,664,862

$0.25 Warrants

A Black-Scholes-Merton option-pricing model, with dilution effects, was also utilized to estimate the fair value of the $0.25 Warrants as December 31, 2012. These warrants were canceled on February 22, 2013.

Input	December 31, 2012
Stock Price	$ 0.15
Exercise Price	$ 0.25
Expected Life (in years)	4.50
Stock Volatility	100%
Risk-Free Rate	0.63%
Dividend Rate	0%
Outstanding Shares of Common Stock	32,434,430

Third Tranche Warrants

A Black-Scholes-Merton option-pricing model, with dilution effects, was also utilized to estimate the fair value of the Third Tranche Warrants as of January 16, 2013. These warrants were canceled on February 22, 2013.

Input	January 16, 2013
Stock Price	$ 0.15
Exercise Price	$ 0.15
Expected Life (in years)	5
Stock Volatility	110%
Risk-Free Rate	0.75%
Dividend Rate	0%
Outstanding Shares of Common Stock	32,434,430

February 2013 Warrants

A Monte Carlo simulation model was utilized to estimate the fair value of the February 2013 warrants as of February 22, 2013 and December 31, 2013.

Input	February 22, 2013	December 31, 2013
Stock Price	$ 0.12	$ 0.04
Exercise Price	$ 0.20	$ 0.08
Expected Life (in years)	5	4.15
Stock Volatility	110%	100%
Risk-Free Rate	0.84%	1.34%
Number of Steps	100,000	100,000
Outstanding Shares of Common Stock	59,576,097	160,664,862

February 2013 SPA Option

The February 2013 SPA option, upon exercise, allows the investor to purchase one share of common stock and one common stock warrant. The option was valued using multiple valuation models, including a Black-Scholes-Merton option-pricing model, with dilution effects, to estimate the fair value of the option to purchase the common share, and a Monte Carlo simulation to determine the estimated fair value of the warrant that would be issued at the time of exercise. These models were used to estimate the fair value of the option at February 22, 2013 and December 31, 2013.

Input	February 22, 2013
Stock Price	$ 0.14
Exercise Price	$ 0.15
Expected Life (in years)	0.75
Stock Volatility	110%
Risk-Free Rate	0.15%
Dividend Rate	0%
Outstanding Shares of Common Stock	73,042,764

A Monte Carlo simulation model was also utilized to estimate the fair value of the February 2013 SPA Option as of February 22, 2013.

Input	February 22, 2013
Stock Price (simulated)	$ 0.10
Exercise Price	$ 0.20
Expected Life (in years)	5.00
Stock Volatility	110%
Risk-Free Rate	1.158%
Number of Steps	10,000

September 2013 Warrants

A Monte Carlo simulation model was utilized to estimate the fair value of the September 2013 warrants as of September 18, 2013 and December 31, 2013.

Input	September 18, 2013	December 31, 2013
Stock Price	$ 0.071	$ 0.04
Exercise Price	$ 0.08	$ 0.08
Expected Life (in years)	5	4.72
Stock Volatility	110%	100%
Risk-Free Rate	1.43%	1.61%
Number of Steps	100,000	100,000

September 2013 SPA Option

The September 2013 SPA option, upon exercise, allows the investor to purchase one share of common stock and one common stock warrant. The option was valued using multiple valuation models, including a Black-Scholes-Merton option-pricing model, with dilution effects, to estimate the fair value of the option to purchase the common share, and a Monte Carlo simulation to determine the estimated fair value of the warrant that would be issued at the time of exercise. These models were used to estimate the fair value of the option at September 18, 2013 and December 31, 2013.

Input	September 18, 2013	December 31, 2013
Stock Price	$ 0.075	$ 0.04
Exercise Price	$ 0.06	$ 0.06
Expected Life (in years)	0.748	0.463
Stock Volatility	110%	100%
Risk-Free Rate	0.07%	0.10%
Dividend Rate	0%	0%
Outstanding Shares of Common Stock	143,997,066	160,664,862

A Monte Carlo simulation model was also utilized to estimate the fair value of the 2013 SPA Option as of September 18, 2013 and December 31, 2013.

Input	September 18, 2013	December 31, 2013
Stock Price (simulated)	$ 0.075	$ 0.04
Exercise Price	$ 0.08	$ 0.08
Expected Life (in years)	0.7480	0.463
Stock Volatility	110%	100%
Risk-Free Rate	0.07%	0.10%
Number of Steps	10,000	10,000

2011 Convertible Notes

A binomial lattice model was utilized to estimate the fair value of the Convertible Notes as of December 31, 2012, February 22, 2012, September 18, 2013 and December 31, 2013. The binomial model considers the key features of the Convertible Notes, as noted above, and is subject to the significant assumptions discussed below. First, a discrete simulation of the Company's stock price, without effects of dilution due to the conversion feature, was conducted at each node and throughout the expected life of the instrument. Second, a discrete simulation of the Company's stock price, with effects of dilution due to the conversion feature, was conducted at each node and throughout the expected life of the instrument. Third, based upon the simulated stock price with dilution effect, an analysis of the higher position of a conversion position, redemption position, or holding position (i.e. fair value of the respective future nodes value discounted using the applicable discount rate) was conducted relative to each node until a final fair value of the instrument is conducted at the node representing the measurement date. This model requires the following key inputs with respect to the Company and/or instrument:

Input	December 31, 2012	February 22, 2013	September 18 2013	December 31, 2013
Stock Price	$ 0.15	$ 0.14	$ 0.075	$ 0.04
Strike Price	$ 0.10	$ 0.10	$ 0.06	$ 0.06
Expected remaining term (in years)	1.15	2.35	1.78	1.50
Stock Volatility	105%	100%	100%	95%
Risk-Free Rate	0.17%	0.32%	0.38%	0.25%
Dividend Rate	0%	0%	0%	0%
Outstanding Shares of Common Stock	32,434,430	59,576,097	143,997,066	160,664,862
Effective discount rate	13.1%	13.2%	16.4%	19.6%
Probability of forced redemption	20%	20%	20%	20%

2012 Convertible Notes

A binomial lattice model was also utilized to estimate the fair value of the 2012 Convertible Notes as of December 31, 2012, February 22, 2012 and December 31, 2013. This model requires the following key inputs with respect to the Company and/or instrument:

Input	December 31, 2012	February 22, 2013	September 18 2013	December 31, 2013
Stock Price	$ 0.15	$ 0.14	$ 0.075	$ 0.04
Exercise Price	$ 0.10	$ 0.10	$ 0.06	$ 0.06
Expected remaining term (in years)	2.50	2.35	1.79	1.50
Stock Volatility	100%	100%	100%	95%
Risk-Free Rate	0.31%	0.32%	0.38%	0.26%
Dividend Rate	0%	0%	0%	0%
Outstanding Shares of Common Stock	32,434,430	59,576,097	143,997,066	160,664,862
Effective discount rate	13.2%	13.2%	16.4%	19.6%
Probability of forced redemption	20%	20%	20%	20%

Third Tranche Convertible Notes

A binomial lattice model was also utilized to estimate the fair value of the Tranche Three Convertible Notes as of January 16, 2012, February 22, 2012 and December 31, 2013. This model requires the following key inputs with respect to the Company and/or instrument:

Input	January 16, 2013	February 22, 2013	September 18 2013	December 31, 2013
Stock Price	$ 0.15	$ 0.14	$ 0.075	$ 0.04
Exercise Price	$ 0.10	$ 0.10	$ 0.06	$ 0.06
Expected remaining term (in years)	3	2.90	2.33	2.04
Stock Volatility	100%	100%	100%	95%
Risk-Free Rate	0.36%	0.39%	0.56%	0.40%
Dividend Rate	0%	0%	0%	0%
Outstanding Shares of Common Stock	32,434,430	59,576,097	143,997,066	160,664,862
Effective discount rate	13.2%	13.2%	13.3%	21.3%
Probability of forced redemption	20%	20%	20%	20%

The following are significant assumptions utilized in developing the inputs:

- The Company's common stock shares are traded on the OTC Bulletin Board and, accordingly, the stock price input is based upon bid prices as of the valuation dates due to the extremely thin trading volume, broker-driven market (vs. exchange market) and the wide bid/ask spread as of the valuation date;

- The expected future stock prices of the Company's stock were modeled to include the effect of dilution upon conversion of the instruments to shares of common stock;

- Stock volatility was estimated by considering (i) the annualized monthly volatility of the Company's stock price during the historical period preceding the respective valuation dates and measured over a period corresponding to the remaining life of the instruments (monthly data set is more relevant given the extremely thin trading volume of the Company's common stock) and (ii) the annualized daily volatility of comparable companies' stock price during the historical period preceding the respective valuation dates and measured over a period corresponding to the remaining life of the instrument. Historic prices of the Company and comparable companies' common stock were used to estimate volatility as the Company did not have traded options as of the valuation dates;

- Based upon the Company's historical operations and management's expectations for the foreseeable future, the Company's stock was assumed to be a non-dividend-paying stock;

- The risk-free interest rate is based on the U.S. Treasury Yield curve in effect as of the valuation date for the expected term;

- With respect to the 2011 Convertible Notes, 2012 Convertible Notes and Third Tranche Convertible Notes, the Company is expected to pay all accrued interest due to the Holders on each Interest Payment Date;

- With respect to the 2011 Convertible Notes, 2012 Convertible Notes and Third Tranche Convertible Notes, based upon management's expectations for a change of control or fundamental transaction to occur prior to the maturity date of the 2011 Convertible Notes, 2012 Convertible Notes and Third Tranche Convertible Notes, a low probability of a forced redemption;

- Upon a change of control redemption, the change of control redemption amount shall equal to the sum of:
  I. the greater of:
     (i) the outstanding amount of the debt divided by the Conversion Price on the date of the mandatory default amount is either (A) demanded or (B) paid in full, whichever has a lower conversion price, multiplied by the VWAP of the date of the mandatory default amount is either (x) demanded or otherwise due or (y) paid in full, whichever has higher VWAP, plus all accrued and unpaid interest, or
     (ii) 130% of the outstanding principal amount of the debt, plus 100% of accrued and unpaid interest, and
  II. all other amounts, costs, expenses and liquidated damages due under the various agreements covering issuance of the debt.

Additionally, it is assumed that no amounts are due pursuant to clause (II) above in any period and that the stock price at each respective node represents a reasonable approximation of the VWAP requirements.

The changes in fair value between reporting periods are related to the changes in the price of the Company's common stock as of the measurement dates, the volatility of the Company's common stock during the remaining term of the instrument, changes in the conversion price and effective discount rate.

11. Income Taxes

The provision for income taxes consists of the following (in thousands):

	Year Ended December 31,	
	2013	**2012**
Income (loss) before income taxes:		
United States	$ 3,194	$ (8,288)
Foreign	305	(99)
	$ 3,499	(8,387)
Current income tax benefit from operations:		
Federal	$ --	$ --
Foreign	--	--
State	--	--
	$ --	$ --
Deferred income tax benefit/(provision) from operations:		
Federal	$ 1,380	2,444
Foreign	(142)	(104)
State	172	(1,437)
	1,410	903
Change in valuation allowance	(1,410)	(903)
Total provision for income taxes	$ —	$ —

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets as of December 31 are as follows (in thousands):

	2013	**2012**
Net federal and state operating loss carryforwards	$ 22,939	$ 24,689
Net foreign operating loss carryforwards	523	380
Accrued expenses and reserves	(2)	--
Tax credits	1,212	1,194
Other	476	295
Total deferred tax assets	25,148	26,558
Valuation allowance	(25,148)	(26,558)
Net deferred tax assets	$ -	$ -

The valuation allowance decreased by $1,410,000 in 2013 primarily due to the Company's net income. The Company recorded the valuation allowance due to the uncertainty of the realizability of the related net deferred tax asset.

Total provision for income taxes computed at the federal statutory rate differs from amounts provided as follows (in thousands):

	2013	**2012**
Tax provision (benefit) at federal statutory rate	1,061	$ (2,818)
State income taxes, net of U.S. federal income tax provision (benefit)	4	(11)
Permanent differences	46	17
Other	299	1,909
Change in valuation allowance	(1,410)	(903)
Total expense	$ --	$ --

At December 31, 2013, the Company had federal net operating loss carryforwards available to reduce future taxable income of approximately $67,207,600 which expire at various dates through 2032. At December 31, 2013, the Company had federal and state research and development credit carryforwards of $752,000 and $460,000, respectively, which will expire at various dates through 2032 for federal income tax purposes and through 2027 for state income tax purposes. In addition, at December 31, 2013 the Company had foreign net operating loss carryforwards of approximately $752,000.

Under the Internal Revenue Code of 1986, as amended, certain substantial changes in the Company's ownership may limit the amount of net operating loss carryforwards that can be utilized in any one year to offset future taxable income. Any carryforwards that will expire prior to utilization as the result of any limitations will be removed from deferred tax assets with a corresponding reduction of the valuation allowance. Due to the existence of the valuation allowance, future changes in the Company's unrecognized tax benefits will not impact its effective tax rate.

The Company recognizes a tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities. As of December 31, 2013 and 2012, there were no unrecognized tax benefits. The Company's policy is to record estimated interest and penalties related to the underpayment of income taxes as a component of its income tax provision. As of December 31, 2013 and 2012, the Company had no accrued interest or tax penalties recorded.

The Company files income tax returns in the U.S. federal jurisdiction and in several state and foreign jurisdictions. For U.S. federal and state tax purposes, the tax years 2007 through 2013 remain open to examination. In addition, the amount of the Company's federal and state net operating loss carryforwards may be subject to examination and adjustment. The open examination periods for the Company's foreign jurisdictions range from 2000 through 2009.

12. Subsequent Events

The Company has evaluated all events and transactions through the date of the filing.

EXHIBIT INDEX

Exhibit Number	Description of Document
3.1	Articles of Continuance, pursuant to the Yukon Business Corporations Act, as amended, incorporated by reference to the Registrant's annual report on Form 10-K for the year ended December 31, 2004, as previously filed with the Securities and Exchange Commission.
3.2	By-Law No. 1, a By-Law relating generally to the transaction of the business and affairs of PLC Systems Inc., incorporated by reference to the Registrant's annual report on Form 10-K for the year ended December 31, 1999, as previously filed with the Securities and Exchange Commission.
4.1	Form of Common Stock Certificate, incorporated by reference to the Registrant's registration statement on Form S-1 (SEC File No. 33-48340) and amendments thereto, as previously filed with the Securities and Exchange Commission.
4.2	Securities Purchase Agreement dated February 22, 2013, incorporated by reference to the Registrant's current report on Form 8-K dated February 22, 2013, as previously filed with the Securities and Exchange Commission.
4.3	Form of Common Stock Purchase Warrant dated February 22, 2013, incorporated by reference to the Registrant's current report on Form 8-K dated February 22, 2013, as previously filed with the Securities and Exchange Commission.
4.4	Escrow Agreement dated February 22, 2013, incorporated by reference to the Registrant's current report on Form 8-K dated February 22, 2013, as previously filed with the Securities and Exchange Commission.
4.5	Amendment and Waiver Agreement dated February 22, 2013 by and between the Company and GCP IV, LLC, incorporated by reference to the Registrant's current report on Form 8-K dated February 22, 2013, as previously filed with the Securities and Exchange Commission.
4.6	Right to Shares Letter Agreement dated February 22, 2013 by and between the Company and GCP IV, LLC, incorporated by reference to the Registrant's current report on Form 8-K dated February 22, 2013, as previously filed with the Securities and Exchange Commission.
4.7	Securities Purchase Agreement dated September 18, 2013, incorporated by reference to the Registrant's current report on Form 8-K dated September 18 2013, as previously filed with the Securities and Exchange Commission
4.8	Form of Common Stock Purchase Warrant, incorporated by reference to the Registrant's current report on Form 8-K dated September 18, 2013, as previously filed with the Securities and Exchange Commission.
4.9	Amendment and Waiver Agreement dated September 18, 2013 by and between the Company and Certain Holders of Securities Purchased in February 2013, incorporated by reference to the Registrant's current report on Form 8-K dated September 18, 2013, as previously filed with the Securities and Exchange Commission.
4.10	Amendment and Waiver Agreement dated September 18, 2013 by and between the Company and holders of Term Debentures, incorporated by reference to the Registrant's current report on Form 8-K dated September 18, 2013, as previously filed with the Securities and Exchange Commission.
4.11	Right to Shares Letter Agreement dated September 18, 2013 by and between the Company and certain investors; incorporated by reference to the Registrant's current report on Form 8-K dated September 18, 2013, as previously filed with the Securities and Exchange Commission.
10.1#	1995 Stock Option Plan, incorporated by reference to the Registrant's registration statement on Form S-8 (SEC File No. 33-95168), as previously filed with the Securities and Exchange Commission.
10.2#	2000 Equity Incentive Plan, incorporated by reference to the Registrant's annual report on Form 10-K for the year ended December 31, 2001, as previously filed with the Securities and Exchange Commission.

Exhibit Number	Description of Document
10.3#	Form of Stock Option Grant Letter to Employees of the Registrant under the Registrant's 1995 Stock Option Plan and2000 Equity Incentive Plan, incorporated by reference to the Registrant's quarterly report on Form 10-Q for the quarter ended June 30, 2004, as previously filed with the Securities and Exchange Commission.
10.4#	Form of Stock Option Grant Letter to Non-Employee Directors of the Registrant under the Registrant's 1995 Stock Option Plan and 2000 Equity Incentive Plan, incorporated by reference to the Registrant's quarterly report on Form 10-Q for the quarter ended September 30, 2004, as previously filed with the Securities and Exchange Commission.
10.5#	2005 Stock Incentive Plan, as amended, incorporated by reference to the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on June 23, 2008.
10.6#	Form of Stock Option Grant Letter for Employees of the Registrant under the Registrant's 2005 Stock Incentive Plan used prior to June 18, 2008, incorporated by reference to the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on May 24, 2005.
10.7#	Form of Stock Option Grant Letter for Employees of the Registrant under the Registrant's 2005 Stock Incentive Plan used beginning June 18, 2008 and prior to June 3, 2009, incorporated by reference to the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on June 23, 2008.
10.8#	Form of Stock Option Grant Letter for Employees of the Registrant under the Registrant's 2005 Stock Incentive Plan used beginning June 3, 2009, incorporated by reference to the Registrant's quarterly report on Form 10-Q for the quarter ended June 30, 2009, as previously filed with the Securities and Exchange Commission.
10.9#	Form of Stock Option Grant Letter for Non-Employee Directors of the Registrant under the Registrant's 2005 Stock Incentive Plan used prior to June 18, 2008, incorporated by reference to the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on May 24, 2005.
10.10#	Form of Stock Option Grant Letter for Non-Employee Directors of the Registrant under the Registrant's 2005 Stock Incentive Plan used beginning June 18, 2008 and prior to June 3, 2009, incorporated by reference to the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on June 23, 2008.
10.11#	Form of Stock Option Grant Letter for Non-Employee Directors of the Registrant under the Registrant's 2005 Stock Incentive Plan used beginning June 3, 2009, incorporated by reference to the Registrant's quarterly report on Form 10-Q for the quarter ended June 30, 2009, as previously filed with the Securities and Exchange Commission.
10.12#	Employment Agreement dated December 22, 1999 between PLC Medical Systems, Inc. and Mark R. Tauscher, incorporated by reference to the Registrant's annual report on Form 10-K for the year ended December 31, 2000, as previously filed with the Securities and Exchange Commission.
10.13#	Amendment dated June 18, 2008 to Employment Agreement between PLC Medical Systems, Inc. and Mark R. Tauscher, incorporated by reference to the Registrant's annual report on Form 10-K for the year ended December 31, 2008, as previously filed with the Securities and Exchange Commission.
10.14#	Employment letter dated September 2, 2011 between PLC Medical Systems, Inc. and Gregory W. Mann, incorporated by reference to the Registrant's annual report on Form 10-K for the year ended December 31, 2011, as previously filed with the Securities and Exchange Commission.
10.15	Securities Purchase Agreement dated February 22, 2011 by and between the Registrant and GCP IV LLC, incorporated by reference to the Registrant's current report on Form 8-K dated February 22, 2011, as previously filed with the Securities and Exchange Commission.
10.16	Form of 5% Senior Secured Convertible Debenture issued by the Registrant, incorporated by reference to the Registrant's current report on Form 8-K dated February 22, 2011, as previously filed with the Securities and Exchange Commission.

Exhibit Number	Description of Document
10.17	Form of Common Stock Purchase Warrant issued by the Registrant, incorporated by reference to the Registrant's current report on Form 8-K dated February 22, 2011, as previously filed with the Securities and Exchange Commission.
10.18#	2013 Stock Option and Incentive Plan, incorporated by reference to the Registrant's current report on Form 8-K dated June 12, 2013, as previously filed with the Securities and Exchange Commission.
10.19#	Second Amendment to Employment Agreement between PLC Systems Inc. and Mark Tauscher dated as of August 16, 2013, incorporated by reference to the Registrant's current report on Form 8-K dated August 21, as previously filed with the Securities and Exchange Commission.
10.20*#	Compensatory Arrangements with Non-Employee Directors.
10.21*#	Severance Arrangements with Executive Officers.
21.1*	Subsidiaries of the Registrant.
23.1*	Consent of McGladrey LLP
31.1*	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certifications pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101*	The following materials from PLC Systems Inc. Yearly Report on Form 10-K for the year ended December 31, 2013, formatted in XBRL (Extensible Business Reporting Language), (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Operations, (iii) Consolidated Statement of Comprehensive Income, (iv) Consolidated Statements of Cash Flows, and (v) Notes to Consolidated Financial Statements.

* Filed with this annual report on Form 10-K for the year ended December 31, 2013.

\+ Confidential treatment requested as to certain portions, which portions have been omitted and filed separately with the Securities and Exchange Commission.

\# Management contract or compensatory plan or arrangement.

EXHIBIT 10.20

Compensatory Arrangements with Non-Employee Directors

Each non-employee director (other than the chairman of the board) of PLC Systems Inc. (the "Company") receives $1,000 for each board meeting he attends in person and $500 for each board meeting he participates by means of teleconference. The chairman of the board receives $1,500 for each board meeting that he attends in person and $750 for each board meeting he participates by teleconference. The Company reimburses its directors for reasonable out-of-pocket expenses incurred in attending meetings of the board of directors and committees of the board of directors.

Non-employee directors (other than the chairman of the board) will now receive an annual grant of an option to purchase 22,500 shares of the Company's common stock, such option to vest in four equal quarterly installments. The chairman of the board receives an annual grant of an option to purchase 45,000 shares of the Company's common stock, such option to vest in four equal quarterly installments. The annual grants to non-employee directors are generally made on the date of the Company's annual meeting of shareholders. All such options will have an exercise price equal to the fair market value of the Company's common stock on the date of grant.

EXHIBIT 10.21

Severance Arrangements with Executive Officers

Mark R. Tauscher, the Company's President and Chief Executive Officer, is entitled to receive severance payments pursuant to the terms of his employment agreement with the Company.

EXHIBIT 21.1

SUBSIDIARIES OF THE REGISTRANT

1) PLC Medical Systems, Inc., a Delaware corporation

2) PLC Systemas Medicos Internacionais (Deutschland) GmbH, a German corporation

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in Registration Statements on Form S-8 (File Nos. 333-51547, 333-37814, 333-48706, 333-51136, 333-57752, 333-91430, 333-106100, 333-12770 and 333-153535) of PLC Systems Inc. of our report dated March 31, 2014, relating to our audits of the consolidated financial statements which appear in this Annual Report on Form 10-K of PLC Systems Inc. for the year ended December 31, 2013

/s/ McGladrey LLP

Boston, Massachusetts
March 31, 2014

EXHIBIT 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO RULE 13a-14(a) OR 15d-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Mark R. Tauscher, certify that:

1. I have reviewed this annual report on Form 10-K of PLC Systems Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation;

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls over financial reporting.

Date: March 31, 2014

/s/ Mark R. Tauscher
Mark R. Tauscher
President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO RULE 13a-14(a) OR 15d-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Gregory W. Mann, certify that:

1. I have reviewed this annual report on Form 10-K of PLC Systems Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation;

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls over financial reporting.

Date: March 31, 2014

/s/ Gregory W. Mann
Gregory W. Mann
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32.1

CERTIFICATIONS PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the annual report on Form 10-K of PLC Systems Inc. (the "Company") for the period ended December 31, 2013 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Mark R. Tauscher, President and Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that, to his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 31, 2014

By: /s/ Mark R. Tauscher
Mark R. Tauscher
President and Chief Executive Officer
(Principal Executive Officer)

In connection with the annual report on Form 10-K of PLC Systems Inc. (the "Company") for the period ended December 31, 2013 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Gregory W. Mann, Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that, to his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 31, 2014

By: /s/ Gregory W. Mann
Gregory W. Mann
President and Chief Executive Officer
(Principal Executive Officer)