April 29, 2014

To Our Stockholders,

For CAS Medical Systems, Inc., 2013 was truly a transformational year. After making significant investments over the prior three years in technology, product design, and process improvements, CASMED reached major inflection points by introducing new products in three major categories: tissue oximetry, vital signs monitoring, and non-invasive blood pressure monitoring. These new state-of-the-art products were successfully introduced utilizing improved distribution channels and are being supported by renewed marketing efforts. This should be the final step to enable CASMED to complete its turnaround and enable revenue growth, improve margins, create operational leverage, and permit the Company to reach profitability.

Specific accomplishments for 2013 include:

- We launched our next-generation FORE-SIGHT ELITE® cerebral oximetry monitor and sensors. This product brings state-of-the-art technology with high levels of accuracy in an easy-to-use form for our customers and lower manufacturing costs for the Company.

- Worldwide FORE-SIGHT sales increased 16% over 2012 levels led by a 20% growth in worldwide disposable sensor sales.

- Worldwide cumulative net shipments of FORE-SIGHT monitors as of December 31, 2013, were 935, an increase of 26% from the cumulative total of 741 units as of December 31, 2012.

- We shipped a net 90 FORE-SIGHT monitors worldwide in the fourth quarter of 2013, following the launch of our next-generation FORE-SIGHT ELITE cerebral monitor and sensors at the end of the third quarter of 2013. To put this accomplishment in context, we shipped on average a net 35 monitors per quarter in the first three quarters of the year.

- Throughout 2013 we introduced FORE-SIGHT into many top academic and cardiac hospitals. Our FORE-SIGHT customers now include nine of the top 20 adult cardiac hospitals in the U.S., as ranked by *U.S. News and World Report*, and three of the top 10 pediatric cardiac hospitals.

- We also launched three new products into our traditional monitoring market: the next-generation 740 SELECT™ and PPM3 vital signs monitors and the new MAX IQ™ non-invasive blood pressure technology.

- We completed building out our management team with two key hires, including Brian Wagner as our new Chief Commercial Officer and Karen Harris-Coleman as our Executive Vice President of International Sales.

We have assembled a top team to expand the use of FORE-SIGHT oximetry in the important U.S. market and are expanding our reach overseas by adding new, exclusive distributor relationships in key geographies around the world. Our sales and marketing efforts continue to be supported by a growing body of published

clinical data that articulate the need for monitoring cerebral oxygen levels in patients during surgery, thereby aiding our ability to both take market share and expand the market.

My CASMED colleagues and I are united in our focus on improving patient care. In doing so, we have made great progress in the execution of the plan we drafted three years ago, and believe we are building a dynamic growth company and creating value for our shareholders.

We thank you for your continued support.

Sincerely,

Thomas M. Patton
President and Chief Executive Officer

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-K

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the Fiscal Year ended December 31, 2013

Commission File Number 0-13839

CAS MEDICAL SYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**06-1123096**
(State or other jurisdiction of Incorporation or organization)	(I.R.S. Employer Identification No.)

44 East Industrial Road, Branford, Connecticut 06405
(Address of principal executive offices, including zip code)

(203) 488-6056
(Registrant's telephone number, including area code)

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

Title of Each Class	**Name of Each Exchange on Which Registered**
Common Stock, $.004 par value	The NASDAQ Capital Market

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

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

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

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 o

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of “large accelerated filer”, “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

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

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

As of June 28, 2013, which is the last business day of the registrant’s most recently completed second fiscal quarter, the aggregate market value of the registrant’s common stock held by non-affiliates of the registrant was $17,580,000 based on the closing price as reported on the NASDAQ Global Market. This calculation does not reflect a determination that persons are affiliates for any other purpose.

As of March 18, 2014, there were 19,409,669 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Proxy Statement for its Annual Meeting of Stockholders to be held on June 25, 2014, are incorporated by reference in Part III of this Report. Except as expressly incorporated by reference, the Registrant's Proxy Statement shall not be deemed to be part of this Form 10-K.

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PART I

This report contains information that includes or is based on forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that are subject to risks and uncertainties. These statements may be identified by the use of words such as "anticipates," "expects," "estimates," "projects," "intends" and "believes" and variations thereof and other terms of similar meaning. Factors that could cause the Company's actual results and financial condition to differ from the Company's expectations include, but are not limited to: potential liquidity constraints; price and product competition; rapid technological changes; dependence on new product development; failure to introduce new products effectively or on a timely basis; the mix of products sold; supply and prices of raw materials and products; customer demand for the Company's products; regulatory actions; changes in reimbursement levels from third-party payors; product liability or other litigation claims; changes in economic conditions that adversely affect the level of demand for the Company's products; changes in foreign exchange markets; changes in financial markets; changes in the competitive environment; and other risks described in Item 1A "Risk Factors" and Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this Annual Report on Form 10-K. While the Company believes that the assumptions underlying such forward-looking statements are reasonable, there can be no assurance that future events or developments will not cause such statements to be inaccurate. All forward-looking statements contained in this report are qualified in their entirety by this cautionary statement.

The Company cautions you not to place undue reliance on these forward-looking statements, which speak only as of their respective dates. The Company undertakes no obligation to publicly update or revise forward-looking statements to reflect events or circumstances after the date of this Annual Report on Form 10-K or to reflect the occurrence of unanticipated events, except as required by law.

Unless the context indicates otherwise, as used in this report, the terms "CAS," "CASMED," the "Company," "we," "us" and "our" refer to CAS Medical Systems, Inc.

Item 1. Business

This past year was transformational for CASMED. After significant investments over the prior three years, the Company reached major milestones by introducing new products in three major product categories: tissue oximetry, vital signs monitoring, and non-invasive blood pressure monitoring. These new state-of-the-art products, introduced into improved distribution channels and supported by renewed marketing efforts, should be the final and key steps to enable CASMED to emerge from its turn-around and transform itself into a growing company. We believe this line-up of new products should enable revenue growth, help improve margins, create operational leverage, and permit the Company to eventually reach profitability.

Overview

We are a medical technology company that develops, manufactures and markets non-invasive patient monitoring products that are vital to patient care. Our products include the FORE-SIGHT® and FORE-SIGHT ELITE™ Absolute Tissue Oximeters and sensors and our Traditional Monitoring products, which include MAXNIBP® and MAXIQ™ blood pressure measurement technologies, monitoring products for the bedside and out-patient oral surgery settings, including the 740 SELECT™ and PPM3 monitors, and neonatal vital signs supplies. These products are designed to provide accurate, non-invasive, biologic measurements that guide clinicians to provide better patient care.

We believe that our FORE-SIGHT Absolute Tissue Oximetry products place CASMED in a unique position to expand the clinical application for monitoring tissue oxygenation. Standard non-invasive parameters such as pulse oximetry and blood pressure only provide surrogate markers of tissue oxygen delivery. The indirect nature of these parameters forces clinicians to infer the adequacy of oxygenation in vital organs, including the brain. However, data convincingly show that clinician inferences of cerebral oxygenation during medical procedures often does not correlate with actual tissue oxygenation levels and that potentially dangerously low levels of cerebral oxygenation often go unrecognized. Therefore, direct monitoring of cerebral oxygenation provides a unique and powerful tool that allows clinicians to recognize and treat potentially dangerous tissue hypoxia to avoid adverse clinical outcomes.

As clinician education and experience demonstrates that use of cerebral and tissue oximetry improves patient care, we believe that the market for these monitors will continue to expand at attractive rates. We believe the FORE-SIGHT Absolute Tissue Oximeter provides the most accurate and reliable readings and is well-positioned to compete in that expanding market. In 2013, worldwide revenues of FORE-SIGHT products grew 16% over the prior year to $9.1 million, driven by a 20% increase in the worldwide sales of FORE-SIGHT disposable sensors.

Strategy

Over the past three years, the Company has taken significant steps to capitalize on the opportunity for the growth of its FORE-SIGHT cerebral oximetry franchise and to refresh and rebuild its Traditional Monitoring product lines.

Specifically, our current strategy consists of two primary elements:

- Invest in FORE-SIGHT – Given the unique clinical value of FORE-SIGHT and its position as a best-in-class cerebral oximeter in an expanding market, we believe that substantial investment in the FORE-SIGHT opportunity is warranted. Therefore, over the past three years we have committed significant resources to expand, upgrade, and revitalize our FORE-SIGHT selling organization, and to increase our marketing and clinical support for the product. We also engaged in a major research and development initiative to launch a second generation FORE-SIGHT product, called FORE-SIGHT ELITE, to improve the functionality of the monitor, lower manufacturing costs, and meet the evolving needs of our customers. That monitor was introduced to the market in late-September 2013. The Company believes that the FORE-SIGHT ELITE will be the catalyst towards increased oximetry revenues, higher margins, expanded international distribution, and leveraged operating expenses.

- Rejuvenate our Traditional Monitoring Products - We also commenced significant efforts to refresh and rebuild our offerings within our Traditional Monitoring product lines where we enjoy strong brand loyalty and long-term customers who value the high quality products and service we provide. We revamped our selling organizations for each of our Traditional Monitoring products and engaged in significant development efforts to design both a new non-invasive blood pressure suite of products and an upgraded and refreshed vital signs monitor. These new products were also introduced to the markets in the third quarter of 2013.

Specific accomplishments for 2013 included:

- The Company launched its next-generation FORE-SIGHT ELITE cerebral oximetry monitor and sensors. That product brings state-of-the-art technology with industry-leading accuracy in an easy to use form with lower manufacturing costs for the Company.

- Worldwide FORE-SIGHT sales increased 16% over 2012 levels led by a 20% growth in worldwide disposable sensor sales.

- Worldwide cumulative net shipments of FORE-SIGHT monitors as of December 31, 2013, were 935, an increase of 26% from the cumulative total of 741 units as of December 31, 2012.

- The Company shipped a net of 90 FORE-SIGHT monitors worldwide in the fourth quarter of 2013 following the launch of the next-generation FORE-SIGHT ELITE cerebral monitor and sensors at the end of the third quarter of 2013. This compares to the average net shipment of 35 monitors per quarter in the first three quarters of the year.

- Throughout 2013, the Company introduced FORE-SIGHT into many of the top academic and cardiac hospitals. Our FORE-SIGHT customers now include nine of the top 20 adult cardiac hospitals in the U.S., as ranked by *U.S. News and World Report*, and three of the top ten pediatric cardiac hospitals.

- The Company also launched three new products into its traditional monitoring market: the next-generation 740 SELECT™ and PPM3 vital signs monitors and its new MAX IQ™ non-invasive blood pressure technology.

- In May 2013, the Company amended its term loan with East West Bank increasing the principal to $5.0 million and extending the maturity date to July 2016. The Company's revolving line-of-credit was reduced to $2.0 million. As of December 31, 2013, the revolver remained undrawn.

- During July 2013, the Company completed an underwritten public offering for the purchase of 5.2 million shares of its common stock. Net proceeds to the Company were $5.8 million.

- In October 2013, Brian J. Wagner joined the Company's executive management team as Chief Commercial Officer. Most recently, Mr. Wagner was Senior Vice President and Chief Marketing Officer at Phillips Imaging Systems. Prior to that, he held key positions in Kimberly-Clark Health Care, Rubbermaid Healthcare, Guidant Corporation, and Boston Scientific.

Description of Products and Services

The Company reports two categories of revenue within one reportable business unit.

- ***Tissue Oximetry Monitoring*** – includes sales of the Company's FORE-SIGHT Absolute Tissue Oximeter monitors, sensors and accessories.

- ***Traditional Monitoring –*** includes sales of the Company's traditional vital signs products and services including: (i) sales to Original Equipment Manufacturers ("OEM") of the Company's proprietary non-invasive blood pressure technology (MAXNIBP and MAXIQ) for inclusion in the OEM customer's own multi-parameter monitors; (ii) bedside vital signs monitors and accessories incorporating various combinations of measurement parameters for both human and veterinary use, such as non-invasive blood pressure, pulse oximetry, electrocardiography (ECG), temperature, and capnography (CO^2 measurements); (iii) neonatal intensive care vital signs supplies including electrodes and skin temperature probes; and (iv) service repair.

Tissue Oximetry Monitoring

CASMED's FORE-SIGHT Absolute Tissue Oximeter technology provides a simple, non-invasive, quantitative measurement of oxygenation in cerebral tissue. The percentage saturation of cerebral hemoglobin with oxygen is obtained by placing a sensor on both the right and the left side of the patient's forehead. The FORE-SIGHT ELITE sensors emit five different wavelengths of infrared light that harmlessly penetrate into the cerebral tissue and are reflected back to photo-detectors in the same sensor. An exclusive algorithm then determines the percentage of hemoglobin that is saturated with oxygen in the blood of the brain tissue underlying each sensor. Through these proprietary and patented processes, FORE-SIGHT provides clinicians with an accurate, absolute numerical measure of tissue oxygenation. FORE-SIGHT can also be used to monitor the oxygenation of other tissues such as muscle and abdominal tissues in newborns weighing less than 4 kilograms.

By non-invasively and continuously measuring absolute cerebral tissue oxygen levels, our FORE-SIGHT Absolute Tissue Oximeter enables clinicians to identify and quickly react to dangerously low brain oxygen levels and provide better care.

We believe that FORE-SIGHT incorporates a combination of features that permit oxygenation values obtained to be more reliable and more accurate, and therefore more actionable by clinicians in critical care environments.

- CASMED's FORE-SIGHT ELITE monitors emit five wavelengths of light, permitting an increased level of signal acquisition thereby providing sufficient data to solve for other optical variables in the tissue sample, such as melanin in the skin, that would otherwise be confused as hemoglobin signals.

- CASMED's FORE-SIGHT sensors are designed with a preferred geometry, maximizing the distance between the light source and the farthest photo-detector, thereby providing a light pathway that penetrates deeper into the tissue giving a greater tissue sample for interrogation.

- CASMED's FORE-SIGHT patented algorithm utilizes a combination of patented and other methods to sort out optical signals created by non-critical background tissue.

Monitors that predominantly provide trend-based values differ significantly from the FORE-SIGHT oximeter which provides absolute values. Trend-based monitors rely upon a baseline measurement from which a declination of some percentage is then considered to be an actionable "desaturation" event. However, the baseline presumes the patient's oxygenation levels are not already compromised by the introduction of anesthesia, inspired oxygen, existing cardiovascular disease, compromised physiology or other confounding factors. Therefore, in those instances where a patient is already ill, is already being treated, or for which a single "spot check" value is sought, a valid baseline measurement may not be available.

With FORE-SIGHT's absolute tissue oxygenation measurement, clinicians can have confidence that the value displayed is a more accurate value of the actual tissue oxygenation to enable clinical interventions once a predetermined absolute threshold is reached (for example if the oxygen saturation levels drop below an absolute value of 60%).

We believe our FORE-SIGHT oximeter helps clinicians solve a serious deficit in the care of many critical care patients. Unrecognized and dangerous desaturation events occur with much greater frequency than previously known, and can only be identified with the direct measurement that tissue oximeters provide. Given this evidence, we believe our best-in-class FORE-SIGHT technology continues to gain clinical adoption and is well-positioned in the market for significant future growth.

During the third quarter of 2013, the Company launched its next generation FORE-SIGHT ELITE cerebral oximeter. The FORE-SIGHT ELITE is lighter and more portable than our prior model, includes more features and provides for enhanced ease of use. New features include the ability to monitor four channels of patient data; a larger, higher contrast viewing screen, and intuitive touch-screen controls. Its revolutionary system, using five wavelengths of light to interrogate tissue under the sensor, allows the ELITE to measure oxygenation at levels of accuracy previously not seen.

Since its introduction in 2007 through the end of 2013, the Company has shipped a cumulative total of 935 FORE-SIGHT monitors to customers throughout the world. The quantity of "net units shipped" that the Company reports each fiscal quarter adds to this cumulative total and reflects the number of monitors shipped to customers less returns. The cumulative total is not affected by exchanges or monitor upgrades.

The Need for Tissue Oxygenation Monitoring

Oxygen is necessary to keep cells viable. The brain has a very high metabolic rate, consuming approximately 20% of the body's oxygen at rest. It is thus the organ that is least resistant to oxygen deprivation. Lack of sufficient oxygenation in the brain causes neurologic injury such as cognitive impairment, stroke, paralysis, coma and/or hypoxic encephalopathy. These injuries can result in severe morbidity or even death. Dangerous deficits in brain hemoglobin saturation (reflecting decreased brain oxygen levels) are termed "desaturation events" because the hemoglobin of the blood is no longer sufficiently "saturated" with oxygen molecules. Desaturations can be caused by many factors. The brain responds to insufficient levels of oxygen by increasing ventilation, cardiac output, and blood pressure in order to increase oxygen delivery. It also vasodilates to increase brain blood flow. This biologic process is called "auto-regulation." However, auto-regulation is compromised by illness, surgical intervention, trauma, and anesthesia, and neonates and children have immature auto-regulation capabilities.

Inadequate oxygen delivery to the brain can be caused by:

- Hypoxemia: a decrease of hemoglobin oxygen saturation in arterial blood (inadequate oxygenation of the supply).

- Ischemia: a decrease in blood flow to the brain caused by inadequate cardiac output, occlusion of cerebral vessels, or increased intracranial pressure (inadequate volume of supply).

- Anemia: a decrease in the concentration of red blood cells in the blood (inadequate oxygen carrying capacity).

Oxygen delivery must also match oxygen consumption related to the metabolic rate of the brain.

Most conventional monitoring is ultimately employed to assure an adequate balance between oxygen supply and demand. Reliably measuring the impact of complicated interactions among factors affecting cerebral oxygenation requires unacceptably invasive techniques. Standard parameters such as pulse oximetry, heart rate and blood pressure determinations, capnometry and cardiac output assessment, each provide only indirect predictions of cerebral oxygenation. From that information a clinician can only infer that a patient's brain inadequately oxygenated. Data from cerebral oximetry convincingly shows that the estimations clinicians make about cerebral oxygenation based solely on these indirect measures are frequently wrong, and that threatening cerebral desaturation events occur without recognition. Thus, in many acute care settings such as surgery, intensive care and other critical care environments, patients are exposed to potentially damaging cerebral hypoxia that could likely be prevented if recognized.

Following is a table that details various observational studies that show the percentage of patients who suffered from cerebral desaturation events (CDEs) as variously defined in each publication:

Incidence Of CDEs	**Procedure**	**Citation**
73%	Aortic arch surgery	Fischer GW, et.al. **Noninvasive cerebral oxygenation may predict outcome in patients undergoing aortic arch surgery.** J Thorac Cardiovasc Surg. 2011;141(3):815-21.
60%	Cardiac Surgery	Fedorow C, Grocott HP. **Cerebral monitoring to optimize outcomes after cardiac surgery.** Curr Opin Anaesthesiol. 2010 Feb;23(1):89-94.
25% with shunts 3.9% without	Carotid Endarterectomy	DeNaeyer S, et.al. **Non-invasive absolute cerebral oximetry and intraluminal shunting during carotid endarterectomy.** Presented at American Society of Anesthesiologists Annual Meeting 2010 # A398.
45.9± 134 (min-%)	EP Lab	Miller MA,et.al. **Activation and entrainment mapping of hemodynamically unstable ventricular tachycardia using a percutaneous left ventricular assist device.** J Am Coll Cardiol. 2011; 58(13):1363-71.
26%	General Abdominal Surgery, Elderly	Casati A, et.al. **Monitoring cerebral oxygen saturation in elderly patients undergoing general abdominal surgery: a prospective cohort study.** Eur J Anaesthesiol. 2007 Jan;24(1):59-65. Epub 2006 Jul 7.
50%	ICU, Post-cardiac surgery	Greenberg SB,et.al**. The Incidence of cerebral oxygen desaturation event in the intensive care unit (ICU) following cardiac surgery.** Presented at American Society of Anesthesiologists Annual Meeting 2011 #A1454.
18%	Craniotomy from acute intracerebral bleeding	Dylst D,et.al.**Monitoring of absolute cerebral oxygen saturation during craniotomy for acute intracerebral bleeding.** Eur J Anaesthesiol 2009; 26 (Suppl 45): 7AP5-6.
80%	Shoulder surgery-beach chair position	Murphy GS,et.al. **Cerebral oxygen desaturation events assessed by near-infrared spectroscopy during shoulder arthroscopy in the beach chair and lateral decubitus positions.** Anesth Analg 2010; 111(20: 496-5.
36%	Spine surgery in prone position	Hemmerling, Thomas M., et.al. **Decrease of Cerebral Oxygen Saturation in Prone Position During Spine Surgery Measured by Absolute Cerebral Oximetry** Presented at American Society of Anesthesiologists Annual Meeting 2010 #LB07.
56%≤65% 10% < 55%	Thoracic Surgery	Kazan R, et.al. **Reduced cerebral oxygen saturation measured by absolute cerebral oximetry during thoracic surgery correlates with postoperative complications.** Br J Anaesth. 2009; 103 (6):811-16.

This growing body of clinical evidence substantiates the premise that cerebral oximetry with FORE-SIGHT offers valuable insight to clinicians during the management of critical care patients which could permit them to increase safety and improve clinical outcomes.

The Market for Tissue Oximetry

Cerebral desaturation events occur with much greater frequency than previously believed. Desaturation events have been recorded during abdominal surgery, open heart procedures, orthopedic procedures and heart catheterization procedures, among others. In the U.S. alone, cerebral monitoring could safeguard millions of patients undergoing surgical procedures each year. Desaturation events have also been recorded during monitoring of neonates, pediatric patients, and adults in the ICU, expanding the market opportunity even further.

While we believe the eventual addressable market for tissue oximetry could someday be as large as $500 million, we estimate current total worldwide annual revenues from the sale of tissue oximetry to be approximately $80 million to $90 million. Given the broad potential applicability of this parameter, and the small current rate of market penetration, we also believe that market rates of growth can accelerate the foreseeable future.

The growing body of published literature in support of tissue oximetry will play an increasingly important role in the expansion of the tissue oximetry market as clinicians continue to be educated regarding the potential benefits of this parameter. Therefore, a significant part of our longer term strategy is to continue to encourage and support research related to the need for cerebral oximetry and its efficacy in improving care. FORE-SIGHT has already been referenced in over 200 clinical papers, abstracts, and posters.

These studies, and the existing body of clinical evidence, continue to provide a solid academic and data-driven support for the expanded use of the product in critical care settings.

Traditional Monitoring

In addition to Tissue Oximetry products, CASMED provides a series of traditional vital signs monitoring products and services to clinicians around the world. Those include:

- Sales to Original Equipment Manufacturers (“OEM”) of the Company’s proprietary non-invasive blood pressure technology (MAXNIBP and MAXIQ) for inclusion in the OEM customers’ own multi-parameter monitors;
- Vital signs monitors and accessories incorporating various combinations of measurement parameters for both human and veterinary use such as MAXNIBP non-invasive blood pressure, pulse oximetry, electro-cardiography (ECG), temperature, and capnography (CO_2 measurements); and
- Supplies and service including neonatal intensive care vital signs supplies (such as electrodes and skin temperature probes).

Blood Pressure Measurement Technology

The Company has developed a proprietary non-invasive blood pressure measurement technology that it sells under the MAXNIBP and MAXIQ brands. The Company believes this technology is more accurate, reliable, and able to produce a measurement result faster than its competitors in high motion environments. These advantages are important, especially in the most challenging clinical situations where measurements can be difficult to obtain such as emergency care and when caring for pediatric patients. The Company has entered into OEM agreements to supply its MAXNIBP and MAXIQ technology to various companies throughout the world. This technology is used in other monitoring systems where non-invasive blood pressure is one of many measurement parameters. The Company’s OEM agreements are typically multi-year arrangements.

Vital Signs Monitoring

The Company offers a full line of non-invasive vital signs monitoring products for a variety of general care settings such as hospital wards, outpatient medical surgical units, recovery rooms, procedure labs, physician offices, long term care facilities and emergency response settings. The monitors are small, lightweight, portable, and easy to use.

The Company manufactures two platforms of vital signs monitors based around its proprietary MAXNIBP non-invasive blood pressure technology and incorporating various combinations of other measurement parameters including pulse oximetry, electro-cardiography, temperature, and capnography. CASMED monitors are ideal for a range of clinical settings both human and veterinary. The Company has a blanket agreement with the U.S. Department of Veterans Affairs (the "VA") for purchase of its vital signs monitors through February 2015. Since the introduction of the Company's vital signs monitor in 2003, the Company has sold more than 16,000 vital signs monitors to the VA hospitals and clinics throughout the U.S.

During June 2013, we received FDA 510(k) clearance for our next-generation vital signs monitor, the 740 SELECT. The 740 SELECT has significantly upgraded features, including touchscreen controls and customizable information displays and is offered with the newest technology available from our pulse oximetry partners. The 740 SELECT will be targeted at the hospital market (such as the VA hospital system), outpatient surgery centers and non-hospital clinics.

In addition, during the second half of 2013, the Company entered the oral surgery market with a vital signs monitor, the PPM3, which is manufactured for the Company under an exclusive agreement and sold by the Company through a dedicated distribution network that is being formed throughout the U.S. The PPM3 incorporates pulse oximetry, electro-cardiography, temperature, and capnography.

Supplies and Service

CASMED supplies a line of specialty neonatal supplies including Klear-Trace® ECG Electrodes, NeoGuard® skin temperature probes and adhesive reflectors. These high quality single-patient-use products are designed specifically to meet the unique needs of neonatal intensive care. The Company also provides various repair services to its customers for monitors already in the field.

Sales and Marketing

The Company markets its products globally, through hospital, surgery center and outpatient facility, homecare, veterinary and emergency medical distribution channels. A number of different sales channels are utilized to maximize opportunities for the various product lines we offer.

Tissue Oximetry Monitoring

The Company's critical care FORE-SIGHT Absolute Tissue Oximeters are sold via a direct sales force and key manufacturer's representatives groups within the U.S. and via stocking distribution partners outside the U.S.

As of December 31, 2013, the Company utilized a team of 25 sales and clinical support specialists dedicated to the FORE-SIGHT product line in the U.S. including five direct sales representatives, seven clinical specialists, and 13 sales professionals in five manufacturer representative organizations. In January 2014, the Company hired an additional four direct sales representatives in the U.S. to cover territory previously managed by certain manufacturer's representatives.

Outside the U.S., as of December 31, 2013, the Company had three exclusive or non-exclusive FORE-SIGHT sales consultants located in Europe and the Pacific Rim all managing FORE-SIGHT sales via our distribution partners.

The Company continues to invest significant resources in hiring, engaging, educating and supporting its FORE-SIGHT field selling organization.

Traditional Vital Signs Monitoring

The Company sells its non-invasive blood pressure technology in the form of sub-assemblies to be assembled into other OEM companies' multi-parameter monitors. The Company sells this product line on a direct basis utilizing headquarters-based employees to solicit companies operating in both the domestic and international markets.

The Company's vital signs monitoring products are sold within the U.S. via manufacturer's representatives and distributors. Outside of the U.S., sales are conducted through exclusive distributors in Europe, Africa, the Middle East, Pacific Rim, Latin America and Canada.

Sales of the Company's neonatal supplies are primarily sold via key stocking distribution partners in the U.S.

	Financial Information Relating to Sales Year Ended December 31	
	2013	**2012**
Domestic Sales	$ 17,114,215	$ 17,511,029
International Sales	4,801,579	5,158,036
Total	$ 21,915,794	$ 22,669,065

Competition

The Company competes in the broader medical equipment market for patient monitoring equipment and supplies. We believe our products maintain a high professional standard of accuracy and quality in demanding environments. We believe that our reputation for producing innovative, accurate, and reliable products that are user-friendly, manufactured in the U.S., and contain best-in-class technology are key factors in our ability to successfully compete with larger organizations in the medical equipment market.

We believe that the principal competitive factors that we and other companies competing in our markets face are:

- FDA clearance;
- The accuracy, reliability, and repeatability of measurements;
- Publication of peer-reviewed clinical studies;
- Acceptance by thought-leaders in anesthesia, surgery, perfusion, and other key clinical roles for new technologies such as cerebral oxygenation monitoring;
- Documented improved patient outcomes;
- The cost effectiveness of monitoring solutions and overall pricing;
- Interfacing with multi-parameter patient monitoring and data solutions;
- The overall ease of use and product quality;
- Sales and marketing capability and established sales distribution channels;
- Contractual arrangements with hospitals, hospital systems, buying groups, and professional service providers; and
- IP protection and timing and acceptance of product innovation.

Competitors for our Tissue Oximetry products include Covidien, Ornim, Masimo, Hutchinson Technology, Nonin Medical, and Hamamatsu.

Competitors for our Traditional Vital Signs Monitoring products are myriad and include large corporations such as Philips, General Electric, Mindray Medical, and Welch Allyn, among others in the vital signs monitor market and companies such as the SunTech Medical Division of Halma, Inc., Omron Corp., and Mindray in the OEM NIBP market. Many of the major patient monitoring solutions companies also have their own proprietary NIBP technology.

Research and Development

As of December 31, 2013, our Research and Development (R&D) organization consisted of a staff of 17 engineers and scientists focused on the following primary areas:

- Advanced algorithm research;
- Sensor and optical development;
- Hardware development and support; and
- Clinical research.

Our R&D efforts in 2013 were primarily focused on developing a new FORE-SIGHT monitor with improved functionality and lower manufacturing costs, advancing the design and the performance of our MAXNIBP non-invasive blood pressure technology, and updating our vital signs monitoring product offering.

During 2013 and 2012, the Company incurred R&D expenses of approximately $4,211,000 and $4,020,000, or 19% and 18% of revenues, respectively. The 2013 expenses are net of $44,000 of accrued tax credits to be exchanged for payments in cash. The 2012 expenses are net of $296,000 of reimbursements from the National Institutes of Health (“NIH”), as discussed below, and $148,000 of state tax credits exchanged for payments in cash.

Grant Awards

On September 17, 2007, the Company was awarded a grant totaling $2.8 million by the National Institute of Neurological Disorders and Stroke (“NINDS”) of the NIH, under its Small Business Innovative Research Program. The grant was awarded primarily to support advanced clinical outcome studies that focus on the Company’s FORE-SIGHT cerebral oximeter. As of December 31, 2012, no further reimbursements remained under the 2007 grant award.

Trademarks, Patents and Copyrights

Certificates of Registration have been issued to the Company by the United States Patent and Trademark Office for the following marks: CAS , CASMED®, COOL-LIGHT®, For Every Life and Breath Situation®, For What’s Vital®, FORE-SIGHT®, HOLD-TIGHT®, Klear-Trace , LASER-SIGHT®, Limboard®, MAXNIBP , Mother/baby®, NeoGuard , the heart shaped mark for use as a thermal reflector, and the Company's corporate logo. In addition, the Company has several pending trademark applications.

The Company holds ten U.S. patents and fifteen international patents, and has multiple pending patent applications for its FORE-SIGHT technologies which it believes provide it with a competitive market advantage. The Company believes the design concepts covered in its patents, patent applications, and provisional patent applications are important to providing a tissue oximeter capable of absolute tissue oxygen saturation measurements with FORE-SIGHT’s level of accuracy. Although the Company holds such patents and has patents pending related to certain of its products, it does not believe that its business as a whole is significantly dependent upon patent protection. The Company also relies on trade secret, copyright and other laws and on confidentiality agreements to protect its technology. The Company has copyright protection for the software used in its blood pressure and tissue oximeter monitors.

The Company will continue to seek patent, trademark and copyright protections as it deems advisable to protect the markets for its products and its R&D efforts. We believe that neither our patents nor our other legal rights will necessarily prevent third parties from developing or using a similar or a related technology to compete against our products.

Employees

As of December 31, 2013, the Company had 97 employees of which 96 were full-time. The Company has no collective bargaining agreements and believes that relations with its employees are good.

Government Regulation

Medical products of the type currently being marketed and under development by the Company are subject to regulation under the Food, Drug and Cosmetic Act (the "FD&C Act") and numerous acts and amendments such as the Quality System Regulations (“QSR”), often referred to as Good Manufacturing Practices (“GMP's”).

In addition, depending upon product type, the Company must also comply with those regulations governing the Conduct of Human Investigations, Pre-Market Notification Regulations and other requirements, as promulgated by the FDA. The FDA is authorized to inspect a device, its labeling and advertising, and the facilities in which it is manufactured in order to ensure that the device is not manufactured or labeled in a manner which could cause it to be in violation of the FD&C Act.

The FDA has adopted regulations which classify medical devices based upon the degree of regulation believed necessary to assure safety and efficacy. A device is classified as a Class I, II, or III device. Class I devices are subject only to general controls. Class II devices, in addition to general controls, are or will be subject to "performance standards." Most devices are also subject to the 510(k) pre-market notification provision. In addition, some Class III devices require FDA pre-market approval before they may be marketed commercially because their safety and effectiveness cannot be assured by the general controls and performance standards of Class I or II devices.

The Company's products are primarily Class I and II devices and most of them have required FDA notification under Section 510(k) of the FD&C Act.

In the last factory inspection of the Company by the FDA during March 2013 no material non-conformities were observed.

International Regulatory Compliance

CASMED maintains certification to ISO 13485:2003 by the notified body, BSI Inc., in its manufacturing facility. These certifications and compliance with the Medical Device Directive allow CASMED to use the "CE" mark on its products. The CE mark is required for medical devices to gain access to the European Union (“EU”) common market and other non-EU markets as well. The FDA, recognizing the value of this universally accepted quality system, has patterned its Quality System Regulations after ISO 9001 and ISO 13485. CASMED maintains full compliance with ISO 13485:2003 and the EU’s Medical Device Directive, as evaluated by annual assessment.

Manufacturing and Quality Assurance

The Company assembles, tests, or packages its products at its facility in Branford, Connecticut. The various components for the products, which include plastic moldings, wire, printed circuit boards, sub-assemblies, and many other parts are obtained from outside vendors. The Company has not experienced any sustained interruption in production or the supply of components and does not anticipate any difficulties in obtaining the components necessary to manufacture its products.

Quality assurance procedures are performed by the Company at its Branford, Connecticut facility and occasionally at its suppliers' facilities to standards set forth in the FDA's "Quality System Regulations." These procedures include the initial qualification of the supplier, inspection of components, and full testing of finished goods. The Company has a controlled environment where the final assembly of single-patient-use products is conducted.

Customers

Our five largest customers accounted for approximately 30% and 36% of revenues in 2013 and 2012, respectively. Among these customers, Physio-Control, Inc. accounted for 9% and 11% of revenues during 2013 and 2012, respectively. Also included above are sales to the U.S. Department of Veterans Affairs (“V.A.”). When aggregating sales to the individual V.A. hospitals, those sales accounted for 8% and 18% of overall sales for 2013 and 2012, respectively. The Company has a blanket agreement with the V.A. for the purchase of its vital signs monitors through February 2015.

Backlog

The Company’s backlog includes orders pursuant to long-term OEM agreements as well as orders for products shippable on a current basis. Total backlog, therefore, is not a meaningful indicator of the Company’s future sales.

Corporate Information

CAS Medical Systems, Inc. is a Delaware corporation organized in 1984. Our corporate offices are located at 44 East Industrial Road, Branford, CT 06405, and our telephone number is (203) 488-6056. Our website address is www.casmed.com. The information on or that can be accessed through our website is not a part of this Annual Report on Form 10-K.

Item 1A. Risk Factors

Our business faces many risks. If any of the events or circumstances described in the following risk factors actually occurs, our business, financial condition or results of operations could suffer, and the trading price of our common stock could decline. The risks described below may not be the only risks we face. Additional risks that we do not yet know of or that we currently believe are immaterial may also impair our business operations. You should consider the following risks, as well as the other information included or incorporated by reference in this Form 10-K before deciding to invest in our common stock.

We have a recent history of net losses and are subject to risks regarding future liquidity.

We have experienced operating losses during our last six fiscal years. The net loss applicable to common stockholders was $11,566,000 for the 2013 calendar year and the accumulated deficit was $23,429,000 as of December 31, 2013. The Company does not anticipate a return to operating profits in the near term and there can be no assurance that we will be able to improve our results of operations in the near term or at all.

The Company's ordinary short-term capital needs are expected to be met from our current cash on hand and amounts available under the revolving credit agreement with East West Bank which to date remains unused. Cash flows may be impacted by a number of factors, including changing market conditions, market acceptance of the FORE-SIGHT system, and the loss of one or more key customers. The Company may seek additional capital; however, there can be no assurance that we will be successful in raising additional capital if the need arises. The failure to raise any necessary additional capital on acceptable terms, or at all, could have a material adverse effect on our business and results of operations.

We are a small company in a highly competitive industry.

Competition from other medical device companies, diversified healthcare companies and research and academic institutions is intense and expected to increase. Many companies engaged in the medical device sector have substantially greater financial and other resources and development capabilities than we do, and have substantially greater experience in testing products, obtaining regulatory approvals and manufacturing, marketing, and distributing medical devices.

Other companies may succeed in developing and commercializing products earlier than we do. In addition to competing with universities and other research institutions in the development of products, technologies and processes, the Company may compete with other companies in acquiring rights to products or technologies from universities. Also, the medical device market is experiencing increasing customer concentration, due to the emergence of large purchasing groups and hospital systems. We cannot assure you that we will develop products that are more effective or achieve greater market acceptance than competitive products, or that our competitors will not succeed in developing products and technologies that are more effective than those being developed by us or that would render our products and technologies less competitive or obsolete. Moreover, there can be no assurance that we will be able to successfully sell to large purchasing groups, which are increasingly looking to suppliers that can provide a broader range of products than we currently offer.

Our business is impacted by customer concentration.

Our five largest customers accounted for approximately 30% and 36% of revenues in 2013 and 2012, respectively. Among these customers, Physio-Control, Inc. accounted for 9% and 11% of revenues during 2013 and 2012, respectively. Also included above are sales to the U.S. Department of Veterans Affairs ("V.A."). When aggregating sales to the individual V.A. hospitals, those sales accounted for 8% and 18% of overall sales for 2013 and 2012, respectively. The Company has a blanket agreement with the V.A. for the purchase of its vital signs monitors through February 2015. The loss of any significant customer could have a material adverse effect on our financial position and results of operations.

We are devoting substantial resources to the development and marketing of our tissue oximetry products.

We expect to devote a significant amount of resources to continue the development and marketing of our FORE-SIGHT tissue oximetry products. We believe that substantial additional resources are required to further penetrate the markets for these products. Such investments include further research and development, including significant expenditures for clinical studies, equipment for placements at customer sites, further expansion of our selling organization, marketing expenditures and general working capital requirements. There can be no assurance that we will be successful in these endeavors. In addition, since we have limited financial resources, our emphasis on FORE-SIGHT tissue oximetry products may result in a lack of sufficient resources for our other product lines, which may negatively impact our overall financial results.

The sale of our products may result in significant product liability exposure.

As a manufacturer of medical diagnostic equipment, we face product liability claims. We maintain product liability insurance in an aggregate amount of $5 million. We cannot assure you that this insurance coverage will be adequate to cover any product liability claims that occur in the future or that product liability insurance will continue to be available at reasonable prices. Any product liability judgments or settlements in excess of insurance coverage could have a material adverse effect on our business and results of operations.

Our business could be adversely affected if we cannot protect our proprietary technology or if we infringe on the proprietary technology of others.

Our proprietary technology aids our ability to compete effectively with other companies in certain markets in which we compete. Although we have been awarded, have filed applications for, or have been licensed under numerous patents, these patents may not fully protect our technology or competitive position. Further, our competitors may apply for and obtain patents that will restrict our ability to make and sell our products.

Our competitors may intentionally infringe our patents. Third parties may also assert infringement claims against us. Litigation may be necessary to enforce patents issued to us, to protect our trade secrets or know-how, to defend ourselves against claimed infringement of the rights of others or to determine the scope and validity of the proprietary rights of others. The defense and prosecution of patent suits are both costly and time-consuming, even if the outcome is favorable to us. Such proceedings can be extremely expensive and their outcome very unpredictable.

An adverse outcome in the defense of a patent suit could cause us to lose proprietary rights, subject us to significant liabilities to third parties or require us to license rights from third parties or to cease selling our products. Any of these events could have a material adverse effect on our business, operating results and financial condition. We also rely on unpatented proprietary technology that others may independently develop or otherwise obtain access to.

Our inability to maintain the proprietary nature of our technologies could negatively affect our revenues and earnings.

Cost-containment efforts of our customers, purchasing groups, third-party payors, and governmental organizations could adversely affect our sales and profitability.

Many existing and potential customers for our products within the United States have become members of group purchase organizations (GPOs) and integrated delivery networks (IDNs), in an effort to reduce costs. GPOs and IDNs negotiate pricing arrangements with healthcare product manufacturers and distributors and offer the negotiated prices to affiliated hospitals and other members. GPOs and IDNs typically award contracts on a category-by-category basis through a competitive bidding process. Bids are generally solicited from multiple manufacturers with the intention of driving down pricing. Due to the highly competitive nature of the GPO and IDN contracting processes, we may not be able to obtain or maintain contract positions with major GPOs and IDNs across our product portfolio. Furthermore, the increasing leverage of organized buying groups may reduce market prices for our products, thereby reducing our profitability.

While having a contract with a GPO or IDN for a given product category can facilitate sales to members of that GPO or IDN, such contract positions can offer no assurance that sales volumes of those products will be maintained. GPOs and IDNs increasingly are awarding contracts to multiple suppliers for the same product category. Even when we are the sole contracted supplier of a GPO or IDN for a certain product category, members of the GPO or IDN generally are free to purchase from other suppliers. Furthermore, GPO and IDN contracts typically are terminable without cause upon 60 to 90 days' notice. Accordingly, the members of such groups may choose to purchase from our competitors due to the price or quality offered by such competitors, which could result in a decline in our sales and profitability.

Distributors of our products also have begun to negotiate terms of sale more aggressively to increase their profitability. Failure to negotiate distribution arrangements having advantageous pricing and other terms of sale could cause us to lose market share and would adversely affect our business, results of operations, financial condition, and cash flows.

Outside the United States, we have experienced pricing pressure from centralized governmental healthcare authorities and increased efforts by such authorities to lower healthcare costs. We frequently are required to engage in competitive bidding for the sale of our products to governmental purchasing agents. Our failure to offer acceptable prices to these customers could adversely affect our sales and profitability in these markets.

Defects or failures associated with our products could lead to recalls or safety alerts and negative publicity.

Manufacturing flaws, component failures, design defects, off-label uses, or inadequate disclosure of product-related information could result in an unsafe condition or the injury or death of a patient. These problems could lead to a recall of, or issuance of a safety alert relating to, our products and result in significant costs and negative publicity. Due to the strong name recognition of our brands, an adverse event involving one of our products could result in reduced market acceptance and demand for all products within that brand, and could harm our reputation and our ability to market our products in the future. In some circumstances, adverse events arising from or associated with the design, manufacture, or marketing of our products could result in the suspension or delay of regulatory reviews of our applications for new product approvals. We also may undertake a voluntary recall of products or temporarily shut down production lines based on performance relative to our own internal safety and quality monitoring and testing data. Any of the foregoing problems could disrupt our business and have a material effect on our business, results of operations, financial condition, and cash flows.

We depend on distributors for a substantial portion of our revenues. Failure to establish and maintain relationships with distributors could materially and adversely affect our business, financial condition, and results of operations.

We depend on distributors for a substantial percentage of our revenues. Certain of our distribution agreements may contain terms that are not favorable to us, and as our existing distribution agreements expire, we may be unable to renew with our desired distributors on favorable terms or at all. In addition, we seek to limit our dependence on any single distributor by limiting and periodically redefining the scope of each distributor's territory and the range of our products that it sells, which may make us less attractive to some distributors. Furthermore, competition for distributors is intense. We compete for distributors domestically and internationally with other leading medical equipment and device companies that may have higher visibility, greater name recognition and financial resources, and a broader product selection than we do. Our competitors also often enter into long-term distribution agreements that effectively prevent their distributors from selling our products. At times, we may also become engaged in contract disputes or other negotiations with distributors. Consequently, establishing relationships with new distributors, maintaining relationships with existing distributors, and replacing distributors may be difficult and time consuming. Any disruption of our distribution network, including our failure to renew distribution agreements at favorable terms or our failure to successfully negotiate contract disputes, could negatively affect our ability to effectively sell our products and could materially and adversely affect our business, financial condition, and results of operations.

If we are unable to effectively structure and manage our distribution network, actions taken by our distributors could harm our corporate image and cause us to fail to meet our sales goals.

We have limited ability to manage the activities of our distributors, who are independent from us. Our distributors could take one or more of the following actions, some of which we have previously experienced, any of which could have a material adverse effect on our business, prospects, and brand:

- sell products that compete with products that they have contracted to sell for us;
- sell our products outside of our pricing guidelines, distorting the market price of our products;
- sell our products outside their designated territory or to non-authorized end-users, possibly in violation of the exclusive distribution rights of other distributors;
- directly or indirectly distribute products lacking necessary U.S. certifications into the U.S. market in violation of applicable U.S. law;
- fail to adequately promote our products; and/or
- fail to provide proper training, repair and service to our end-users.

Furthermore, our distributors may focus selling efforts only on those products that provide them with the largest margins at the expense of products that offer them smaller margins.

Failure to adequately manage our distribution network or non-compliance by distributors with our distribution agreements could harm our corporate image among end-users of our products and disrupt our sales, resulting in a failure to meet our sales goals.

Our direct sales operations are costly, and the related ongoing operational costs could have a material adverse effect on our business.

We maintain direct operations in the United States and rely on direct sales for a significant portion of our revenues from the United States. Maintaining a direct sales force is costly. In the United States, we typically provide our direct operations personnel with payroll and other benefits that we do not provide independent distributors. Many of these benefits are fixed costs that do not depend on revenue generation. Maintaining these direct operations is costly and ongoing operational costs could have a material adverse effect on our business.

We are subject to significant government regulation.

Our business is subject to varying degrees of governmental regulation in the countries in which we operate. In the United States, our products are subject to regulation as medical devices by the FDA, and by other federal and state agencies. These regulations pertain to the manufacturing, labeling, development and testing of our devices as well as to the maintenance of required records. An FDA regulation also requires prompt reporting by all medical device manufacturers of an event or malfunction involving a medical device where the device caused or contributed to death or serious injury or is likely to do so.

Federal law provides for several routes by which the FDA reviews medical devices before their entry into the marketplace. Medical products of the type currently being marketed and under development by us are subject to regulation under the FD&C Act and numerous acts and amendments such as the Quality System Regulations which replaced the regulations formerly called Good Manufacturing Practices. In addition, depending upon product type, we must also comply with those regulations governing the Conduct of Human Investigations, Pre-Market Regulations and other requirements, as promulgated by the FDA. The FDA is authorized to inspect a device, its labeling and advertising, and the facilities in which it is manufactured in order to ensure that the device is not manufactured or labeled in a manner which could cause it to be injurious to health.

The FDA has adopted regulations which classify medical devices based upon the degree of regulation believed necessary to assure safety and efficacy. A device is classified as a Class I, II, or III device. Class I devices are subject only to general controls. Class II devices, in addition to general controls, are or will be subject to "performance standards." Most devices are also subject to the 510(k) pre-market notification provision. In addition, some Class III devices require FDA pre-market approval before they may be marketed commercially because their safety and effectiveness cannot be assured by the general controls and performance standards of Class I or II devices. Our products are primarily Class I and II devices and several of them have required FDA notification under Section 510(k) of the FD&C Act.

Satisfaction of clearance or approval requirements may take up to several years or more and may vary substantially based upon the type, complexity and novelty of the product. The effect of government regulation may be to delay marketing of new products for a considerable or indefinite period of time, to impose costly procedures upon our activities and to furnish a competitive advantage to larger companies that compete with us. We cannot assure you that FDA or other regulatory clearance or approval for any products we develop will be granted on a timely basis, if at all, or, once granted, that clearances or approvals will not be withdrawn or other regulatory action taken which might limit our ability to market our proposed products. Any delay in obtaining or failure to obtain these clearances or approvals would adversely affect the manufacturing and marketing of our products and the ability to generate additional product revenue. The FDA also has the authority to, among other things, deny marketing approval until all regulatory protocols are deemed acceptable, halt the shipment of defective products, and seize defective products sold to customers. Adverse action or publicity from the FDA, if any, could have a negative impact upon our results from operations.

Federal regulatory reforms may adversely affect our ability to successfully market our products and impact our financial condition.

Recent federal efforts to reform the U.S. health care industry have resulted in legislation such as the Patient Protection and Affordable Care Act ("Affordable Care Act") and other measures which will effect changes in healthcare delivery and coverage and public and private reimbursements for services performed. Federal initiatives may also affect state programs. Legislative changes may affect hospital market expenditures for medical devices, the type and volume of procedures performed, and the demand for new and innovative products. These changes could be significant and may adversely affect the demand for our products, our results of operations, cash flows, and our overall financial condition.

The Affordable Care Act provisions are funded by a variety of taxes including a medical device excise tax ("MDET") of 2.3% imposed on manufacturers and importers of certain medical devices. The Company became subject to the MDET effective January 1, 2013. MDET expenses were $302,000 for 2013.

Outside of the U.S., healthcare delivery and reimbursement systems vary by country. Efforts to control rising healthcare costs, changes in government sponsored programs and participation and various other economic factors may impact our ability to successfully market our products outside of the U.S.

Our products may become rapidly obsolete.

The areas in which we are developing, distributing, and/or licensing products involve rapidly developing technology. Others may develop products that might cause products being developed, distributed or licensed by us to become obsolete or uneconomical or result in products superior to our products.

Our international business is subject to currency, regulatory, and related risks.

Our international sales subject us to currency and related risks. We expect that international sales will continue to constitute a significant portion of our business. Although we sell our products in United States dollars and only have limited currency risks, an increase in the value of the United States dollar relative to foreign currencies in our international markets could make our products less price competitive in these markets. Our international sales accounted for 22% and 23% of our total net sales for the 2013 and 2012 fiscal years, respectively.

Our business practices in countries other than the United States are governed by U.S. laws, including the Foreign Corrupt Practices Act, as well as local laws and regulatory schemes. While we believe we maintain a robust compliance program requiring adherence by our employees and distribution partners to all U.S. and foreign laws and regulatory schemes, there can be no assurances that our foreign distribution partners so comply, which failure could cause the Company to suffer the loss of the ability to sell in those jurisdictions or other liability.

An acquisition of the company may be hindered.

Our Board of Directors is authorized to issue from time to time, without stockholder authorization, shares of preferred stock, in one or more designated series or classes. We are also subject to a Delaware statute regulating business combinations. These provisions could discourage, hinder or preclude an unsolicited acquisition of the Company and could make it less likely that stockholders receive a premium for their shares as a result of any takeover attempt.

We have outstanding shares of preferred stock with rights and preferences superior to those of our common stock.

The issued and outstanding shares of Series A Convertible Preferred Stock and Series A Exchangeable Preferred Stock grant the holders of such preferred stock anti-dilution, voting, accretion, dividend and liquidation rights that are superior to those held by the holders of our common stock. In addition, should we issue, or be deemed to issue, certain additional shares of common stock for a price below $2.389 per share, as amended, the conversion price of the Series A Convertible Preferred Stock and Series A Exchangeable Preferred Stock shall be lowered based on a weighted average formula, which will have the effect of immediately diluting the holders of our common stock.

Ownership of our shares is concentrated in the hands of a few investors which could limit the ability of our other stockholders to influence the direction of the company.

As calculated by SEC rules of beneficial ownership, Thomas, McNerney & Partners and their affiliates, and Deerfield Management Company, L.P. each beneficially owned approximately 27.9% and 16.5%, respectively, of our common stock as of the dates of their most recent public filings with the SEC. Accordingly, although they are not affiliated with one another, they collectively may have the ability to significantly influence or determine the election of all of our directors or the outcome of most corporate actions requiring stockholder approval. They may exercise this ability in a manner that advances their best interests and not necessarily those of our other stockholders.

Sales of a substantial number of shares of our common stock in the public market originally issued through the conversion of preferred stock, exercise of options or warrants, or additional financing transactions could adversely affect the market price of our common stock and would have a dilutive effect upon our stockholders.

Historically, our common stock has been thinly traded. This low trading volume may have had a significant effect on the market price of our common stock, which may not be indicative of the market price in a more liquid market. As of December 31, 2013, options and warrants for the purchase of 3,371,616 shares of our common stock were outstanding and 7,517,093 shares of common stock were issuable upon conversion of our outstanding Series A Convertible Preferred Stock and Series A Exchangeable Preferred Stock.

We depend highly on certain key management personnel.

We believe that our future success will depend to a significant extent on the efforts and abilities of our senior management, in particular, Thomas Patton, our President and Chief Executive Officer, Brian Wagner, our Chief Commercial Officer, Dr. Paul Benni, our Chief Scientific Officer, Dr. John Gamelin, our Vice President of Research and Development, and Jeffery Baird, our Chief Financial Officer. The loss of the services of these executives could have a material adverse effect on our business and results of operations.

We do not expect to pay cash dividends.

We have not paid cash dividends on our common stock since inception, and at this time we do not anticipate that we will pay cash dividends on our common stock in the foreseeable future. Furthermore, we are currently precluded from issuing dividends on our common stock unless we receive the consent of holders of a majority of our outstanding Series A Convertible Preferred Stock and Series A Exchangeable Preferred Stock.

With regard to dividends issuable on our Series A Convertible Preferred Stock and Series A Exchangeable Preferred Stock, a holder must issue a written request to the Company by June 15th of 2011, 2012, or 2013 to receive cash dividends for the applicable succeeding four fiscal quarters ending June 30th, September 30th, December 31st, and March 31st. The holders have elected in writing not to receive cash dividends for the fiscal quarters through June 30, 2013. Further, the holders have irrevocably waived their cash dividend rights for the four fiscal quarters ended June 30, 2014, in accordance with the Company's agreement with East West Bank executed on July 31, 2012. The bank agreement prohibits the payment of cash dividends. The holders' waiver of their cash dividend rights for the four fiscal quarters ended June 30, 2014, may be revoked if the Company's obligations to East West Bank are terminated at any time prior to June 30, 2014. As of December 31, 2013, $2,958,335 in accretion had accumulated on the Series A Convertible Preferred Stock and the Series A Exchangeable Preferred Stock.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The Company currently leases three separate operating facilities as described in further detail below.

On September 6, 2007, the Company closed the sale and leaseback of its headquarters and manufacturing facility in Branford, Connecticut (the "Property") which comprises approximately 24,000 square feet of office and manufacturing space. Net proceeds from the sale were $2,791,529 of which $928,872 was used to retire the related outstanding mortgage debt. The gain of $1,346,373 realized on the sale was deferred and is being recognized in operations against rent expense over the initial term of the lease. The lease has an initial term of ten years expiring on September 6, 2017, and contains an option for two additional five-year periods. The lease provides for an annual base rent in years one through five of $244,800 and $268,800 in years six through ten. The Company is recognizing rent expense on a straight-line basis over the ten years. Under the lease, the Company is responsible for the costs of utilities, insurance, taxes, and maintenance expenses. Further, the Company is required to maintain at least $600,000 in cash and cash equivalents (increasing at 3% per annum) and net current assets of not less than $3,600,000.

The Company is also leasing two properties adjacent to its corporate facilities. Approximately 8,300 square feet of office and limited warehouse space is being leased under an agreement effective June 1, 2006, as amended, and expiring on May 31, 2014. As of December 31, 2013, the Company has discontinued use of this property and has recognized a liability of $46,600 based upon the present value of the remaining future cash flows. Approximately 9,600 square feet of office and warehouse space is being leased under an agreement effective July 1, 2007, as amended and expiring June 30, 2015. Minimum annual rental expense is approximately $93,000 excluding apportioned real estate taxes and certain common area maintenance charges.

The Company believes that its premises meet its current and expected operating needs and are adequately insured.

Item 3. Legal Proceedings

The manufacture and sale of our products exposes us to product liability claims and product recalls, including those which may arise from misuse or malfunction of, or design flaws in, our products or use of our products with components or systems not manufactured or sold by us. Product liability claims or product recalls, regardless of their ultimate outcome, could require us to spend significant time and money in litigation or to pay significant damages. We maintain product liability insurance; however, we cannot assure you that this insurance coverage will be adequate to cover any product liability claims. Furthermore, we may not be able to obtain insurance in the future at satisfactory rates or in adequate amounts. In addition, publicity pertaining to the misuse or malfunction of, or design flaws in, our products could impair our ability to successfully market and sell our products and could lead to product recalls. Currently, we have no product liability claims pending against the Company.

In addition, we may become in the normal course of our business operations, a party to other legal proceedings in addition to those described in the paragraph above. None of these other proceedings would be expected to have a material adverse impact on our results of operations, financial condition, or cash flows.

On December 29, 2011, Nellcor Puritan Bennett, LLC ("Nellcor") filed an action against the Company in the United States District Court for the Eastern District of Michigan alleging (i) breach of the settlement agreement with respect to a prior litigation matter between the parties, (ii) violation of the Lanham Act, (iii) common law unfair competition, and (iv) trade libel. The complaint requested injunctive relief and unspecified monetary damages, including compensatory damages and reasonable attorneys' fees. On February 24, 2012, the Company answered the complaint and denied substantially all of the claims and set forth certain affirmative defenses. On April 25, 2013, both Nellcor and the Company filed motions for summary judgment on the Lanham Act, unfair competition, and trade libel claims. On June 11, 2013, the Court granted the Company's motion for summary judgment regarding the breach of contract claim and also found that the Company was entitled to legal fees in an amount to be determined. On November 13, 2013, the Court held oral argument on the Company and Nellcor's remaining motions for summary judgment, but has not yet issued its ruling. If the remaining issues are not resolved at summary judgment, a trial will occur sometime after the Court rules on the pending summary judgment motions. The matter remains pending, and while there can be no assurance as to the ultimate outcome, the Company does not believe at this time that its disposition would result in a material adverse effect on the Company.

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

The common stock of the Company had been trading on the NASDAQ Global Market, under the symbol "CASM". However, on March 17, 2014, the Company's voluntary request to transfer its common stock listing to the NASDAQ Capital Market from the NASDAQ Global Market had been approved by the Listing Qualifications Department of The NASDAQ Stock Market ("NASDAQ").

The Company's common stock began trading under its same ticker – CASM – on the NASDAQ Capital Market effective at the opening of trading on Tuesday, March 18, 2014.

The transfer of CASMED's common stock listing to the NASDAQ Capital Market is not expected to have any impact on trading in its common stock.

The following table shows the high and low sales prices for the Company's common stock during each quarterly period for the last two years.

Quarter Ended	High	Low
March 31, 2012	$ 2.98	$ 1.62
June 30, 2012	$ 2.75	$ 1.60
September 30, 2012	$ 2.25	$ 1.65
December 31, 2012	$ 2.29	$ 1.66
March 31, 2013	$ 2.38	$ 1.79
June 30, 2013	$ 2.37	$ 1.58
September 30, 2013	$ 1.65	$ 1.29
December 31, 2013	$ 2.00	$ 1.21

The following table sets forth the approximate number of beneficial owners of common stock of the Company on December 31, 2013.

Title of Class	Number of Stockholders
Common stock, $.004 par value	1,807

To date, no cash dividends have been declared on the Company's common stock. The Company does not currently intend to pay a cash dividend on its common stock in the near future. Furthermore, we are currently precluded from issuing dividends on our common stock unless we receive the consent of holders of a majority of our outstanding Series A Convertible Preferred Stock and Series A Exchangeable Preferred Stock and are precluded from paying cash dividends pursuant to our loan agreement with East West Bank.

The holders of our Series A Convertible Preferred Stock and our Series A Exchangeable Preferred Stock may elect on each of June 15th 2011, 2012, and 2013, to receive quarterly dividends in cash of 7% per annum for a period of twelve months from the date of election. The holders have elected in writing not to receive cash dividends for the fiscal quarters through June 30, 2013. Further, the holders have irrevocably waived their cash dividend rights for the four fiscal quarters ended June 30, 2014, in accordance with the Company's agreement with East West Bank executed on July 31, 2012, as amended. The holders' waiver of their cash dividend rights for the four fiscal quarters ended June 30, 2014, may be revoked if the Company's obligations to East West Bank are terminated at any time prior to June 30, 2014. As of December 31, 2013, $2,958,335 in dividend accretion had accumulated on the Series A Convertible Preferred Stock and the Series A Exchangeable Preferred Stock.

The Company did not issue any shares of common stock during the fourth quarter of 2013 that were not registered under the Securities Act of 1933, as amended. In addition, the Company did not repurchase any of its common stock during the fourth quarter of 2013.

Item 6. Selected Financial Data

Information is not required for smaller reporting company filers.

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

Certain statements included in this report, including without limitation statements in the Management's Discussion and Analysis of Financial Condition and Results of Operations, which are not historical facts, are "forward looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements represent the Company's current expectations regarding future events. The Company cautions that such statements are qualified by important factors that could cause actual results to differ materially from expected results which may be contained in the forward-looking statements. All forward-looking statements involve risks and uncertainties, including, but not limited to, the following: potential liquidity constraints; price and product competition; rapid technological changes; dependence on new product development; failure to introduce new products effectively or on a timely basis; the mix of products sold; supply and prices of raw materials and products; customer demand for the Company's products; regulatory actions; changes in reimbursement levels from third-party payors; product liability or other litigation claims; changes in economic conditions that adversely affect the level of demand for the Company's products; changes in foreign exchange markets; changes in financial markets; changes in the competitive environment; and other risks described in Item 1A of this filing.

Overview

This past year was transformational for CASMED. After significant investment over the prior three years, the Company reached major milestones by introducing new products in three major product categories: tissue oximetry, vital signs monitoring, and non-invasive blood pressure monitoring. These new state-of-the-art products, introduced into improved distribution channels and supported by renewed marketing efforts, should be the final and key steps to enable CASMED to emerge from its turn-around and transform itself into a growing company. We believe this line-up of new products should enable revenue growth, help improve margins, create operational leverage, and permit the Company to eventually reach profitability.

During the year ended December 31, 2013, specific accomplishments included:

- The Company launched four new products during 2013 – the next-generation FORE-SIGHT ELITE™ cerebral monitor and sensors; the next generation 740 SELECT™ and PPM3 vital signs monitors; and its new MAX IQ non-invasive blood pressure technology.

- The total number of FORE-SIGHT monitors shipped during the year was 194, increasing the cumulative total, as of December 31, 2013, to 935, an increase of 26% from December 31, 2012.

- Total FORE-SIGHT revenues increased 16%, led by a 23% growth in U.S. FORE-SIGHT sales.

- In May 2013, the Company amended its term loan with East West Bank, increasing the principal amount to $5.0 million and extending the maturity date to July 2016.The Company's revolving line-of-credit was reduced to $2.0 million. As of December 31, 2013, the revolver remained undrawn.

- During July 2013, the Company completed an underwritten public offering for the purchase of 5.2 million shares of its common stock. Net proceeds to the Company were $5.8 million.

The following discussion and analysis should be read together with our consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K.

Year Ended December 31, 2013 Compared to Year Ended December 31, 2012

The Company recorded a net loss applicable to common stockholders of $11,566,000 for 2013 or ($0.73) per basic and diluted common share compared to a net loss applicable to common stockholders of $8,432,000, or ($0.63) per basic and diluted common share, for 2012. The net loss for 2013 was $10,362,000, or ($0.66) per basic and diluted common share, compared to a net loss for 2012 of $7,308,000, or ($0.55) per basic and diluted common share. The loss from operations of $10,453,000 increased $3,008,000 for 2013 compared to $7,445,000 for 2012 due primarily to lower sales levels, reduced gross profit rates, and increased operating expenses.

Overall, net worldwide sales for 2013 decreased $753,000 or 3% to $21,916,000 from $22,669,000 in 2012. The following table provides comparative results of net sales by product and geographic category:

($000's)

	Year Ended December 31, 2013	Year Ended December 31, 2012	Increase / (Decrease)	% Change
Tissue Oximetry Monitoring	$ 9,051	$ 7,776	$ 1,275	16%
Traditional Vital Signs Monitoring	12,865	14,893	(2,028)	(14%)
	$ 21,916	$ 22,669	$ (753)	(3%)
Domestic Sales	$ 17,114	$ 17,511	$ (397)	(2%)
International Sales	4,802	5,158	(356)	(7%)
	$ 21,916	$ 22,669	$ (753)	(3%)

Worldwide tissue oximetry product sales for 2013 of $9,051,000 increased $1,275,000 or 16% over the $7,776,000 reported for 2012 led by increased sensor sales.

Traditional vital signs monitoring sales decreased $2,028,000 or 14% to $12,865,000 for 2013 from $14,893,000 for 2012. The decrease was primarily associated with lower shipments of the Company's vital signs monitors to the U.S. Government and pricing adjustments pertaining to OEM technology product sales. The 2013 decline in OEM sales was also partially due to weakness in the sales of several of our OEM partners monitoring products.

Total domestic sales decreased $397,000 or 2% to $17,114,000 or 78% of total revenues for 2013 from $17,511,000 for 2012. Domestic tissue oximetry sales increased 17% led by a 23% increase in disposable sensor sales. Tissue oximetry sales were more than offset by decreases in vital signs monitoring product sales and OEM technology product sales.

International sales declined $356,000 or 7% to $4,802,000 or 22% of total revenues for 2013 from $5,158,000 or 23% of total revenues for 2012. Lower sales of vital signs monitoring products accounted for the reduction in international sales.

The following table provides additional information with respect to tissue oximetry monitoring revenues:

($000's)

	Year Ended December 31, 2013	Year Ended December 31, 2012	Increase / (Decrease)	% Change
Sensor Sales	$ 7,903	$ 6,567	$ 1,336	20%
Monitor and Accessories Sales	1,148	1,209	(61)	(5%)
	$ 9,051	$ 7,776	$ 1,275	16%
Domestic Sales	$ 7,119	$ 6,063	$ 1,056	17%
International Sales	1,932	1,713	219	13%
	$ 9,051	$ 7,776	$ 1,275	16%

Worldwide tissue oximetry sensor sales for 2013 were $7,903,000, an increase of $1,336,000 or 20% over 2012 sales of $6,567,000. Worldwide sales of monitors and accessories for 2012 decreased $61,000 or 5% to $1,148,000 from 2012 sales of $1,209,000. As of December 31, 2013, the Company's worldwide cumulative shipments of oximetry monitors were 935 units, an increase of 26% compared to December 31, 2012.

Gross profit as a percentage of net sales was 34% for 2013 and 40% for 2012. While a multitude of factors unfavorably impacted the gross profit percentage for 2013, the decrease was largely related to the Company's transition from its first-generation FORE-SIGHT oximetry monitoring technology to its next-generation FORE-SIGHT ELITE technology. Asset impairment charges, accelerated depreciation, inventory obsolescence charges, and purchase order cancellations, all pertaining to the first-generation oximetry monitors, combined to unfavorably affect gross profit for 2013 by approximately $745,000, or 3% of sales.

During the third quarter of 2013 an impairment charge of $407,000 was recorded pertaining to the Company's first generation FORE-SIGHT monitors. The Company launched its next generation FORE-SIGHT ELITE cerebral oximetry technology during the third quarter of 2013 which offers a significantly enhanced user interface and improved ease-of-use. The Company, therefore, expects that there will be significant demand for the new technology and that many customers currently utilizing the Company's first-generation cerebral oximetry technology under its placement program will seek to upgrade to the latest technology. The new technology has a substantially lower manufacturing cost basis for both monitors and disposable sensors. Although not obligated to do so, the Company will seek to upgrade much of its installed base of placed monitors in the United States. Management conducted an asset impairment analysis with respect to the FORE-SIGHT monitors at customer locations as of the launch date based upon the sum the projected net cash flows through the estimated exchange date. We determined that projected cash flows for certain monitors were less than their carrying value, indicating impairment. We estimated the fair value of the impaired monitors by discounting the projected cash flows using a risk-free rate for the various periods. We determined that an impairment adjustment of $407,000 was required to reduce the net book value of the assets to estimated fair value. In addition, the monitors will be amortized over their adjusted remaining useful life based upon the Company's expected exchange dates which will have the effect of accelerating the amortization of the monitors until they are removed from service. The acceleration of the amortization unfavorably impacted gross profit in the fourth quarter of 2013 by approximately $185,000 and will impact calendar year 2014 by approximately $200,000 compared to the amortization that would have occurred had the upgrades not occurred.

Product mix within the Traditional Monitoring products also impacted gross profit levels for 2013. Lower sales of vital signs monitors to the Veterans Administration were partially offset by increased sales of monitors to non-VA hospital and outpatient surgery partners at lower gross profit rates. Further, as stated earlier, OEM-related price reductions also affected gross profit rates.

R&D expenses increased $191,000, or 5%, to $4,211,000 for 2013 from $4,020,000 for 2012. The increase resulted from reductions in grants and state tax credits totaling $444,000 partially offset by lower clinical evaluation expenses during 2013.

R&D expenses are reported net of reimbursements received from the National Institutes of Health ("NIH") pertaining to the Company's development of its Near-Infrared Spectroscopy ("NIRS") technology. The Company's most recent grant has been fully utilized as of December 31, 2012. Amounts reimbursed from the NIH, including accruals, for 2012 were $296,000. In addition, the Company received $44,000 and $148,000 in state tax credits during 2013 and 2012, respectively, which it also credited against R&D expenses.

Selling, general and administrative ("S,G&A") expenses increased $1,263,000, or 10%, to $13,792,000 for 2013 from $12,529,000 for 2012. The increases in S,G&A expenses were primarily related to field sales personnel costs, administrative salaries and related expenses, and legal fees. Medical device excise taxes, effective as of January 1, 2013, accounted for $302,000 of the increase in S,G&A expense.

Interest expense for 2013 reflects the Company's term debt agreement with its bank lender executed July 31, 2012 as described below. Other income for 2013 includes $396,000 of income related to the sale and demutualization of one of the Company's commercial insurance providers.

There was no income tax benefit for 2013 compared to $211,000 for 2012. The income tax benefit for 2012 pertains to uncertain state income tax positions which have been derecognized as a result of net operating losses incurred over the past six years, the availability of net operating loss carry backs in certain jurisdictions and administrative practices in jurisdictions which gave rise to the original accrual. The Company does not expect to record taxable income during its 2014 fiscal year. Income tax benefits that may be generated during 2014 would be offset by a deferred income tax asset valuation allowance. Management established the valuation allowance as of December 31, 2009, as a result of then recent cumulative pre-tax losses and its estimates of future taxable income. Management has continued to perform the required analysis regarding the realization of our deferred income tax assets concluding that a full valuation allowance is warranted. As of December 31, 2013, the deferred income tax asset valuation allowance balance was $9,899,000.

Financial Condition, Liquidity and Capital Resources

The Company's cash, cash equivalents, and short-term investments were $8,190,000 at December 31, 2013, compared to $10,496,000 at December 31, 2012. Working capital decreased $1,888,000 to $10,731,000 at December 31, 2013, from $12,619,000 at December 31, 2012.

The Company's operations used $8,741,000 in cash for 2013. Losses from operations of $10,362,000 were affected by $2,329,000 of depreciation, amortization, impairment of assets, a provision for doubtful accounts, stock compensation expenses, and $708,000 of unfavorable changes in various working capital accounts. During 2012, $5,110,000 of net cash was used by operating activities. Losses from operations for 2012 of $7,308,000 were affected by $1,955,000 of depreciation, amortization, and stock compensation expenses and $243,000 of working capital items primarily related to reductions in inventory.

Net cash provided by investing activities was $246,000 for 2013 compared to cash used of $437,000 for 2012. The Company incurred $1,230,000 of capital expenditures during 2013 compared to $1,565,000 for 2012. For both periods, the expenditures were primarily related to placements of FORE-SIGHT oximeter monitors at customer locations. During 2013 and 2012, $1,251,000 and $1,240,000, respectively, of these certificates of deposit had matured and were transferred to operating cash accounts. Cash flows from investing activities for 2013 include $396,000 of cash from the sale and demutualization of the Company's insurance provider.

As a result of the Company's launch of its next-generation FORE-SIGHT oximetry technology and its planned upgrade of its first-generation FORE-SIGHT oximetry monitors placed with customers in the U.S., the Company expects to incur approximately $1,000,000 of capital expenditures during 2014 and 2015 to upgrade those customers. Under the Company's FORE-SIGHT monitor placement program, customers purchase disposable sensors for use with the Company's equipment. The Company retains title to the monitors shipped to its customers under this program.

The Company also expended $170,000 and $111,000 during 2013 and 2012, respectively, to purchase intangible assets which were primarily related to patent costs and product translations.

Net cash provided by financing activities was $7,440,000 for 2013 compared to cash provided of $3,405,000 for 2012. Cash provided by financing activities in 2013 includes $1,500,000 in proceeds from the Company's amendment of its Loan and Security Agreement (the "Loan Agreement") with East West Bank (the "Bank"). The Company originally entered into the Loan Agreement on July 31, 2012. Pursuant to the Loan Agreement, the Bank provided the Company with a secured three-year $3,500,000 term loan (the "Term Loan") which bears interest at 5.5% and contained a 12-month interest-only feature. On May 10, 2013, the Company amended the Loan Agreement which increased the principal amount to $5,000,000 and extended the maturity date of the Term Loan to July 31, 2016, with principal payable in 24 equal installments of approximately $221,000 including interest commencing August 1, 2014. The interest rate was modified to 5.75%.

The Loan Agreement, as amended, also contains a revolving line-of-credit facility (the "Revolver") with maximum borrowings of $2,000,000 and an expiration date of March 31, 2016. Under the amended Loan Agreement, advances under the Revolver bear interest at a floating rate equal to 2.00% above the Bank's prime rate, with a 3.25% floor on the prime rate, representing an effective rate of 5.25%, as of December 31, 2013. Interest on the loan is payable monthly. The Company is permitted to borrow against eligible accounts receivable as defined under the Revolver according to pre-established criteria. The amount available for borrowing under the Revolver as of December 31, 2013, was $1,284,000. There have been no borrowings under the Revolver since its inception in July 2012.

The obligations under the Loan Agreement, as amended, are secured by a lien on substantially all assets of the Company, excluding intellectual property, provided that, following an event of default, such security interest would also include intellectual property.

The Loan Agreement contains customary negative covenants limiting the ability of the Company and its subsidiaries, among other things, to grant liens on the pledged collateral, pay cash dividends, make certain investments and acquisitions and dispose of assets outside the ordinary course of business. The Loan Agreement also contains financial covenants, measured quarterly, providing minimum levels of the Company's tangible net worth and non-financial covenants with respect to the timing of certain new product approvals. As of December 31, 2013, the Company was in compliance with the Loan Agreement covenants.

On July 22, 2013, the Company entered into an underwriting agreement with Northland Securities, Inc. ("Northland") related to the public offering (the "Offering") of 5,200,000 shares of its common stock at $1.25 per share resulting in gross proceeds of $6,500,000. Pursuant to the underwriting agreement, Northland purchased the shares of common stock from the Company at a price of $1.16875 per share. Net proceeds to the Company under the transaction, after fees and expenses, were approximately $5,838,000. Proceeds from the transaction are being used for general corporate purposes.

The Company currently leases three facilities and certain equipment under non-cancellable operating leases. The following table sets forth a summary of the Company's cash commitments under contractual obligations as of December 31, 2013.

Contractual Obligations	Total	Less than One Year	2 - 3 Years	4 - 5 Years	More Than Five Years
Operating leases	$ 1,345,000	$ 445,000	$ 664,000	$ 236,000	$ —

The Company's 2014 business plans call for operating expenditures to decrease approximately 5% to 7% from 2013 levels. In early November 2013, the Company implemented certain operating expense reductions affecting personnel and related costs and third-party services in manufacturing, research and development, marketing and general and administrative expenses. Sales related expenditures are estimated to expand in 2014 as the Company continues to build out its global distribution network to sell its new FORE-SIGHT ELITE Oximeter, its new 740 SELECT® and PPM3 vital signs monitors and its new MAX IQ™ non-invasive blood pressure technology.

The next-generation FORE-SIGHT ELITE oximetry technology is expected to provide gross margin enhancements and reduce the Company's capital requirements, particularly in the second half of the year, as the sensor revenue generated from the installed FORE-SIGHT ELITE monitors becomes material. The lower cost of the ELITE technology, especially by comparison to the first-generation FORE-SIGHT monitor, significantly reduces the investment required by the Company where monitors are placed with customers and accelerates our return on invested capital.

The Company's ordinary short-term capital needs are expected to be met from its current cash-on-hand, the net proceeds from the recently completed Offering, and amounts available under within the Revolver with East West Bank. However, we may, from time to time, seek additional funding through a combination of equity and debt financings or from other sources. There can be no assurance that such additional financing can be obtained on acceptable terms or at all.

Cash flows may be impacted by a number of factors, including changing market conditions, market acceptance of the FORE-SIGHT system, and the loss of one or more key customers.

The Company's results of operations were not affected by inflation during 2013.

Off-Balance Sheet Arrangements

The Company has no off-balance sheet arrangements other than operating leases for office and warehouse space.

Critical Accounting Policies

The Company's financial statements have been prepared in accordance with generally accepted accounting principles in the United States. In preparing the financial statements, the Company is required to make estimated judgments. Such judgments are based upon historical experience and certain assumptions that are believed to be reasonable in the particular circumstances. Those judgments affect both balance sheet and income statement accounts and disclosures. The Company evaluates its assumptions on an ongoing basis by comparing actual results with its estimates. Actual results may differ from the original estimates. The following accounting policies are those that the Company believes to be most critical to the preparation of its financial statements.

Inventory Valuation – The Company's inventories are stated at the lower of cost or market. The Company provides allowances on inventories for any material that has become obsolete or may become unsalable based on estimates of future demand and the sale price in the market. Judgments with respect to salability and usage of inventories, estimated market value, and recoverability upon sale are complex and subjective. Such assumptions are reviewed periodically and adjustments are made, as necessary, to reflect changed conditions. There were no significant inventory write-offs for any period presented.

Deferred Income Tax Assets – The Company has recorded deferred income tax assets for the estimated benefit of future tax deductions on inventories, property and equipment and other accruals, as well as net operating loss carry forwards and tax credits. Based on recent cumulative pre-tax losses and the Company's estimates of future taxable income, management has established a deferred tax asset valuation allowance.

Accrued Warranty Costs – The Company warranties its products for up to three years and records the estimated cost of such product warranties at the time the sale is recorded. Estimated warranty costs are based upon actual past experience of product returns and the related estimated cost of labor and material to make the necessary repairs. Warranty costs have not been historically material to operating results. However, if actual future product return rates or the actual costs of material and labor differ from the estimates, adjustments to the accrued warranty liability would be made.

Stock-based Compensation - The Company records the fair value of stock-based compensation awards as expenses in its consolidated statement of operations. In order to determine the fair value of stock options on the date of grant, we apply the Black-Scholes option-pricing model. Inherent in this model are assumptions related to expected dividend yield, risk-free interest rate, expected stock-price volatility, expected term, and forfeiture rate. Restricted stock awards are generally valued upon the closing price of the common stock on the date of the grant. Amortization of stock-based awards takes place over the vesting period associated with the award.

Revenue and Accounts Receivable Recognition - Revenue from sales and accounts receivable are recognized when evidence of an arrangement exists, delivery has occurred based upon shipping terms, the selling price is fixed and determinable, and collectability is reasonably assured. Terms of sale for most domestic sales are FOB origin and for most international sales are EX-Works reflecting that ownership and risk of loss are assumed by the buyer at the shipping point. In addition, the Company has certain agreements with its customers to ship FOB destination reflecting that ownership and risk of loss are assumed by the buyer upon delivery. While the Company accepts returns of products from its customers from time to time for various reasons including defective goods, order entry, shipping or other errors, the Company's business practices do not include providing right of return at the time of sale. Historically, such returns have not been significant. Payment terms range from prepayment to net sixty days depending upon certain factors including customer credit worthiness, geographic location and customer type (i.e., end-user, distributor, government or private entity) and also includes irrevocable letters of credit for certain international shipments. Price discounts that may be taken by customers under contractual arrangements for payment of invoices within specified periods are recorded as reductions to net sales. Further, the Company accrues expected payment discounts based upon specific customer accounts receivable balances. The Company does not incur post-shipment obligations with the exception of product warranties which are generally fulfilled from the Company's corporate facilities and which costs are not material relative to the sale of the product. Accounts receivable are charged to the allowance for doubtful accounts when deemed uncollectible.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

The Company holds no derivative securities for trading purposes and is not subject in any material respect to currency or other commodity risk.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

The Stockholders and Board of Directors
CAS Medical Systems, Inc. and Subsidiary

We have audited the accompanying consolidated balance sheets of CAS Medical Systems, Inc. and Subsidiary (the "Company") as of December 31, 2013 and 2012, and the related consolidated statements of operations, changes in stockholders' equity, and cash flows for the years then ended. The Company's management is responsible for these financial statements. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the 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 the Company's internal control over financial reporting. Our audit 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 controls 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 the Company as of December 31, 2013 and 2012, and their results of operations and cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

/s/ CohnReznick LLP

Glastonbury, Connecticut
March 19, 2014

CAS Medical Systems, Inc. and Subsidiary
Consolidated Balance Sheets
As of December 31, 2013 and 2012

ASSETS	**2013**	**2012**
CURRENT ASSETS:		
Cash and cash equivalents	$ 8,190,302	$ 9,245,094
Short-term investments	—	1,250,794
Accounts receivable, net of allowance	2,425,417	2,197,513
Inventories	3,931,007	3,543,325
Other current assets	510,710	612,082
Total current assets	15,057,436	16,848,808
PROPERTY AND EQUIPMENT:		
Leasehold improvements	139,970	311,320
Equipment at customers	3,365,636	3,407,836
Machinery and equipment	5,597,385	5,439,521
	9,102,991	9,158,677
Accumulated depreciation and amortization	(6,849,543)	(6,443,303)
Property and equipment, net	2,253,448	2,715,374
Intangible and other assets, net	851,737	830,245
Total assets	$ 18,162,621	$ 20,394,427

CAS Medical Systems, Inc. and Subsidiary
Consolidated Balance Sheets
As of December 31, 2013 and 2012

LIABILITIES AND STOCKHOLDERS' EQUITY	2013	2012
CURRENT LIABILITIES:		
Accounts payable	$ 1,594,147	$ 1,906,327
Accrued expenses	1,737,312	1,625,923
Current portion of long-term debt	994,898	697,834
Total current liabilities	4,326,357	4,230,084
Deferred gain on sale and leaseback of property	495,515	630,152
Long-term debt, less current portion	3,915,949	2,685,560
Commitments and contingencies (Note 12)		
Total liabilities	8,737,821	7,545,796
STOCKHOLDERS' EQUITY:		
Preferred stock, $.001 par value per share, 1,000,000 shares authorized		
Series A convertible preferred stock, 95,500 shares issued and outstanding, liquidation value of $11,433,473 at December 31, 2013	8,802,000	8,802,000
Series A exchangeable preferred stock, 54,500 shares issued and outstanding, liquidation value of $6,524,862 at December 31, 2013	5,135,640	5,135,640
Common stock, $.004 par value per share, 40,000,000 shares authorized, 19,324,549 and 13,767,192 shares issued as of December 31, 2013 and 2012, respectively, including shares held in treasury	77,298	55,069
Common stock held in treasury, at cost - 86,000 shares	(101,480)	(101,480)
Additional paid-in capital	18,939,869	12,023,721
Accumulated deficit	(23,428,527)	(13,066,319)
Total stockholders' equity	9,424,800	12,848,631
Total liabilities and stockholders' equity	$ 18,162,621	$ 20,394,427

See accompanying notes.

CAS Medical Systems, Inc. and Subsidiary
Consolidated Statements of Operations
For the Years Ended December 31, 2013 and 2012

	2013	2012
NET SALES	$ 21,915,794	$ 22,669,065
Cost of sales	13,958,451	13,565,148
Asset impairment charge	407,141	—
Total cost of sales	14,365,592	13,565,148
Gross profit	7,550,202	9,103,917
OPERATING EXPENSES:		
Research and development	4,211,492	4,019,896
Selling, general and administrative	13,792,156	12,528,686
	18,003,648	16,548,582
OPERATING LOSS	(10,453,446)	(7,444,665)
Interest expense	316,312	113,941
Other income	(407,550)	(39,129)
LOSS BEFORE INCOME TAXES	(10,362,208)	(7,519,477)
Income tax benefit	—	(211,159)
NET LOSS	(10,362,208)	(7,308,318)
Preferred stock dividend accretion	1,203,953	1,123,239
NET LOSS APPLICABLE TO COMMON STOCKHOLDERS	$ (11,566,161)	$ (8,431,557)
PER SHARE BASIC AND DILUTED LOSS APPLICABLE TO COMMON STOCKHOLDERS	$ (0.73)	$ (0.63)
WEIGHTED-AVERAGE NUMBER OF COMMON SHARES OUTSTANDING - basic and diluted	15,771,760	13,286,553

See accompanying notes.

CAS Medical Systems, Inc. and Subsidiary
Consolidated Statements of Changes in Stockholders' Equity
For the Years Ended December 31, 2013 and 2012

	Preferred Stock		Common Stock Issued		Held in Treasury		Additional Paid-in	Accumulated	
	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Deficit	Total
BALANCE, December 31, 2011	150,000	$ 13,937,640	13,701,273	$ 54,805	86,000	$ (101,480)	$ 10,930,927	$ (5,758,001)	$ 19,063,891
Net loss								(7,308,318)	(7,308,318)
Common stock issued upon exercise of stock options			20,300	81			30,368		30,449
Common stock issued under stock purchase plan			13,668	55			22,109		22,164
Warrants issued to bank							145,732		145,732
Restricted stock issued, net of cancellations			31,951	128			(128)		—
Stock compensation							894,713		894,713
BALANCE, December 31, 2012	150,000	13,937,640	13,767,192	55,069	86,000	(101,480)	12,023,721	(13,066,319)	12,848,631
Net loss								(10,362,208)	(10,362,208)
Common stock issued in lieu of cash bonus			11,000	44			21,956		22,000
Common stock issued in public offering			5,200,000	20,800			5,817,317		5,838,117
Common stock issued under stock purchase plan			13,750	55			23,932		23,987
Warrants issued to bank							31,878		31,878
Warrants exercised			300,000	1,200			91,800		93,000
Restricted stock issued, net of cancellations			32,607	130			(130)		—
Stock compensation							929,395		929,395
BALANCE, December 31, 2013	**150,000**	**$13,937,640**	**19,324,549**	**$ 77,298**	**86,000**	**$(101,480)**	**$18,939,869**	**$(23,428,527)**	**$ 9,424,800**

See accompanying notes.

CAS Medical Systems, Inc. and Subsidiary
Consolidated Statements of Cash Flows
For the Years Ended December 31, 2013 and 2012

	2013	2012
OPERATING ACTIVITIES:		
Cash flows from operating activities		
Net loss	$ (10,362,208)	$ (7,308,318)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,392,541	1,066,743
Amortization of debt discount	59,332	29,126
Provision for doubtful accounts	14,653	52,953
Stock compensation	933,440	894,713
Proceeds from demutualization of insurance provider	(396,156)	—
Impairment of capitalized patent costs	52,721	46,271
Impairment of assets at customer sites	407,141	—
Amortization of gain on sale and leaseback of property	(134,637)	(134,637)
Changes in operating assets and liabilities:		
Accounts receivable	(242,557)	284,865
Income taxes payable/receivable	—	(211,159)
Inventories	(387,682)	(266,757)
Other current assets	101,372	(312,462)
Accounts payable and accrued expenses	(178,793)	748,395
Net cash used in operating activities	(8,740,833)	(5,110,267)
INVESTING ACTIVITIES:		
Expenditures for property and equipment	(1,230,397)	(1,565,333)
Short-term investments	1,250,794	1,239,793
Proceeds from demutualization of insurance provider	396,156	—
Purchase of intangible assets	(170,070)	(111,081)
Net cash provided by (used in) investing activities	246,483	(436,621)
FINANCING ACTIVITIES:		
Proceeds from long-term debt and warrants	1,500,000	3,500,000
Deferred financing costs	(11,500)	(147,931)
Proceeds from issuance of common stock, net	5,951,058	52,613
Net cash provided by financing activities	7,439,558	3,404,682
Net change in cash and cash equivalents	(1,054,792)	(2,142,206)
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	9,245,094	11,387,300
CASH AND CASH EQUIVALENTS, END OF YEAR	$ 8,190,302	$ 9,245,094
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:		
Cash paid during the year for interest	$ 248,800	$ 68,239
Accrued liability settled with common stock	$ 22,000	$ —

See accompanying notes.

(1) THE COMPANY

CAS Medical Systems, Inc. ("CASMED" or the "Company") is a medical technology company that develops, manufactures, and distributes non-invasive patient monitoring products that are vital to patient care. Our products include the FORE-SIGHT® series of absolute tissue oximeters and sensors, including the new FORE-SIGHT ELITE™ oximeter and traditional monitoring products which include MAXNIBP® and the new MAX IQ® blood pressure measurement technologies, bedside monitoring products, and supplies for neonatal intensive care. These products are designed to provide accurate, non-invasive, biologic measurements that guide healthcare providers to deliver improved patient care. CASMED markets its products worldwide through its sales force, distributors, manufacturers' representatives, and original equipment manufacturers. The Company's operations and manufacturing facility is located in the United States.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Use of estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of sales and expenses during the reporting period. Estimates that are particularly sensitive to change in the near-term are inventory valuation allowances, deferred income tax asset valuation allowances, allowance for doubtful accounts, and warranty accrual. Actual results could differ from those estimates.

Principles of consolidation

The consolidated financial statements included the accounts of CASMED and one inactive subsidiary.

Cash and cash equivalents and short-term investments

The Company considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. The Company has deposits in a limited number of financial institutions with federally insured limits. Cash (including cash equivalents) at these institutions is normally in excess of the insured limits. However, the Company believes that the institutions are financially sound, and there is only nominal risk of loss.

The Company's short-term investments as of December 31, 2012, were held in certificates of deposit with maturities greater than three months. These investments were recorded at amortized cost. There were no short-term investments as of December 31, 2013.

Inventories

Inventories are stated at the lower of cost determined by the first-in-first-out method or market.

Property and equipment

Property and equipment, including leasehold improvements, are stated at cost. Depreciation is computed using the straight-line method based on the estimated useful lives of the assets, which range from two to five years for machinery and equipment. Leasehold improvements are amortized over the life of the improvement or the lease term, whichever is shorter. Maintenance and repairs are charged to expense when incurred.

The Company owns certain FORE-SIGHT tissue oximetry monitors primarily located at customer sites within the United States. Such equipment is typically held under a no-cost program whereby customers purchase disposable sensors for use with the Company's equipment. The Company retains title to the monitors shipped to its customers under this program. The monitors are depreciated on a straight-line basis over five years to cost of sales.

At the end of the third quarter of 2013, the Company launched its next-generation FORE-SIGHT ELITE cerebral oximetry technology which offers a significantly enhanced user interface and improved ease-of-use. The Company, therefore, expects that there will be significant demand for the new technology and that many customers currently utilizing the Company's first-generation cerebral oximetry technology under its monitor placement program will seek to upgrade to the latest technology.

Accordingly, management conducted an impairment analysis with respect to the company-owned monitors at customer locations as of the launch date, based upon the projected net cash flows of the subject monitors through the estimated exchange date. We concluded that projected cash flows for certain monitors was less than their carrying value indicating impairment. We estimated the fair value of the impaired monitors by discounting the projected cash flows using a risk-free rate for the various periods. This fair value measurement technique is based upon significant inputs not observable in the market and thus represents a Level 3 measurement within the fair value hierarchy. Changes in the market or any of the assumptions used in determining the fair value of this asset may result in a further reduction to its estimated fair value and could result in additional and potentially full future impairment charges.

Management's analysis concluded that an impairment charge of $407,000 was required to reduce the net book value of the assets to estimated fair value. The impairment charge was recorded to cost of sales during the third quarter of 2013. Further, the monitors will be amortized using the straight-line method over the adjusted estimated remaining useful lives of the assets. This will result in increased amortization of the monitors until the monitors are removed from service.

The Company's assets measured at fair value on a nonrecurring basis as of December 31, 2013 were as follows:

	Fair value measurements as of December 31, 2013			
	Level 1	Level 2	Level 3	Total impairment charge for the year ended December 31, 2013
Assets:				
Equipment at Customers	$ —	$ —	$ 3,365,636	$ (407,141)
Total	$ —	$ —	$ 3,365,636	$ (407,141)

Depreciation and amortization expense on property and equipment was $1,285,000 in 2013 and $980,000 in 2012.

Intangible and other assets

The Company reviews its intangible and other long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. During 2013 and 2012, the Company wrote off $52,721 and $46,271, respectively, of capitalized costs related to certain abandoned patents and trademarks. The Company believes that the carrying amounts of its long-lived assets are fully recoverable.

Intangible and other assets at December 31, 2013 and 2012 consist of:

	2013	2012
Patents and other assets	$ 896,921	$ 714,810
Patents pending	276,691	348,256
Purchased technology	33,893	46,026
Deferred financing costs	159,431	147,931
	1,366,936	1,257,023
Accumulated amortization	(515,199)	(426,778)
	$ 851,737	$ 830,245

Intangible and other assets are stated at cost. Patents are amortized on a straight-line basis over 20 years. Purchased technology is amortized over five years. Deferred financing costs are amortized over the term of the related debt. Amortization expense was $107,357 in 2013 and $87,144 in 2012.

Expected amortization expense of intangible assets as of December 31, 2013, over the next five calendar years follows:

2014	$	90,000
2015	$	80,000
2016	$	57,000
2017	$	26,000
2018	$	23,000

Revenue and accounts receivable recognition

Revenue from sales and accounts receivable are recognized when evidence of an arrangement exists, delivery has occurred based upon shipping terms, the selling price is fixed and determinable, and collectability is reasonably assured. Terms of sale for most domestic sales are FOB origin and for most international sales are EX-Works reflecting that ownership and risk of loss are assumed by the buyer at the shipping point. In addition, the Company has certain agreements with its customers to ship FOB destination, reflecting that ownership and risk of loss are assumed by the buyer upon delivery. While the Company accepts returns of products from its customers from time to time for various reasons including defective goods, order entry, shipping, or other errors, the Company's business practices do not include providing right of return at the time of sale. Historically, such returns have not been significant. Payment terms range from prepayment to net 60 days, depending upon certain factors including customer credit worthiness, geographic location, and customer type (i.e., end-user, distributor, government, or private entity) and also includes irrevocable letters of credit for certain international shipments. Price discounts that may be taken by customers under contractual arrangements for payment of invoices within specified periods are recorded as reductions to net sales. Further, the Company accrues expected payment discounts based upon specific customer accounts receivable balances. The Company does not incur post shipment obligations with the exception of product warranties which are generally fulfilled from the Company's corporate facility and which costs are not material, relative to the sale of the product. Accounts receivable are charged to the allowance for doubtful accounts when deemed uncollectible.

In the normal course of business, the Company grants credit to its customers and does not require collateral. Credit losses are provided for in the period the related sales are recognized, based upon experience and an evaluation of the likelihood of collection. Credit losses have been within management's expectations.

The Company's five largest customers accounted for approximately 30% and 36% of revenues in 2013 and 2012, respectively. Among these customers, Physio-Control, Inc. accounted for 9% and 11% of revenues during 2013 and 2012, respectively. Also included above are sales to the U.S. Department of Veterans Affairs ("V.A."). When aggregating sales of the individual V.A. hospitals, those sales accounted for 8% and 18% of overall sales for 2013 and 2012, respectively. The Company has a blanket agreement with the V.A. for the purchase of its vital signs monitors through February 2015. The loss of any significant customer could have a material adverse effect on our financial position and results of operations.

Income taxes

The Company recognizes deferred income tax assets and liabilities for future tax consequences resulting from differences between the book and tax bases of existing assets and liabilities as well as for loss carry forwards. A valuation allowance is provided for that portion of deferred income tax assets which may not be realized.

The Company accrues for uncertain tax positions in accordance with accounting standards which prescribes a more likely-than-not threshold for financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return.

The Company files U.S. Federal and multiple State income tax returns. The Company's U.S. Federal and State income tax returns prior to 2009 are closed. Interest and penalties related to uncertain tax positions are classified with income taxes.

Warranty costs

The Company warrants some of its products against defects and failures for up to three years and records the estimated cost of such warranties at the time the sale is recorded. Estimated warranty costs are based upon actual past experiences of product returns and the related estimated cost of labor and material to make the necessary repairs.

A summary of the changes in the Company's warranty accrual follows:

	2013	2012
Beginning balance	$ 100,000	$ 369,171
Provision	55,865	42,014
Warranty costs incurred	(55,865)	(311,185)
Ending balance	$ 100,000	$ 100,000

Research and development costs

The Company expenses all research and development costs as incurred. Research and development ("R&D") includes, among other expenses, direct costs for salaries, employee benefits, professional services, materials, and facility-related expenses.

The Company has received various grants and tax-related credits which support its R&D efforts. In accordance with the terms of these grants, the Company is being reimbursed for certain qualifying expenditures. Funding provided to the Company is being recorded as a reduction of R&D expenses. The Company recognizes the reimbursement on an accrual basis as the qualifying costs are incurred.

Advertising costs

Non-direct response advertising costs are expensed as incurred and include product promotion, samples, meetings and conventions, and print media. Advertising expense was $989,000 and $868,000 in 2013 and 2012, respectively.

Income (loss) per common share applicable to common stockholders

Basic earnings per share is calculated by dividing net income (loss) applicable to common stockholders by the weighted-average number of common shares outstanding for the period. Diluted earnings (loss) per share reflects the potential dilution that could occur if common stock equivalents, such as unvested restricted common shares, outstanding warrants and options, or convertible preferred stock were exercised or converted into common stock. For all periods reported, the Company incurred net losses from continuing operations. Therefore, for each period reported, diluted loss per share is equal to basic loss per share because the effect of including such common stock equivalents or other securities would have been anti-dilutive.

At December 31, 2013, stock options and warrants to purchase 2,618,625 and 752,991 shares of common stock, respectively, were excluded from the diluted earnings per share calculation as they would have been anti-dilutive. On an as-converted basis, 7,517,093 shares of common stock pertaining to the private placement of 150,000 shares of Series A convertible and exchangeable preferred stock issued on June 8, 2011, were also excluded as they would have been anti-dilutive.

The following table presents a reconciliation of the numerators and denominators of basic and diluted loss per share for 2013 and 2012:

	2013	2012
Net loss	$ (10,362,208)	$ (7,308,318)
Preferred stock dividend accretion	1,203,953	1,123,239
Net loss applicable to common stockholders	$ (11,566,161)	$ (8,431,557)
Weighted-average shares outstanding, net of unvested restricted common shares - used to compute basic and diluted loss per share applicable to common stockholders	15,771,760	13,286,553

(3) ALLOWANCE FOR DOUBTFUL ACCOUNTS

Changes in the allowance for doubtful accounts during the years ended December 31, 2013 and 2012 follow:

	2013	2012
Balance at beginning of year	$ 175,000	$ 175,000
Provision	14,653	52,953
Accounts written off	(79,653)	(52,953)
Balance at end of year	$ 110,000	$ 175,000

(4) INVENTORIES

Inventories at December 31, 2013 and 2012 consist of:

	2013	2012
Raw materials	$ 2,388,380	$ 2,489,750
Work in process	10,319	34,384
Finished goods	1,532,308	1,019,191
	$ 3,931,007	$ 3,543,325

(5) FINANCING ARRANGEMENTS

Private Placement of Preferred Stock

On June 8, 2011, the Company issued 95,500 shares of "Series A Convertible Preferred Stock" and 54,500 shares of "Series A Exchangeable Preferred Stock," (collectively, the "Series A Preferred Stock"), each with a par value $0.001 per share which are convertible into authorized but unissued shares of common stock, par value $0.004 per share, of the Company. The Series A Exchangeable Preferred Stock now has substantially identical terms to the Series A Convertible Preferred Stock.

The Company received an aggregate cash purchase price of $15,000,000, representing a per-share purchase price of $100 for the Series A Convertible Preferred Stock and $100 for the Series A Exchangeable Preferred Stock. The Company received net proceeds, after transaction costs and expenses, of $13,825,000.

The shares of Series A Preferred Stock were initially convertible at the option of the holder into common stock at a conversion price of $2.82 (the "Conversion Price"). The Conversion Price is subject to standard weighted-average anti-dilution adjustments. On July 22, 2013, upon completion of the Company's public offering of common stock described below, the Conversion Price was adjusted to $2.389 per share.

The stated value ($100.00 per share) of the Series A Preferred Stock accretes at an annual rate of 7% compounded quarterly. On an annual basis, prior to the third anniversary of the original date of issuance, the holders may elect, pursuant to certain requirements, to receive the following 12 months of accretion in the form of a dividend of 7% per annum, payable quarterly in cash at the holder's option. After the third anniversary of the closing, such accretion may be made in cash at the Company's option. The Series A Preferred Stock is subject to certain default provisions whereby the dividend rate would be increased by an additional 5% per annum.

After the third anniversary of the original date of issuance, the Company can force conversion of all, and not less than all, of the outstanding Series A Preferred Stock into Company common stock as long as the closing price of its common stock is at least 250% of the Conversion Price, or $5.9725 per common share, for at least 20 of the 30 consecutive trading days immediately prior to the conversion and the average daily trading volume is greater than 50,000 shares per day over the 30 consecutive trading days immediately prior to such conversion. The Company's ability to cause a conversion is subject to certain other conditions as provided pursuant to the terms of the Series A Preferred Stock described above.

The Series A Preferred Stock is entitled to a liquidation preference equal to the greater of 100% of the accreted value for each share of Series A Preferred Stock outstanding on the date of a liquidation plus all accrued and unpaid dividends or the amount a holder would have been entitled to had the holder converted the shares of Series A Preferred Stock into common stock immediately prior to the liquidation. The Series A Preferred Stock will vote together with the common stock as if converted on the original date of issuance. Holders of Series A Preferred Stock are entitled to purchase their pro rata share of additional stock issuances in certain future financings.

Pursuant to the terms of the Series A Preferred Stock, a holder must issue a written request to the Company by June 15th of 2011, 2012, or 2013 to receive cash dividends for the applicable succeeding four fiscal quarters ending June 30th, September 30th, December 31st, and March 31st. The holders have elected in writing not to receive cash dividends for the fiscal quarters through June 30, 2013. Further, the holders have irrevocably waived their cash dividend rights for the four fiscal quarters ending June 30, 2014, in accordance with the Company's agreement with East West Bank executed on July 31, 2012. The bank agreement prohibits the payment of cash dividends. The holders' waiver of their cash dividend rights for the four fiscal quarters ending June 30, 2014, may be revoked if the Company's obligations to East West Bank are terminated at any time prior to June 30, 2014. As of December 31, 2013, $2,958,335 in dividend accretion has accumulated on the Series A Preferred Stock.

Common Stock Public Offering

On July 22, 2013, the Company entered into an underwriting agreement with Northland Securities, Inc. ("Northland") related to the public offering (the "Offering") of 5,200,000 shares of its common stock at $1.25 per share, resulting in gross proceeds of $6,500,000. Pursuant to the underwriting agreement, Northland purchased the shares of common stock from the Company at a price of $1.16875 per share. Net proceeds to the Company under the transaction, after fees and expenses, were approximately $5,838,000. Proceeds from the transaction are intended to be used for general corporate purposes.

The Series A Preferred Stock terms referred to above contain anti-dilution provisions which modify the Conversion Price of the Series A Preferred Stock in the event that the Company issues any common stock at a price less than the Conversion Price during the three years after the original issue date of the Series A Preferred Stock. As a result of the Offering, the Conversion Price was modified from $2.82 per share to $2.389 per share. Accordingly, based upon the liquidation value of the preferred stock at December 31, 2013, the number of shares of common stock issuable upon conversion of the Series A Preferred Stock was 7,517,093.

Bank Financing

On July 31, 2012, the Company entered into a Loan and Security Agreement (the "Loan Agreement") with East West Bank (the "Bank"). Pursuant to the Loan Agreement, the Bank provided the Company with a secured $3,500,000 term loan (the "Term Loan") which bears interest at 5.5% and contained a 12-month interest-only feature. On May 10, 2013, the Company amended the Loan Agreement which increased the principal amount to $5,000,000 and extended the maturity date of the Term Loan to July 31, 2016, with principal payable in 24 equal monthly installments of approximately $221,000 including interest commencing on August 1, 2014. The interest rate was modified to 5.75%. The Loan Agreement, as amended, also contains a revolving line-of-credit (the "Revolver") facility with maximum borrowings of $2,000,000 and an expiration date of March 31, 2016. Under the amended Loan Agreement, advances under the Revolver bear interest at a floating rate equal to 2.00% above the Bank's prime rate, with a 3.25% floor on the prime rate, representing an effective rate of 5.25%, as of December 31, 2013. Interest on the loans is payable monthly. The Company is permitted to borrow against eligible accounts receivable as defined under the Loan Agreement according to pre-established criteria. The amount available for borrowing under the Revolver as of December 31, 2013, was $1,284,000. There were no borrowings under the Revolver as of December 31, 2013.

The obligations under the Loan Agreement are secured by a lien on substantially all assets of the Company, excluding intellectual property, provided that following an event of default such security interest would also include intellectual property.

The Loan Agreement, as amended, contains customary negative covenants limiting the ability of the Company and its subsidiaries, among other things, to grant liens on the pledged collateral, pay cash dividends, make certain investments and acquisitions, and dispose of assets outside the ordinary course of business. The amended agreement also contains financial covenants, measured quarterly, providing a minimum level of the Company's tangible net worth, and non-financial covenants with respect to the timing of certain new product approvals. As of December 31, 2013, the Company was in compliance with the Loan Agreement covenants.

In connection with the Loan Agreement, on July 31, 2012, the Company issued to the Bank a warrant to purchase 133,333 shares of Company common stock for a five-year period expiring on July 31, 2017, at an exercise price of $1.80 per share which approximated the market value of the common stock at the grant date. The warrant was valued at $145,732 using the Black-Scholes option pricing model with the following assumptions: fair value of the underlying common stock of $1.80, a weighted-average expected stock price volatility of 75.5%, an expected warrant life of five years, an average risk-free interest rate of 0.62%, and a 0.0% average dividend yield.

In connection with the amendment dated May 10, 2013, the Company issued to the Bank a warrant to purchase 30,257 shares of common stock for a five-year period expiring on May 10, 2018, at an exercise price of $1.98 per share which approximated the market value of the common stock at the grant date. The warrant was valued at $31,878 using the Black-Scholes option pricing model with the following assumptions: fair value of the underlying common stock of $1.98, a weighted-average expected stock price volatility of 63.6%, an expected warrant life of five years, an average risk-free interest rate of 0.71%, and a 0.0% average dividend yield.

Each of the warrants issued to the Bank were fully vested at time of issuance. The warrant cost is being recorded as a debt discount and recognized as interest expense over the three-year period of the Term Loan using the effective interest method.

The outstanding balance of the bank term loan at December 31, 2013 and 2012 is as follows:

	2013	2012
Balance of bank term loan	$ 5,000,000	$ 3,500,000
Debt discount	(89,153)	(116,606)
	4,910,847	3,383,394
Current portion	994,898	697,834
Long-term portion	$ 3,915,949	$ 2,685,560

(6) ACCRUED EXPENSES

Accrued expenses at December 31, 2013 and 2012 consist of:

	2013	2012
Payroll	$ 810,046	$ 537,798
Professional fees	300,788	462,147
Warranty	100,000	100,000
Travel and entertainment	41,045	56,781
Other	485,433	469,197
	$ 1,737,312	$ 1,625,923

(7) SHARE-BASED PAYMENT PLANS

On June 8, 2011, at the Company's annual meeting of stockholders, the CAS Medical Systems, Inc. 2011 Equity Incentive Plan, (the "Incentive Plan") was approved by its stockholders. The Incentive Plan was intended to replace the CAS Medical Systems, Inc. 2003 Equity Incentive Plan which was near full distribution. The Incentive Plan provided for the availability of a maximum of 1,000,000 shares of the Company's common stock, with a maximum of 500,000 shares available for issuance with respect to awards of restricted stock and restricted stock units. On June 20, 2013, the Company's stockholders approved an amendment to the Incentive Plan which increased the maximum number of shares that can be issued by 1,000,000 to 2,000,000. As of December 31, 2013, 443,109 shares remain available for issuance under the Incentive Plan, as amended.

Awards that may be granted under the Incentive Plan include options, restricted stock, restricted stock units, and other stock-based awards. The purposes of the Incentive Plan are to make available to key employees and directors certain compensatory arrangements related to growth in the value of the Company's stock so as to generate an increased incentive to contribute to the Company's financial success and prosperity; to enhance the Company's ability to attract and retain exceptionally qualified individuals, whose efforts can affect the Company's financial growth and profitability; and align, in general, the interests of employees and directors with the interests of stockholders. The Incentive Plan is administered by the Compensation Committee of the Board of Directors, which in turn determines the employees, officers, and directors to receive awards and the terms and conditions of these awards.

During 2013, stock options to purchase 661,500 shares of common stock were granted to our employees, officers, a sales consultant and members of the Board of Directors. Stock options granted to officers of the Company totaled 465,000 shares, including a stock option grant of 250,000 to the Company's Chief Commercial Officer commensurate with the start of his employment. Grants of 196,500 shares were issued to senior and mid-level managers, other employees, and a sales consultant both in recognition of performance and to attract and retain key employees. The stock options contain various vesting formulas; however, they generally vest over a three- to four-year period. As of December 31, 2013, options to purchase 2,618,625 shares remain outstanding of which 1,466,500 pertain to options granted under the Incentive Plan, 652,125 pertain to stock options granted under the 2003 Plan, and 500,000 were issued as non-plan inducement grants to officers commensurate with the start of their employment with the Company.

The unamortized stock compensation expense associated with the stock options at December 31, 2013, was $1,770,000 and will be recognized through the fourth quarter of 2017.

A summary of the Company's stock options and changes during the years follow:

	2013			2012		
	Option Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value	Option Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value
Outstanding at beginning of year	2,007,125	$ 2.25		1,697,425	$ 2.30	
Granted	661,500	1.67		482,500	2.15	
Exercised	—	—		(20,300)	1.50	
Cancelled	(50,000)	2.56		(152,500)	2.56	
Outstanding at end of year	2,618,625	$ 2.10	$ 112,875	2,007,125	$ 2.25	$ 307,406
Exercisable at end of year	1,204,708	$ 2.30	$ 23,350	747,500	$ 2.36	$ 127,423
Vested and expected to vest at end of year	2,576,272	$ 2.10	$ 110,189	1,969,381	$ 2.25	$ 302,013
Weighted-average grant-date fair value of options granted during the year		$ 1.21			$ 1.52	

There were no stock options exercised in 2013. The total intrinsic value of stock options exercised in 2012 was $7,991. The intrinsic value of a stock option is the amount by which the current market value of the underlying stock exceeds the option exercise price.

The fair value of each option is estimated on the date of grant using the Black-Scholes option pricing model. Similar to other option pricing models, the Black-Scholes model requires the input of highly subjective assumptions which may materially affect the estimated fair value of the Company's stock options.

The fair value of each option granted during 2013 was estimated on the date of grant using the Black-Scholes option-pricing model assuming a weighted-average expected stock volatility of 83.8%, a weighted-average expected option life of 6.3 years, an average risk-free interest rate of 1.91% and a 0.0% dividend yield. The fair value of each option granted during 2012 was estimated on the date of the grant using the Black-Scholes option-pricing model, assuming a weighted-average expected stock price volatility of 83.7%, a weighted average expected option life of 6.1 years, an average risk-free interest rate of .99% and a 0.0% average dividend yield. Risk-free interest rates approximate U.S. Treasury yields in effect at the time of the grant. The expected lives of the stock options are determined using historical data adjusted for the estimated exercise dates of unexercised options. Volatility is determined using both current and historical implied volatilities of the underlying stock which is obtained from public data sources.

Additional information about stock options outstanding and exercisable at December 31, 2013, follows:

Range of Exercise Prices	Number Outstanding	Weighted Remaining Contractual Life in Years	Average Exercise Price	Number Exercisable	Average Exercise Price
$1.35 - $1.74	811,625	7.7	$ 1.56	324,125	$ 1.63
1.87 - 2.30	1,301,500	8.4	2.05	487,292	2.12
2.50 - 3.16	470,500	6.3	3.01	358,291	3.01
3.59 - 4.50	35,000	1.6	3.98	35,000	3.98
$1.35 - $4.50	2,618,625	7.7	$ 2.10	1,204,708	$ 2.30

During 2013, 37,266 shares of restricted stock were granted to non-employee members of the Board of Directors. As of December 31, 2013, 241,359 restricted shares issued to employees and members of the Board of Directors remain issued and non-vested.

During 2013, 4,658 shares of restricted stock were cancelled. Stock compensation expense of $2,332,000 has been recognized to December 31, 2013, related to restricted shares granted in 2013 and in prior years. The unamortized stock compensation expense associated with the restricted shares at December 31, 2013, was $156,000 and will be recognized through the first quarter of 2015.

The fair value of the restricted common shares was calculated based upon the market value of the common stock on the date of issuance. Restricted stock granted to employees typically vests over a period of not less than three years while restricted stock granted to members of the Board of Directors vests ratably over 12 months from date of grant.

A summary of the restricted shares outstanding and changes for the years follow:

	2013	2012
Outstanding at beginning of year	320,476	436,150
Granted	37,266	34,284
Cancelled	(4,658)	(2,333)
Vested	(111,725)	(147,625)
Outstanding at end of year	241,359	320,476

Total stock compensation expense was $933,440 and $894,713 for 2013 and 2012, respectively. Stock compensation expense for 2013 includes $4,045 for a stock option grant issued to a consultant.

Warrants to purchase 752,991 shares of common stock at a weighted-average exercise price of $0.78 per share were outstanding at December 31, 2013. The warrants have an exercise price range of $0.30 to $1.98 per share and, with the exception of the 163,590 shares subject to the warrants issued to East West Bank referred to below, have no expiration date. During 2012, warrants to purchase 133,333 shares of common stock were granted in conjunction with a loan agreement executed by the Company with East West Bank. The warrants have a five-year life, expiring on July 31, 2017, and are exercisable at $1.80 per share. During 2013, a warrant to purchase 30,257 shares of common stock was granted in connection with the amendment to the loan agreement with East West Bank. The warrant has a five-year life, expiring on May 10, 2018, and is exercisable at $1.98 per share. During 2013, a warrant was exercised for 300,000 shares.

The Company maintains an employee stock purchase plan. The CAS Medical Systems, Inc. Employee Stock Purchase Plan (the “Stock Purchase Plan”) was approved by stockholders on June 10, 2009, and accordingly, 150,000 shares of common stock were reserved for issuance under the Stock Purchase Plan. The initial offering period began on July 1, 2009. As of December 31, 2013, 44,428 shares were issued under the Stock Purchase Plan, and certain amounts had been withheld from employees’ compensation to purchase an additional 6,120 shares which were issued during January 2014. The Stock Purchase Plan offers the Company’s employees an opportunity to participate in a payroll-deduction-based program designed to incentivize them to contribute to the Company’s success. The Stock Purchase Plan replaced an employee stock purchase plan that had been in effect since June 2004.

(8) BENEFIT PLANS

The Company maintains a 401(k) benefit plan for its employees, which generally allows participants to make contributions via salary deductions up to allowable Internal Revenue Service limits on a tax-deferred basis. Such deductions may be matched in part by discretionary contributions by the Company. The matching contributions for 2013 and 2012 were $56,394 and $47,293, respectively.

(9) INCOME TAXES

The components of current and deferred Federal and State income tax benefit for the years ended December 31, 2013 and 2012 consist of:

	2013	2012
Current benefit:		
Federal	$ —	$ —
State	—	(211,159)
	—	(211,159)
Deferred benefit:		
Federal	—	—
State	—	—
	—	—
Income tax benefit	$ —	$ (211,159)

A reconciliation of U.S. Federal income taxes computed at the statutory rate to income taxes shown in operations for the years ended December 31, 2013 and 2012 follows:

	2013	2012
Income tax benefit at the statutory rate	$ (3,523,151)	$ (2,557,646)
State income taxes, net of Federal effect	(138,162)	(29,735)
R&D and other tax credits	(189,812)	15,918
De-recognition of uncertain tax position	—	(211,159)
Change in valuation allowance	3,837,816	2,542,337
Other	13,309	29,126
Income tax benefit	$ —	$ (211,159)

Deferred income tax assets and (liabilities) at December 31 relate to:

	2013	2012
Inventories	$ 227,873	$ 220,742
Warranty accrual	34,990	34,990
Allowance for doubtful accounts	38,489	61,233
Tax credits	600,342	410,530
Deferred gain on sale and leaseback	173,381	220,491
Restricted stock	660,460	448,817
Net operating loss carry forwards	8,203,163	5,004,965
Other	555,288	461,830
	10,493,986	6,863,598
Prepaid expenses	(159,397)	(165,586)
Fixed assets	(436,061)	(637,300)
Deferred income tax assets and liabilities	9,898,528	6,060,712
Valuation allowance	(9,898,528)	(6,060,712)
Net deferred income tax assets and liabilities	$ —	$ —

The Company has performed the required analysis of both positive and negative evidence regarding the realization of our deferred income tax assets, including our past results of operations, recent cumulative losses, and our forecast for future taxable income. The assessment required the use of assumptions about future revenues and pre-tax income, making allowance for uncertainties surrounding the rate of adoption of our products in the market place, competitive influences, and the investments required to increase our market share in certain markets for our products. As of December 31, 2013, we have concluded that it is more likely than not that such deferred income tax assets will not be realized and, accordingly, have established a deferred income tax asset valuation allowance in the amount of $9,898,528.

The Company's Federal net operating loss carry forward of $23,473,099 is scheduled to expire beginning in 2030. State net operating loss carry forwards of $4,155,457 are scheduled to expire between 2026 and 2033. The amount of the net operating loss carry forwards that may be utilized annually to offset future taxable income and tax liabilities may be limited as a result of certain ownership changes pursuant to Section 382 of the Internal Revenue Code. We have not completed a study to determine if there have been one or more ownership changes due to the costs associated with such study.

A reconciliation of unrecognized income tax benefits for 2013 and 2012 follows:

	2013	2012
Balance at beginning of year	$ —	$ 211,159
Tax positions taken during a prior year	—	—
Increase for tax positions taken in current year	—	(211,159)
Balance at end of year	$ —	$ —

During 2012, the Company determined that the reserve for uncertain tax positions should be derecognized as a result of net operating losses incurred over the past six years, the availability of net operating loss carry backs in certain jurisdictions and administrative practices in jurisdictions which gave rise to the original accrual. Currently, the Company does not believe that there are unrecognized income tax benefits for December 31, 2013, and expects no significant changes in 2014.

(10) GRANT AWARDS

The Company has been awarded various grants by the National Institutes of Neurological Disorders and Stroke of the NIH under its Small Business Innovative Research Program. Grants under this program have been used to support the development of the Company's Near-Infrared Spectroscopy ("NIRS") technology which non-invasively measures the brain oxygenation level of a patient. In accordance with the terms of these grants, the Company was reimbursed for certain qualifying expenditures. Such reimbursements were recorded as a reduction in R&D expenses. The Company's most recent grant was awarded on September 17, 2007, in the amount of $2,800,000. Disbursements related to this grant were concluded during late 2012, and no additional reimbursements remained available at December 31, 2012. The total amounts reimbursed during 2012 were $296,000.

(11) SALE AND LEASEBACK OF PROPERTY

On September 6, 2007, the Company closed the sale and leaseback of its headquarters and manufacturing facility (the "Property"). Net proceeds from the sale were $2,791,529 of which $928,872 was used to retire the related outstanding mortgage debt. The gain of $1,346,373 realized on the sale has been deferred and is being recognized in operations as a reduction in rent expense over the term of the lease. The lease has an initial term of ten years, expiring on September 6, 2017, and an option for two additional five-year periods. The lease provides for an annual base rent in years one through five of $244,800 and $268,800 in years six through ten. The Company recognizes rent expense on a straight-line basis over the ten years. Under the lease, the Company is responsible for the costs of utilities, insurance, taxes, and maintenance expenses. Further, the Company is required to maintain at least $600,000 in cash and cash equivalents (increasing at 3% per annum) and net current assets of not less than $3,600,000.

In addition, the Company has a right of first offer to lease any additional space or building built by the lessor on the Property, subject to certain restrictions. The Company also has the right to require the lessor to build an addition or additional building ("Expansion Premises"), subject to certain restrictions. Upon the delivery of any Expansion Premises, the term of the Lease would extend for a ten-year term. The base rent for the Expansion Premises would be the greater of the then prevailing market rent or an amount equal to a return on actual costs of construction of the greater of 250 basis points over the rate on ten-year U.S. Treasury Notes, or 8%. Upon delivery of the Expansion Premises, the lessor would assume obligations under the Company's existing leases of its two adjacent properties in exchange for a payment equal to three months rent and certain unamortized costs incurred with respect to these two facilities.

(12) COMMITMENTS AND CONTINGENCIES

Litigation

The manufacture and sale of our products exposes us to product liability claims and product recalls, including those which may arise from misuse or malfunction of, or design flaws in, our products or use of our products with components or systems not manufactured or sold by us. Product liability claims or product recalls, regardless of their ultimate outcome, could require us to spend significant time and money in litigation or to pay significant damages.

On December 29, 2011, Nellcor Puritan Bennett, LLC ("Nellcor") filed an action against the Company in the United States District Court for the Eastern District of Michigan, alleging (i) breach of the settlement agreement with respect to a prior litigation matter between the parties, (ii) violation of the Lanham Act, (iii) common law unfair competition, and (iv) trade libel. The complaint requested injunctive relief and unspecified monetary damages, including compensatory damages and reasonable attorneys' fees. On February 24, 2012, the Company answered the complaint and denied substantially all of the claims and set forth certain affirmative defenses. On April 25, 2013, both Nellcor and the Company filed motions for summary judgment on the Lanham Act, unfair competition, and trade libel claims. On June 11, 2013, the Court granted the Company's motion for summary judgment regarding the breach of contract claim and also found that the Company was entitled to legal fees in an amount to be determined. On November 13, 2013, the Court held oral argument on the Company and Nellcor's remaining motions for summary judgment, but has not yet issued its ruling. If the remaining issues are not resolved at summary judgment, a trial will occur sometime after the Court rules on the pending summary judgment motions. The matter remains pending, and while there can be no assurance as to the ultimate outcome, the Company does not believe at this time that its disposition would result in a material adverse effect on the Company.

Operating Leases

The Company currently leases three separate operating facilities and certain equipment under non-cancellable operating leases. Rent expense under these leases was $472,000 in 2013 and $463,000 in 2012. Future annual minimum rental payments as of December 31, 2013, to the expiration of the leases follow:

2014	$ 445,000
2015	361,000
2016	303,000
2017	209,000
2018	27,000
Total	$ 1,345,000

(13) UNAUDITED QUARTERLY INFORMATION

Unaudited quarterly financial information follows.

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
Year ended December 31, 2013					
Net sales	$ 5,575,838	$ 5,042,420	$ 5,353,166	$ 5,944,370	$ 21,915,794
Cost of sales	3,350,856	3,124,411	3,920,046	3,970,279	14,365,592
Gross profit	2,224,982	1,918,009	1,433,120	1,974,091	7,550,202
Loss from operations	(1,909,632)	(2,572,353)	(2,877,079)	(3,094,383)	(10,453,446)
Net loss	(1,587,183)	(2,633,869)	(2,960,122)	(3,181,034)	(10,362,208)
Preferred stock accretion	293,201	298,333	303,553	308,866	1,203,953
Net loss applicable to common stockholders	$ (1,880,384)	$ (2,932,202)	$ (3,263,675)	$ (3,489,900)	$ (11,566,161)
Per share basic and diluted loss applicable to common stockholders (1)	$ (0.14)	$ (0.22)	$ (0.19)	$ (0.19)	$ (0.73)
Year ended December 31, 2012					
Net sales	$ 5,408,819	$ 5,198,300	$ 6,110,813	$ 5,951,133	$ 22,669,065
Cost of sales	3,373,745	3,015,656	3,596,056	3,579,691	13,565,148
Gross profit	2,035,074	2,182,644	2,514,757	2,371,442	9,103,917
Loss from operations	(1,962,564)	(1,664,242)	(1,522,854)	(2,295,005)	(7,444,665)
Net loss	(1,946,092)	(1,649,609)	(1,564,752)	(2,147,865)	(7,308,318)
Preferred stock accretion	273,545	278,332	283,203	288,159	1,123,239
Net loss applicable to common stockholders	$ (2,219,637)	$ (1,927,941)	$ (1,847,955)	$ (2,436,024)	$ (8,431,557)
Per share basic and diluted loss applicable to common stockholders (1)	$ (0.17)	$ (0.15)	$ (0.14)	$ (0.18)	$ (0.63)

(1) The sum of quarterly per share amounts may not equal per share amounts reported for year-to-date or full-year periods due to changes in the number of weighted average shares outstanding and the effects of rounding.

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

None.

Item 9A. Controls and Procedures

The Company maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed in the Company's Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure based on the definition of “disclosure controls and procedures" in Rule 13a-15(e) of the Exchange Act. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management necessarily is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

The Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and the Company's Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of December 31, 2013. Based upon the foregoing evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that the Company’s disclosure controls and procedures were effective as of that date.

There have been no changes in the Company’s internal control over financial reporting during the quarter ended December 31, 2013, that have materially affected, or are reasonably likely to materially affect the Company’s internal control over financial reporting.

Management’s Annual Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of the Company’s management, including its Chief Executive Officer and Chief Financial Officer, an evaluation was conducted to determine the effectiveness of internal control over financial reporting based on the framework in *Internal Control - Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the Company’s evaluation under the framework in *Internal Control — Integrated Framework (1992),* the Company’s management concluded that its internal control over financial reporting was effective as of December 31, 2013.

Reference is made to the Certifications of the Chief Executive Officer and the Chief Financial Officer about these and other matters attached as Exhibits 31.1, 31.2 and 32.1 to this report.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Reference is made to the disclosure required by Items 401, 405, 406 and 407(c)(3), (d)(4) and (d)(5) of Regulation S-K to be contained in the Registrant's definitive proxy statement to be mailed to stockholders on or about April 29, 2013, and to be filed with the Securities and Exchange Commission.

Item 11. Executive Compensation

Reference is made to the disclosure required by Items 402 and 407(e)(4) and (e)(5) of Regulation S-K to be contained in the Registrant's definitive proxy statement to be mailed to stockholders on or about April 29, 2014, and to be filed with the Securities and Exchange Commission.

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

Reference is made to the disclosure required by Item 403 of Regulation S-K to be contained in the Registrant's definitive proxy statement to be mailed to stockholders on or about April 29, 2014, and to be filed with the Securities Exchange Commission.

The following table provides information regarding the Company's equity compensation plans as of December 31, 2013:

Plan Category	Number of securities to be issued upon exercise of outstanding options and warrants		Weighted-average exercise price of outstanding options and warrants	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plans approved by security holders	2,118,625	$	2.02	443,109
Equity compensation plans not approved by security holders	1,252,991		1.43	—
Total	3,371,616	$	1.80	443,109

Securities remaining available for issuance under equity compensation plans approved by security holders are from the CAS Medical Systems, Inc. 2011 Equity Incentive Plan, as amended. The equity compensation plans not approved by security holders consist of warrants to purchase 589,401 shares granted to both current and former directors of the Company as compensation for services rendered which have no expiration date, warrants to purchase 163,590 shares granted to the Company's bank lender, and 500,000 shares under inducement stock options granted to certain officers of the Company commensurate with their employment with the Company. See Note 7 "Share-Based Payment Plans" to the Company's Financial Statements.

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

Reference is made to the disclosure required by Items 404 and 407(a) of Regulation S-K to be contained in the Registrant's definitive proxy statement to be mailed to stockholders on or about April 29, 2014, and to be filed with the Securities and Exchange Commission.

Item 14. Principal Accountant Fees and Services

Reference is made to the proposal regarding the approval of the Registrant's independent registered public accounting firm to be contained in the Registrant's definitive proxy statement to be mailed to stockholders on or about April 29, 2014, and to be filed with the Securities and Exchange Commission.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) (1) Financial Statements

The Company's financial statements are included in response to Item 8 of this report.

Report of Independent Registered Public Accounting Firm

Financial Statements

- Consolidated Balance Sheets as of December 31, 2013 and 2012
- Consolidated Statements of Operations for the Years Ended December 31, 2013 and 2012
- Consolidated Statements of Changes in Stockholders' Equity for the Years Ended December 31, 2013 and 2012
- Consolidated Statements of Cash Flows for the Years Ended December 31, 2013 and 2012
- Notes to Consolidated Financial Statements

(2) Financial Statement Schedules

Not applicable.

(3) Exhibits

The Exhibits to this report are as set forth in the "Exhibit Index" beginning on Page 31 of this report. Management contracts or compensatory plans or arrangements filed as an exhibit to this report are identified in the "Index to Exhibits" with an asterisk after the exhibit number.

EXHIBIT INDEX

1.1	Form of Purchase Agreement, dated July 16, 2013, by and between CAS Medical Systems, Inc. and Northland Securities (21)
2.1	Stock Purchase Agreement dated May 15, 2005 among CAS Medical Systems, Inc., Statcorp, Inc., and the Stockholders of Statcorp, Inc. (1)
3.1	Certificate of Incorporation of Registrant (2)
3.2	Amended and Restated Bylaws of Registrant (9)
10.1*	1994 Employees' Incentive Stock Option Plan (4)
10.2*	CAS Medical Systems, Inc. Employee Stock Purchase Plan (5)
10.3*	CAS Medical Systems, Inc. 2003 Equity Incentive Plan (6)
10.4*	Form of Option Agreement (3)
10.5	Purchase and Sale Agreement between CAS Medical Systems, Inc. and Davis Marcus Partners, Inc. dated June 18, 2007 (7)
10.6	Lease Agreement between CAS Medical Systems, Inc. and DMP New Branford, LLC dated September 6, 2007 (7)
10.7	Subscription Agreement dated May 9, 2008 with jVen Capital, LLC (10)
10.8	Amendment to the CAS Medical Systems, Inc. 2003 Equity Incentive Plan (11)
10.9*	Employment Agreement with Jeffery A. Baird dated August 10, 2009 (12)
10.10	Subscription Agreement dated June 16, 2010 with several Subscribers (13)
10.11*	Employment Agreement between CAS Medical Systems, Inc. and Thomas M. Patton dated August 27, 2010 (14)
10.12*	Inducement Non-Qualified Stock Option Agreement with Thomas M. Patton dated August 27, 2010 (14)
10.13*	Inducement Restricted Stock Agreement between CAS Medical Systems, Inc. and Thomas M. Patton dated August 27, 2010 (14)
10.14*	Inducement Restricted Stock Agreement between CAS Medical Systems, Inc. and Thomas M. Patton dated August 27, 2010 (14)
10.15	Asset Purchase Agreement dated November 5, 2010 by and among CAS Medical Systems, Inc., Statcorp, Inc. and OSI Optoelectronics, Inc. (15)
10.16*	Employment Agreement with Matthew J. Herwig dated January 7, 2011 (16)
10.17*	Inducement Non-Qualified Stock Option Agreement with Matthew J. Herwig dated January 7, 2011 (16)
10.18*	Inducement Restricted Stock Agreement with Matthew J. Herwig dated January 7, 2011 (16)
10.19	Investment Agreement, dated June 8, 2011, among CAS Medical Systems, Inc. and several Purchasers named therein (17)
10.20	Registration Rights Agreement, dated June 9, 2011, among CAS Medical Systems, Inc. and the several Purchasers named therein (17)
10.21	Form of Indemnification Agreement, dated June 9, 2011, between CAS Medical Systems, Inc. and the individual members of the Board of Directors of CAS Medical Systems, Inc. (17)
10.22*	CAS Medical Systems, Inc. 2011 Equity Incentive Plan, as amended (18)
10.23	Loan and Security Agreement, dated July 31, 2012, by and between the Company and East West Bank (19)
10.24	Warrant to Purchase Stock, dated July 31, 2012, issued by the Company to East West Bank (19)
10.25	Second Amendment to Loan and Security Agreement dated May 10, 2013 between the Company and East West Bank (20)
10.26	Warrant to Purchase Stock dated May 10, 2013 issued to East West Bank (20)
10.27*	Employment Agreement with John K. Gamelin dated August 5, 2013 (22)
10.28*	Employment Agreement with Paul Benni dated May 1, 2008 (22)
10.29*	Employment Agreement with Brian J. Wagner dated October 2, 2013
10.30	Third Amendment to Loan and Security Agreement dated March 17, 2014, between the Company and East West Bank
21.1	Subsidiaries of the Registrant
23.1	Consent of Independent Registered Public Accounting Firm
31.1	Certification of CEO Pursuant to Rule 13a-14
31.2	Certification of CFO Pursuant to Rule 13a-14
32.1	Certification of CEO and CFO Pursuant to 18 U.S.C. 1350
101	Interactive data files pursuant to Rule 405 of Regulation S-T

(1) Incorporated by reference to the Company's Form 8-K/A filed July 29, 2005
(2) Incorporated by reference to the Company's Form 10-Q filed August 12, 2011
(3) Incorporated by reference to the Company's Form 10-KSB filed March 31, 2005
(4) Incorporated by reference to the Company's Form S-8 filed October 4, 2000
(5) Incorporated by reference to the Company's Form S-8 filed June 10, 2004, (333-116348)
(6) Incorporated by reference to the Company's Form S-8 filed June 10, 2004, (333-116349)
(7) Incorporated by reference to the Company's Form 8-K filed September 10, 2007
(8) Incorporated by reference to the Company's Form 8-K filed November 30, 2007
(9) Incorporated by reference to the Company's Form 8-K filed February 14, 2008
(10) Incorporated by reference to the Company's Form 8-K filed May 14, 2008
(11) Incorporated by reference to the Company's Form 8-K filed December 31, 2008
(12) Incorporated by reference to the Company's Form 10-Q filed August 12, 2009
(13) Incorporated by reference to the Company's Form 8-K filed June 16, 2010
(14) Incorporated by reference to the Company's Form 8-K filed August 27, 2010
(15) Incorporated by reference to the Company's Form 10-Q filed November 10, 2010
(16) Incorporated by reference to the Company's Form 8-K filed January 10, 2011
(17) Incorporated by reference to the Company's Form 8-K filed June 13, 2011
(18) Incorporated by reference to the Company's Proxy Statement filed April 26, 2013
(19) Incorporated by reference to the Company's Form 8-K filed August 2, 2012
(20) Incorporated by reference to the Company's Form 8-K filed May 13, 2013
(21) Incorporated by reference to the Company's Form 8-K filed July 17, 2013
(22) Incorporated by reference to the Company's Form 10-Q filed August 7, 2013

SIGNATURES

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

CAS MEDICAL SYSTEMS, INC.
(Registrant)

/s/ Thomas M. Patton Date: March 19, 2014
By: Thomas M. Patton
President and Chief Executive Officer

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

/s/ Lawrence Burstein Date: March 19, 2014
Lawrence Burstein, Director

/s/ Gregory P. Rainey Date: March 19, 2014
Gregory P. Rainey, Director

/s/ James E. Thomas Date: March 19, 2014
James E. Thomas, Director

/s/ Kathleen A. Tune Date: March 19, 2014
Kathleen A. Tune, Director

/s/ Kenneth R. Weisshaar Date: March 19, 2014
Kenneth R. Weisshaar, Director

/s/ Thomas M. Patton Date: March 19, 2014
Thomas M. Patton, President, Chief Executive Officer and Director

/s/ Jeffery A. Baird Date: March 19, 2014
Jeffery A. Baird, Chief Financial Officer
(Principal Financial and Accounting Officer)

EXHIBIT 10.29

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT, entered into as of October 2, 2013, by and between CAS Medical Systems, Inc., a Delaware corporation (the "Company", which term includes any successor to CAS Medical Systems, Inc., by merger or otherwise), and **Brian J. Wagner** (the "Employee.")

WITNESSETH:

WHEREAS, the Company desires to appoint Employee to serve as Chief Commercial Officer and Employee desires to accept such employment effective October 2, 2013.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and other good and valuable consideration, the parties hereto agree as follows:

Section 1. Employment

The Company will employ the Employee, and the Employee will perform services for the Company and its subsidiaries, on the terms and conditions set forth in this Agreement and for the period specified in Section 3 hereof ("Term of Employment").

Section 2. Duties

The Employee, during the Term of Employment, will serve the Company as its Chief Commercial Officer or such other titles, duties and responsibilities as are assigned to him by the Chief Executive Officer of the Company. The Employee will perform his duties hereunder faithfully and to the best of his abilities and in furtherance of the business of the Company and its subsidiaries, and will devote his full business time, energy, attention and skill to the business of the Company and its subsidiaries and to the promotion of its interests, except as otherwise agreed by the Company.

Section 3. Term of Employment

The Employee's employment hereunder shall be "at will" and is terminable at any time by either party, subject to the provisions of Sections 9 and 10 hereof.

Section 4. Salary and Bonus

(a) The Employee will receive, as compensation for his duties and obligations to the Company pursuant to this Agreement, a base salary at the annual rate of Two Hundred and Fifty Thousand Dollars ($250,000.00), payable in substantially equal installments in accordance with the Company's payroll practice. It is agreed between the parties that the Company will review the base annual salary from time to time and may, but will not be obligated to, in the discretion of the Compensation Committee of the Board of Directors of the Company, increase such annual base salary.

(b) Bonus. During the Term of Employment, the Employee will be eligible for an annual bonus, with a target equal to forty (40) percent of his annual salary (pro-rated for any partial period according to the provisions of Section 9), payable in the form of cash or Company common stock as determined at the sole discretion of the Compensation Committee of the Board of Directors. Any bonus payable hereunder shall be calculated after the close of the end of the calendar year, and thereafter paid in a lump sum by no later than the 15th day of the third month following the end of the calendar year in which the right to the bonus is no longer subject to a substantial risk of forfeiture (as defined for purposes of Internal Revenue Code Section 409A, including Treasury Regulations Section 1.409A-1(d)).

Section 5. Equity Grants

As further consideration for the Employee's employment at the Company and the for the performance of his obligations under the non-solicitation and non-competition provisions of this agreement, the Employee will be granted non-qualified stock options to purchase 250,000 shares of the Common Stock of the Company at a price to be determined by the official closing price of the Company's Common Stock on the NASDAQ market upon the effective date of this Agreement. Terms of this option grant shall be governed exclusively by the Non-Qualified Stock Option Agreement entered into by Employee and the Company on this same date.

Section 6. Employee Benefits

Subject to any applicable non-discretionary probationary periods, during the Term of Employment, the Employee will be entitled to participate in all employee benefit programs of the Company as such programs may be in effect from time to time. Subject to any applicable probationary or similar periods, during the Term of Employment, the Employee will also be entitled to participate in all retirement programs of the Company for which current employees are eligible, as such programs may be in effect from time to time (including the Company's 401(k) plan).

Section 7. Business Expenses

All reasonable travel and other out-of-pocket expenses incidental to the rendering of services by the Employee hereunder, including travel expenses from the Employee's home to the Company's headquarters and lodging in the Branford, CT vicinity, will be paid by the Company and if expenses are paid in the first instance by the Employee, the Company will reimburse him therefor upon presentation of proper invoices; subject in each case to compliance with the Company's reimbursement policies and procedures. All reimbursements will be paid in the same taxable year in which the expense is incurred; provided that expenses incurred toward the end of the calendar year that cannot administratively be reimbursed before the year end shall be reimbursed by no later than March 15 of the following calendar year.

Section 8. Vacations and Sick Leave

The Employee will be entitled to holidays recognized by the Company, plus 20 days of vacation and reasonable sick leave each year, in accordance with policies of the Company, as determined by the Board of Directors.

Section 9. Termination

(a) Termination of Agreement by the Company for Convenience. The Company may terminate the Employee's employment and the Term of Employment for convenience at any time upon written notice to the Employee, which termination shall be effective upon delivery of such notice unless such notice specifically provides for termination to be effective at a later date.

(b) Termination of Employment by the Company for Serious Cause. In the event of Serious Cause (as defined below), the Company may terminate the Employee's employment and the Term of Employment upon written notice of such termination stating the Serious Cause upon which the Company relies for its termination. The Employee's employment and the Term of Employment will be terminated effective as of the date specified in such notice, which will in no event be earlier than the effective date of such notice as provided in Section 18.

"Serious Cause" means (i) the willful and continued failure by the Employee to perform substantially his duties hereunder, other than by reasons of health, after demand for substantial performance is delivered by the Company that identifies the manner in which the Company believes the Employee has not substantially performed his duties; (ii) the Employee will have been indicted by any federal, state or local authority in any jurisdiction for, or will have pleaded guilty or nolo contendere to, an act constituting a felony, (iii) the Employee will have habitually abused any controlled substance (such as narcotics or alcohol), or (iv) the Employee will have materially breached Employees obligations under Section 11 or 12, or materially breached the Company's Code of Conduct, or engaged in acts of fraud, material dishonesty or gross misconduct during the Term of Employment regardless of whether such acts were in connection with the business of the Company.

(c) Termination of Employment by Employee for Good Reason. The Employee may terminate his employment and the Term of Employment in the event of "Good Reason." Termination for Good Reason means a resignation of employment and Separation from Service (as such term is defined for purposes of Internal Revenue Code Section 409A and Section 21(c) herein), within six (6) months following the initial existence of one or more of the following conditions arising without the Employee's written consent:

(i) a reduction greater than five (5) percent in the aggregate in the Employee's base salary or benefits, other than an across-the-board reduction affecting substantially all members of senior management;

or

(ii) a material breach of this Agreement by the Company (which shall include a failure to make payments due hereunder); provided, in any such case, that (1) the Employee shall provide, pursuant to Section 18 hereof, a prior written notice specifying the reasons for his termination to the Company's Board of Directors within sixty (60) days after the initial existence of the condition, and give Company an opportunity to cure such condition (if curable), and (2) "Good Reason" shall exist only if the Company shall fail to cure such condition within thirty-one (31) days after its receipt of such prior written notice. In addition, until the actual Separation from Service, the Employee must remain willing and able to continue to perform services in accordance with the terms of this Agreement and the Employee must not be in breach of any of the Employee's obligations hereunder.

(d) Effect of Termination for Serious Cause or Without Good Reason. In the event of termination of the Employee's employment and the Term of Employment by the Company for Serious Cause or by the Employee without Good Reason, the Employee will forfeit all bonus amounts accruing for the then current fiscal year, and the Company will be liable to the Employee only for (i) any accrued but unpaid base salary and vacation, and (ii) reimbursement of business expenses incurred prior to the date of termination.

(e) Death, Retirement, Disability. In the event of the death, Retirement or Disability of the Employee, the Employee's employment and Term of Employment will be terminated as of the date of such death, Retirement or Disability and the Company will pay the Employee, or the Employee's estate or legal representative, as appropriate, (i) any accrued but unpaid base salary and vacation, (ii) any earned but unpaid bonus from a prior fiscal year (subject, if applicable, to the terms of any deferred compensation arrangements), (iii) reimbursement of business expenses incurred, but unpaid, prior to the date of termination, and, (iv) if the death, Retirement or Disability occurs at a time when more than one-half of the performance measuring for an annual performance bonus has elapsed, the Employee shall be eligible for a pro rata amount of the performance bonus Employee would have otherwise earned had he remained employed by the Company for the entire performance period paid (notwithstanding any language in this agreement to the contrary) as provided in the normal course under Section 4 above.

"Disability" means the Employee's inability, for reasons of health, to carry out the functions of his position for a total of one hundred eighty (180) days during any twelve (12) month period. "Retirement" will mean retirement from employment upon or after attaining age sixty-five (65) or such earlier age agreed to by the Company.

(f) Effect of Termination Without Serious Cause or With Good Reason. If (i) the Company terminates the Employee's employment without Serious Cause, or (ii) the Employee terminates his employment for Good Reason, the Company shall pay the Employee a separation pay benefit (the "Severance Payment") equal to six (6) months of the Employee's annual rate of base salary (as of the Employee's Separation from Service date) as described below.

(1) Payment of the Severance Payments shall commence as of the Employee's Separation from Service date, and shall continue thereafter in equal fixed installments over a six month period in accordance with the Company's standard payroll procedures and normal payroll dates then in effect.

(2) In the event the value of the Severance Payments shall exceed two times the lesser of the Employee's annualized compensation or the maximum amount that may be taken into account for qualified plan purposes (in each case, as determined in accordance with Treasury Regulation Section 1.409A-1 (b)(9)(iii)(A)), the excess shall not be paid as provided in (1), above, but instead shall be withheld and paid on the first regularly scheduled payroll date immediately following the date that is six months after the Employee's Separation from Service date, without adjustment for the delay in payment.

(3) In no event shall Severance Payments be accelerated, nor shall the Employee be eligible to defer payment of Severance Payments to a later date.

(4) If COBRA continuation coverage under any Company healthcare plan is elected by the Employee, the Company shall provide such coverage on the same terms with respect to employee cost and employer subsidy as was being made available to the Employee immediately before the termination; provided however, that the Company may elect not to provide such healthcare benefit in the event that by doing so the Company would be subject to a penalty under any applicable laws or regulations.

In addition, the Employee will be entitled to prompt payment of (A) any accrued but unpaid salary and vacation, (B) any earned but unpaid bonus from a prior fiscal year (subject, if applicable, to the terms of any deferred compensation arrangements), and, if the Separation of Service occurs at a time when more than one-half of the performance measuring for an annual performance bonus has elapsed, the Employee shall be eligible for a pro rata amount of the performance bonus Employee would have otherwise earned had he remained employed by the Company for the entire performance period paid (notwithstanding any language in this agreement to the contrary) as provided in the normal course under Section 4 above, and (C) reimbursement of business expenses incurred prior to the date of termination.

All payments under Section 9 or Section 10 of (i) any accrued but unpaid base salary and vacation, (ii) any earned but unpaid bonus from a prior fiscal year, and (iii) reimbursement of business expenses incurred prior to the date of termination shall be paid in a single sum on the first regularly scheduled payroll date immediately following the Employee's separation from service.

For purposes of this Agreement, "termination of employment", "retirement" and words of similar import shall mean the Employee's Separation from Service as defined in Section 409A of the Code and final regulations issued thereunder.

(g) No Other Obligations. In the event of the termination of the Employee's employment and the Term of Employment pursuant to Sections 9 or 10 herein, the Company will have no obligations to the Employee other than those set forth in Sections 9 or 10 herein.

Section 10. Change of Control

(a) Effect of Termination. If (i) the Company terminates the Employee's employment without Serious Cause, or (ii) the Employee terminates employment with the Company for Good Reason, and, in the case of either (i) or (ii) above, the Employee's employment is terminated (A) under circumstances constituting an Involuntary Separation from Service within the meaning of Treasury Regulations Section 1.409A-l(n) and (B), and as defined in Section 21(c) herein, within the period beginning on the date that a Change of Control is formally proposed to the Company's Board of Directors and ending on the sixth month anniversary of the date on which such Change of Control occurs, the Company shall pay the Employee a separation pay benefit (the "Change of Control Severance Payment") equal to six (6) months of the Employee's base salary (as of the· Employee's Separation from Service date) and will make available a subsidized healthcare benefit, as described below.

(1) Payment of the Change of Control Severance Payments shall commence as of the Employee's Separation from Service date, and shall continue thereafter in equal fixed installments over a six month period in accordance with the Company's standard payroll procedures and normal payroll dates then in effect.

(2) In the event the value of the Severance Payments shall exceed two times the lesser of the Employee's annualized compensation or the maximum amount that may be taken into account for qualified plan purposes (in each case, as determined in accordance with Treasury Regulation Section 1.409A-1 (b)(9)(iii)(A)), the excess shall not be paid as provided in (1), above, but instead shall be withheld and paid on the first regularly scheduled payroll date immediately following the date that is six months after the Employee's Separation from Service date, without adjustment for the delay in payment.

(3) In no event shall Change of Control Severance Payments be accelerated, nor shall the Employee be eligible to defer payment of Change of Control Severance Payments to a later date.

(4) If COBRA continuation coverage under any Company healthcare plan is elected by the Employee, the Company shall provide such coverage on the same terms with respect to employee cost and employer subsidy as was being made available to the Employee immediately before the termination; provided however, that the Company may elect not to provide such healthcare benefit in the event that by doing so the Company would be subject to a penalty under any applicable laws or regulations.

In addition, the Employee will be entitled to prompt payment of (A) any accrued but unpaid salary and vacation, (B) any earned but unpaid bonus from a prior fiscal year (subject, if applicable, to the terms of any deferred compensation arrangements), and, if the Separation of Service occurs at a time when more than one-half of the performance measuring for an annual performance bonus has elapsed, the Employee shall be eligible for a pro rata amount of the performance bonus Employee would have otherwise earned had he remained employed by the Company for the entire performance period paid (notwithstanding any language in this agreement to the contrary) as provided in the normal course under Section 5 above, and (C) reimbursement of business expenses incurred prior to the date of termination.

If any portion of the payments which the Employee has the right to receive from the Company, or any affiliated entity or successor, hereunder would constitute "excess parachute payments" (as defined in Section 280G of the Internal Revenue Code) subject to the excise tax imposed by Section 4999 of the Internal Revenue Code, such excess parachute payments shall be reduced to the largest amount that will result in no portion of such excess parachute payments being subject to the excise tax imposed by Section 4999 of the Internal Revenue Code. In the event a reduction must be in accordance with this paragraph, Change in Control Severance Payments shall be reduced to the extent necessary.

The Employee will not be entitled to any benefits or other entitlements under this section unless a Change of Control actually occurs. Any amounts payable pursuant to this Section 10 shall not duplicate amounts payable under Section 9 and vice versa.

(b) Change of Control. A "Change of Control" of the Company will be deemed to have occurred if (i) any "person" (as such term is defined in Section 3(a)(9) and as used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934 (the "Exchange Act"), excluding the Company or any of its subsidiaries, a trustee or any fiduciary holding securities under an employee benefit plan of the Company or any of its subsidiaries, an underwriter temporarily holding securities pursuant to an offering of such securities or a corporation owned, directly or indirectly, by shareholders of the Company in substantially the same proportion as their ownership of the Company, becomes the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing an increase from less than Twenty Percent (20%) to Fifty Percent (50%) or more of the combined voting power of the Company's then outstanding securities ("Voting Securities"); (ii) during any period of not more than two (2) years, individuals who constitute the Board of Directors of the Company (the "Board") as of the beginning of the period and any new director (other than a director designated by a person who has entered into an agreement with the Company to effect a transaction described in clause (i) or (iii) of this sentence) whose election by the Board or nomination for election by the Company's shareholders was approved by a vote of at least two-thirds (2/3) of the directors then still in office who either were directors at such time or whose election or nomination for election was previously so approved, cease for any reason to constitute a majority thereof; (iii) the stockholders of the Company approve a merger, consolidation or reorganization or a court of competent jurisdiction approves a scheme or arrangement of the Company, other than a merger, consolidation, reorganization or scheme which would result in the Voting Securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into Voting Securities of the surviving entity) at least Fifty Percent (50%) of the combined voting power of the Voting Securities of the Company or such surviving entity outstanding immediately after such merger, consolidation, reorganization or scheme or arrangement, and such transaction is completed; or (iv) the stockholders of the Company approve a plan of complete liquidation of the Company or any agreement for the sale of substantially all of the Company's assets, and such transaction is completed.

Section 11. Agreement Not to Compete or Solicit

(a) Covenant Not to Compete. In exchange for the equity compensation provided commensurate with Employee's appointment as Chief Commercial Officer and in further consideration of the execution of this Agreement, the Employee hereby covenants and agrees that at no time during the Term of Employment, nor for a period of twelve (12) months immediately following the termination of the Employee's employment for any reason, will he for himself or on behalf of any other person or entity, directly or indirectly, provide any service (whether as employee, consultant, owner or otherwise) to any person or entity engaged in the business of developing, marketing or selling tissue oxygenation measurement products, or any other product competitive with a product offered by the Company at the time of such termination of employment (collectively a "Competitive Product.") Notwithstanding the preceding sentence, (i) the Employee will not be prohibited from owning less than one percent (1%) of any publicly traded corporation, whether or not such corporation develops, markets or sells a Competitive Product, and (ii) Employee shall not be prohibited from becoming an employee of a corporation that develops, markets or sells a Competing Product, if (a) the Employee's responsibilities relate solely to a corporate division that does not develop, market or sell a Competing Product, and (ii) the new employer has gross annual revenues at the date of employment of $500 million or more.

(b) Non-Solicitation. In exchange for the equity compensation provided commensurate with the Employee's appointment as Chief Commercial Officer, and in further consideration of the execution of this Agreement, the Employee hereby covenants and agrees that, at all times during the Term of Employment and for a period of twelve (12) months immediately following the termination thereof, the Employee will not directly or indirectly engage any person or entity, or seek to engage any person or entity, that is employed by, an advisor or consultant to, or a selling agent or representative of the Company or any of its subsidiaries, to be an employee, consultant, advisor or selling agent or representative for any other business entity.

Section* 12. *Confidential Information

The Employee agrees to keep secret and retain in the strictest confidence all confidential matters which relate to the Company or any affiliate of the Company, including, without limitation, customer lists, client lists, trade secrets, pricing policies and other business affairs of the Company and any affiliate of the Company learned by him from the Company or any such affiliate or otherwise before or after the date of this Agreement, and not to disclose any such confidential matter to anyone outside the Company, or any of its affiliates, whether during or after his period of service with the Company, except as may be required in the course of a legal or governmental proceeding. Upon request by the Company, the Employee agrees to deliver promptly to the Company upon termination of his services for the Company, or at any time thereafter as the Company may request, all Company or affiliate memoranda, notes, records, reports, manuals, drawings, designs, computer files in any media and other documents (and all copies thereof) relating to the Company's or any affiliate's business and all property of the Company or any affiliate associated therewith, which he may then possess or have under his control.

Section* 13. *Remedy

(a) Should the Employee engage in or perform, either directly or indirectly, any of the acts prohibited by Sections 11 or 12 hereof, it is agreed that any and all severance payments and related benefits hereunder shall immediately terminate and the Company will also be entitled to full injunctive relief, to be issued by any competent court of equity, enjoining and restraining the Employee and each and every other person, firm, organization, association, or corporation concerned therein, from the continuance of such violative acts. The foregoing remedies available to the Company will not be deemed to limit or prevent the exercise by the Company of any or all further rights and remedies which may be available to the Company hereunder or at law or in equity.

(b) The Employee acknowledges and agrees that the covenants contained in this Agreement are fair and reasonable in light of the consideration paid hereunder, and the invalidity or unenforceability of any particular provision, or part of any provision, of this Agreement will not affect the other provisions or parts hereof. If any provision hereof is determined to be invalid or unenforceable and if any such provision will be so determined to be invalid or unenforceable by reason of the duration or geographical scope of the covenants contained therein, such duration or geographical scope, or both, will be reduced to a duration or geographical scope solely to the extent necessary to cure such invalidity.

Section* 14. *Successors and Assigns

This Agreement will be binding upon and inure to the benefit of the Employee, his heirs, executors, administrators and beneficiaries, and the Company and its successors and assigns.

Section* 15. *Governing Law

This Agreement will be governed by and construed and enforced in accordance with the laws of the State of Connecticut, without reference to rules relating to conflicts of law.

Section* 16. *Entire Agreement

This Agreement constitutes the full and complete understanding and agreement of the parties and supersedes all prior understandings and agreements as to employment of the Employee. This Agreement cannot be amended, changed, or modified without the written consent of the parties hereto.

Section 17. Waiver of Breach

The waiver of either party of a breach of any term of this Agreement will not operate nor be construed as a waiver of any subsequent breach thereof.

Section 18. Notices

Any notice, report, request or other communication given under this Agreement will be written and will be effective upon delivery when delivered personally, by overnight courier or by fax. Unless otherwise notified by any of the parties, notices will be sent to the parties as follows: (i) if to the Employee, at the address set forth in the Company's records, and (ii) if to the Company, to CAS Medical Systems, Inc., 44 East Industrial Road, Branford, CT 06405, Attention: President and CEO.

Section* 19. *Severability

If any one or more of the provisions contained in this Agreement will be invalid, illegal or unenforceable in any respect under any applicable law, the validity, legality and enforceability of the remaining provisions contained herein will not in any way be affected or impaired thereby.

Section* 20. *Counterparts

This Agreement may be executed in one or more counterparts, each of which will be deemed to be an original but all of which together will constitute one and the same instrument. Delivery of signatures by facsimile or electronic image shall be valid for all purposes hereunder.

Section 21. Internal Revenue Code Section 409A Compliance

(a) The parties hereto recognize that certain provisions of this Agreement may be affected by Section 409A of the Internal Revenue Code and guidance issued thereunder, and agree to amend this Agreement, or take such other action as may be necessary or advisable, to comply with Section 409A.

(b) Notwithstanding anything herein to the contrary, it is expressly understood that at any time the Company (or any successor or related employer treated as the service recipient for purposes of Internal Revenue Code Section 409A) is publicly traded on an established securities market (as defined for purposes of Internal Revenue Code Section 409 A), if a payment or provision of an amount or benefit constituting a deferral of compensation is to be made pursuant to the terms of this Agreement to the Employee on account of a Separation from Service at a time when the Employee is a Specified Employee (as defined for purposes of Internal Revenue Code Section 409A(a)(2)(B)(i)), such deferred compensation shall not be paid to the Employee prior to the date that is six (6) months after the Separation from Service or as otherwise permitted under Treasury Regulations Section 1.409A-3(i)(2).

(c) For purposes of this Agreement, the following definitions shall apply:

(i) "Separation from Service" means, generally, a termination of employment with the Company (or any successor or related employer treated as the service recipient for purposes of Internal Revenue Code Section 409A), and shall have the same meaning as such term has for purposes of Internal Revenue Code Section 409A (including Treasury Regulation Section 1.409A-l(h)).

(ii) "Involuntary Separation from Service" means a Separation from Service due to the independent exercise of the unilateral authority of the Company (or any successor or related employer treated as the service recipient for purposes of Internal Revenue Code Section 409A) to terminate the Employee's employment, other than due to the Employee's implicit or explicit request, where the Employee was willing and able to continue employment with the Company. Notwithstanding the foregoing, a termination for Good Reason may constitute an Involuntary Separation from Service. Involuntary Separation from Service shall have the same meaning as such term has for purposes of Internal Revenue Code Section 409A (including Treasury Regulation Section 1.409A-l(n)).

~ Signature Page Follows ~

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

The Company:

CAS MEDICAL SYSTEMS, INC.

By: /s/ Thomas M. Patton

Name: Thomas M. Patton

Title: President and CEO

Employee: /s/ Brian J. Wagner
Brian J. Wagner

EXHIBIT 10.30

THIRD AMENDMENT TO LOAN AND SECURITY AGREEMENT

This Third Amendment to Loan and Security Agreement (this "Amendment") is entered into as of March 17, 2014, by and between EAST WEST BANK ("Bank") and CAS Medical Systems, Inc. ("Borrower").

RECITALS

Borrower and Bank are parties to that certain Loan and Security Agreement dated as of July 31, 2012 (as amended from time to time, including by that certain First Amendment to Loan and Security Agreement dated as of August 31, 2012 and that certain Second Amendment to Loan and Security Agreement dated as of May 10, 2013, collectively, the "Agreement"). The parties desire to amend the Agreement in accordance with the terms of this Amendment.

NOW, THEREFORE, the parties agree as follows:

1. The following defined terms in Exhibit A of the Agreement hereby are added, amended or restated as follows:

"Revolving Maturity Date" means March 31, 2016.

"Third Amendment Effective Date" means March 17, 2014.

2. Section 2.5(a) of the Agreement hereby is amended and restated in its entirety to read as follows:

"(a) Facility Fee. On the Third Amendment Effective Date and on each anniversary thereof, a fee equal to Ten Thousand Dollars ($10,000.00), on account of the Revolving Line, which shall be nonrefundable; and"

3. No course of dealing on the part of Bank or its officers, nor any failure or delay in the exercise of any right by Bank, shall operate as a waiver thereof, and any single or partial exercise of any such right shall not preclude any later exercise of any such right. Bank's failure at any time to require strict performance by Borrower of any provision shall not affect any right of Bank thereafter to demand strict compliance and performance. Any suspension or waiver of a right must be in writing signed by an officer of Bank.

4. Unless otherwise defined, all initially capitalized terms in this Amendment shall be as defined in the Agreement. The Agreement, as amended hereby, shall be and remain in full force and effect in accordance with its respective terms and hereby is ratified and confirmed in all respects. Except as expressly set forth herein, the execution, delivery, and performance of this Amendment shall not operate as a waiver of, or as an amendment of, any right, power, or remedy of Bank under the Agreement, as in effect prior to the date hereof.

5. Borrower represents and warrants that the Representations and Warranties contained in the Agreement are true and correct as of the date of this Amendment, and that no Event of Default has occurred and is continuing.

6. As a condition to the effectiveness of this Amendment, Bank shall have received, in form and substance satisfactory to Bank, the following:

(a) this Amendment, duly executed by Borrower;

(b) a Corporate Borrowing Certificate with respect to incumbency and resolutions authorizing the execution and delivery of this Amendment, substantially in the form attached hereto;

(c) all reasonable Bank Expenses incurred through the date of this Amendment, which may be debited from any of Borrower's accounts; and

(d) such other documents, and completion of such other matters, as Bank may reasonably deem necessary or appropriate.

7. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one instrument. This Amendment may be executed and delivered by facsimile or other electronic image transmission and such signatures shall be valid and binding for all purposes.

[*Balance of Page Intentionally Left Blank*]

IN WITNESS WHEREOF, the undersigned have executed this Amendment as of the first date above written.

CAS Medical Systems, Inc.

By: /s/ Jeffery A. Baird

Title: Chief Financial Officer

EAST WEST BANK

By: /s/ Linda S. LeBeau

Title: Managing Director

EXHIBIT 21.1

SUBSIDIARIES OF THE REGISTRANT

Statcorp, Inc., a Delaware corporation

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statements on Forms S-3 (Nos. 333-135158, 333-168585, 333-176560, and 333-188844) and Forms S-8 (Nos. 333-116348, 333-116349, 333-160346, 333-160347, 333-176528, and 333-190582) of CAS Medical Systems, Inc. and Subsidiary of our report dated March 19, 2014, relating to the consolidated financial statements of CAS Medical Systems, Inc. and Subsidiary as of and for the years ended December 31, 2013 and 2012 which report appears in the December 31, 2013, Annual Report on Form 10-K of CAS Medical Systems, Inc. and Subsidiary.

/s / CohnReznick LLP
Glastonbury, Connecticut
March 19, 2014

EXHIBIT 31.1

CERTIFICATION

I, Thomas M. Patton, certify that:

1. I have reviewed this annual report on Form 10-K of CAS Medical 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; and

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 control over financial reporting.

/s / Thomas M. Patton
Thomas M. Patton
President and Chief Executive Officer

Date: March 19, 2014

EXHIBIT 31.2

CERTIFICATION

I, Jeffery A. Baird, certify that:

1. I have reviewed this annual report on Form 10-K of CAS Medical 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; and

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 control over financial reporting.

/s / Jeffery A. Baird
Jeffery A. Baird
Chief Financial Officer

Date: March 19, 2014

EXHIBIT 32.1

Section 906 Certifications

Pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, Thomas M. Patton, the President and Chief Executive Officer and Jeffery A. Baird, the Chief Financial Officer of CAS Medical Systems, Inc. (the "Issuer"), do hereby certify that the report on Form 10-K accompanying this certification (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended ((15 U.S.C. 78m or 78o(d)) and that information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Issuer.

/s / Thomas M. Patton
Thomas M. Patton
President and Chief Executive Officer
CAS Medical Systems, Inc.
March 19, 2014

/s / Jeffery A. Baird
Jeffery A. Baird
Chief Financial Officer
CAS Medical Systems, Inc.
March 19, 2014

2013 ANNUAL REPORT – CORPORATE INFORMATION

Corporate Headquarters

CAS Medical Systems, Inc.
44 East Industrial Road
Branford, CT 06405
Phone: 203-488-6056
Fax: 203-488-9438
Internet: www.casmed.com

Transfer Agent

American Stock Transfer and Trust Company
59 Maiden Lane
New York, NY 10038

Legal Counsel

Wiggin & Dana LLP
One Century Tower
265 Church Street
New Haven, CT 06508

Independent Public Accountants

CohnReznick
180 Glastonbury Boulevard
Glastonbury, CT 06033

Investor Relations

Lippert/Heilshorn & Associates Investor and Media Relations
800 3rd Avenue, 17th floor
New York, NY 10022

Form 10-K

A copy of our Form 10-K Report for the year ended December 31, 2013, filed with the Securities and Exchange Commission, can be obtained on our website www.casmed.com by sending an email to ir@casmed.com or by writing to the Company to the attention of the Chief Financial Officer.

Annual Meeting

The Company's Annual Meeting of Stockholders will be held at 11:00 a.m. on June 25, 2014, at the OMNI New Haven Hotel at Yale, 155 Temple Street, New Haven, CT 06510.

Market for the Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities

The Company's common stock trades on the NASDAQ Capital Market under the symbol "CASM". The following table shows the high and low sales prices for the Company's common stock during each quarterly period for the last two years.

Quarter Ended	High	Low
March 31, 2012	$ 2.98	$ 1.62
June 30, 2012	$ 2.75	$ 1.60
September 30, 2012	$ 2.25	$ 1.65
December 31, 2012	$ 2.29	$ 1.66
March 31, 2013	$ 2.38	$ 1.79
June 30, 2013	$ 2.37	$ 1.58
September 30, 2013	$ 1.65	$ 1.29
December 31, 2013	$ 2.00	$ 1.21

Board of Directors

Lawrence S. Burstein
President, Unity Venture Capital Associates, Ltd.

Thomas M. Patton
President and Chief Executive Officer

Gregory P. Rainey
President, CCI Performance Group, LLC; Director, RTI Biologics, Inc.

James E. Thomas
Managing Partner, Thomas McNerney & Partners

Kathy A. Tune
Managing Partner, Thomas McNerney & Partners

Kenneth R. Weisshaar
Director, Orthofix International N.V.

Executive Officers

Thomas M. Patton
President and Chief Executive Officer

Jeffery A. Baird
Chief Financial Officer

Brian J. Wagner
Chief Commercial Officer

John R. Gamelin, Ph.D.
Vice President, Research and Development

Paul B. Benni, Ph.D.
Chief Scientific Officer