LUNA INNOVATIONS INC
Form 10-K
March 29, 2013
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(MARK ONE)

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

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2012

OR

¨ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM TO

COMMISSION FILE NUMBER 000-52008

LUNA INNOVATIONS INCORPORATED

(Exact name of Registrant as Specified in its Charter)

Delaware	**54-1560050**
(State or Other Jurisdiction of Incorporation or Organization)	***(I.R.S. Employer Identification Number)***

1 Riverside Circle, Suite 400

Roanoke, VA 24016

(Address of Principal Executive Offices)

(540) 769-8400

(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, par value $0.001 per share	The NASDAQ Stock Market, LLC

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

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

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

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

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

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

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant on June 30, 2012, based upon the closing price of Common Stock on such date as reported by the NASDAQ Capital Market, was approximately $11.6 million.

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Section 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court. Yes x No ¨

Indicate the number of shares outstanding of each of the issuer s classes of common stock, as of the latest practicable date: As of March 14, 2013 there were 14,014,032 shares of the registrant s common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Specified portions of the registrant s Proxy Statement with respect to its 2013 Annual Meeting of stockholders, anticipated to be filed within 120 days after the end of its fiscal year ended December 31, 2012, are incorporated by reference into Part III of this annual report on Form 10-K.

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LUNA INNOVATIONS INCORPORATED

ANNUAL REPORT ON FORM 10-K

FOR THE YEAR ENDED DECEMBER 31, 2012

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CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This Annual Report on Form 10-K, including the Management s Discussion and Analysis of Financial Condition and Results of Operation section in Item 7 of this report, and other materials accompanying this Annual Report on Form 10-K contain forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended. All statements other than statements of historical facts are forward-looking statements for purposes of these provisions, including those relating to future events or our future financial performance. In some cases, you can identify these forward- looking statements by words such as intends, will, plans, anticipates, expects, may, might, estimates, believes, should, projects, predicts, potential or continue, or the negative of those words and other comparable words, and other words or terms of similar meaning in connection with any discussion of future operating or financial performance. Similarly, statements that describe our business strategy, goals, prospects, opportunities, outlook, objectives, plans or intentions are also forward-looking statements. These statements are only predictions and may relate to, but are not limited to, expectations of future operating results or financial performance, capital expenditures, introduction of new products, regulatory compliance, plans for growth and future operations, as well as assumptions relating to the foregoing.

These statements are based on current expectations and assumptions regarding future events and business performance and involve known and unknown risks, uncertainties and other factors that may cause actual events or results to be materially different from any future events or results expressed or implied by these statements. These factors include those set forth in the following discussion and within Item 1A Risk Factors of this Annual Report on Form 10-K and elsewhere within this report.

You should not place undue reliance on these forward-looking statements, which apply only as of the date of this Annual Report on Form 10-K. You should carefully review the risk factors described in other documents that we file from time to time with the U.S. Securities and Exchange Commission, (SEC). Except as required by applicable law, including the rules and regulations of the SEC, we do not plan to publicly update or revise any forward-looking statements, whether as a result of any new information, future events or otherwise, other than through the filing of periodic reports in accordance with the Securities Exchange Act of 1934, as amended.

PART I

ITEM 1. BUSINESS

Company Overview and Business Model

We develop, manufacture and market fiber optic test & measurement, sensing, and instrumentation products and are focused on bringing new and innovative technology solutions to measure, monitor, protect and improve critical processes in the telecommunications, medical, composite and defense industries. Our business model is designed to accelerate the process of bringing new and innovative products to market. We use our in-house technical expertise across a range of technologies to perform applied research services for companies and government-funded projects. We continue to invest in product development and commercialization, which we anticipate will lead to increased product sales growth.

Our corporate strategy focuses on two key objectives for growth as we seek to commercialize our technologies:

Develop and become the leading supplier of fiber optic shape sensing technology for robotic and minimally invasive surgical systems.

Become the leading provider of fiber optic sensing systems and standard test methods for composite materials.

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We are organized into two main business segments, our Products and Licensing segment and our Technology Development segment. Our Products and Licensing segment develops, manufactures and markets our fiber optic test and measurement, sensing, and instrumentation products. Revenues in this segment are currently largely derived from sales of test and measurement equipment for optical components and networks. Our Products and Licensing segment is also focused on our key strategic objectives. We are working to develop and commercialize our fiber optic shape sensing technology in the medical industry with the goal of supplying fiber optic shape sensing components for use in robotic and minimally invasive surgical systems. We are also working to develop and commercialize our fiber optic technology for strain and temperature sensing applications for the composite materials industry. Our Products and Licensing segment revenues represented approximately 35%, 37% and 35% of our total revenues for the years ended December 31, 2010, 2011 and 2012, respectively.

Our Technology Development segment performs applied research principally in the areas of sensing and materials. Our Technology Development segment comprised approximately 65%, 63% and 65% of our total revenues for the years ended December 31, 2010, 2011 and 2012, respectively. Historically, this segment also included our secure computing and communications group (SCC), which focused on technologies for ensuring the integrity of integrated circuits used in defense systems. On March 1, 2013, we sold the assets associated with SCC to MacAulay-Brown, Inc. (Mac-B), another defense contractor. Most of the government funding for our Technology Development segment outside of SCC is derived from the Small Business Innovation Research, (SBIR), program coordinated by the U.S. Small Business Administration, (SBA). Our SBIR research is focused on technological areas with commercial potential and we strive to commercialize any resulting scientific advancements. For the year ended December 31, 2012, approximately 47% of our revenues were generated under the SBIR program, compared to 46% in 2011 and 40% in 2010.

For the year ended December 31, 2012, approximately 67% of our revenues were derived from the U.S. government, compared to 64% in 2011 and 65% in 2010.

Products and Licensing

In our Products and Licensing segment we have a history of marketing numerous fiber optic test and measurement products with a primary focus on the telecommunications industry. We are also pursuing our strategic goal of becoming a leading provider of fiber optic sensing systems and standard test methods for composite materials through the introduction of our Optical Distributed Sensor Interrogator (ODiSI) product, which we believe represents a significant improvement over our previous products that serve this market. Our Products and Licensing segment is also performing the customer-driven development work to help accomplish our strategic goal of becoming the leading supplier of fiber optic shape sensing technology for robotic and minimally invasive surgical systems. Our Products and Licensing segment includes approximately 40 full-time employees. Our primary product lines and development services in this segment are described in more detail below.

Test & Measurement, Sensing, and Instrumentation Products

Test and Measurement Equipment for Fiber Optic Components and Sub-Assemblies

Our product lines in the test and measurement domain include our Optical Vector Analyzer, (OVA), our Optical Backscatter Reflectometer, (OBR), and the Phoenix family of tunable lasers.

Historically, our test and measurement products have primarily served the telecommunications industry, although most of our products have valuable applications in other fields. Our test and measurement products monitor the integrity of fiber optic network components and sub-assemblies. These products are designed for manufacturers and suppliers of optical components and sub-assemblies and allow them to reduce development, test and production costs and improve the quality of their products. Most manufacturers and suppliers of optical components and modules currently use a combination of different types of optical test equipment to identify and

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measure failures in optical networks, such as bad splices, bends, crimps and other reflective and non-reflective events that can cause defects and negatively impact product performance. Our optical test equipment products replace the need to employ multiple test products by addressing all stages of the end user s product development lifecycle, including design verification, component qualification, assembly process verification and failure analysis. Our OVA platform allows manufacturers and suppliers of optical components and sub-assemblies to reduce development, test and production costs and time-to-market by replacing multiple, time consuming and expensive measurement platforms with a single, integrated and easy-to-use instrument.

Our OBR is a highly sensitive diagnostic device which has application in the telecommunications industry and flexibility to provide measurements in various other applications. Our OBR allows data and telecommunications companies and the service providers who maintain their own fiber optic networks to reduce test time and improve product quality. Our OBR provides the ability to inspect fiber networks with higher resolution and better sensitivity than is possible with other existing test products. Its user-friendly graphical user interface also makes the OBR product suitable for both research and manufacturing applications. The OBR gives end users a very high resolution view that is similar to an X-Ray into the inner workings of a fiber optic network. The OBR also has a feature that allows users to turn standard optical fiber into multiple sensors that could be used in a variety of temperature measurement and monitoring applications including power generation: civil structure monitoring; industrial process control; component-level heating in optical amplifiers; strain and load distribution measurements of aircraft harnesses; and temperature monitoring inside telecommunications cabinets and enclosures.

ODiSI Sensing Solution; Distributed Sensing Systems

In 2011, we launched our new sensing platform called ODiSI. It provides fully distributed strain or temperature measurements and delivers an extraordinary amount of data by using an optical fiber as a continuous sensor over up to 50 meters of surface. Compared to traditional sensing methods, such as strain gages, this technology provides greater insight into the performance, tolerances and failure mechanisms of structures and vehicles. We believe the technology can provide exceptional value to the composites manufacturing market, particularly in aerospace and green energy applications.

We have significant expertise in distributed sensing systems, such as ODiSI, which are products composed of multiple sensors whose inputs are integrated through a fiber optic network and software. These products use fiber optic sensing technology with an innovative monitoring system that allows several thousand sensors to be networked along a single optical fiber.

Potential key applications and markets of our fiber optic sensing solutions include the airframe industry, integrated structural monitoring of civil structures and space applications. For example, a major airframe manufacturer has explored the use of our system during fatigue testing to measure strain through a network of sensors distributed throughout an aircraft. Our ODiSI platform also enables the direct monitoring of temperature. Potential markets include industrial process control and electrical system monitoring. For example, our network of distributed temperature sensors has been tested by a major manufacturer of electrical generators for the purpose of increasing operational efficiency and prolonging generator life.

Tunable Lasers

We have acquired the rights to manufacture a line of swept tunable lasers to allow us to compete more effectively in our existing fiber optic test and measurement as well as sensing markets. This laser is in production, and this technology is being integrated into current and new products to help us provide our customers with faster, more flexible and cost-effective test and measurement products. The laser has desirable properties in the quality of the laser light produced, the speed at which it can operate, the small size of the package, and the environmental conditions in which it can operate. We believe that these traits make it possible for us to move our fiber optic sensing capabilities out of the laboratory, and into more demanding environments

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such as aircraft, operating rooms, and challenging industrial conditions. We are, therefore, using this technology to pursue business opportunities in new markets such as industrial and medical sensing, as described above and below.

Sales & Marketing

We market our fiber optic products to telecommunications companies, defense agencies, government system integrators, researchers, OEMs, distributors and strategic partners worldwide. We have a regional sales force that markets and sells our products through manufacturer representative organizations to customers in North America and through partner and distribution channels for other sales around the world.

We believe that we provide a high level of support in developing and maintaining our long-term relationships with our customers. Customer service and support are provided through our offices and those of our partners that are located throughout the world.

Fiber Optic Shape Sensing Solutions for Robotic, Non-Robotic and Minimally Invasive Surgical Systems

We are developing our fiber optic sensing technology to enhance medical devices used for minimally invasive procedures for diagnostics, surgery or therapy. This technology can be applied to measure the position and shape of an instrument inside the body, as well as to measure pressure and temperature. This information can be collected in real time and used as feedback to aid in the navigation of robotic surgical devices while inside the body by providing the device s current shape and position. It can also provide similar benefits to non-robotic devices.

We have entered into an intellectual property licensing, development and supply agreement with Intuitive Surgical, Inc., (Intuitive), a technology leader in robotic-assisted minimally invasive surgery and the manufacturer of the da Vinci® Surgical System. We have also entered into similar agreements with Hansen Medical, Inc., or Hansen, a global leader in flexible robotics and the manufacturer of the Sensei® and Magellan® robotic catheter systems.

Under our multi-year agreement with Intuitive, we are developing a fiber optic-based shape sensing and position tracking system to be integrated into Intuitive s products. We entered into the agreement with Intuitive to expand our presence within the medical devices market. Our shape sensing and position tracking system provides real-time shape and position measurements, which will help surgeons navigate through the body. The system consists of software, instrumentation and disposable optical sensing fiber. Our technology is unique and designed to provide the user with an accurate, direct and continuous measurement of device location within the body without limiting the surgeon s line of sight or introducing electrical signals or radiation into the body. Depending on the progress of these services and the development of a resulting product, we have certain exclusive supply rights for the component that would implement our fiber optic shape sensing technology.

We have a development and supply agreement with Hansen under which we are to develop localization and shape sensing solution for Hansen s medical robotics system. We have also agreed on certain terms under which we would supply fiber optic shape sensing systems to Hansen. At this time, however, Hansen is not requesting us to perform any significant amount of development work towards this solution. Our business relationship with Hansen is further described below under Litigation and Agreements with Hansen Medical, Inc.

In 2012, we entered into a development agreement with Philips Healthcare, acting through Philips Medical Systems Nederland BV (Philips). Under the development agreement, we conducted certain development work during 2012 in cooperation with Philips to advance our fiber-optic shape sensing technology towards commercialization in the non-robotic medical field. Under the development agreement, Philips agreed to pay us monthly on a time and materials basis, less a specified holdback amount, in accordance with corresponding milestones and estimated resource requirements. In addition, under the development agreement, Philips purchased specified prototype systems from us.

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Technology Development

We provide applied research for customers in our primary areas of focus, including sensing and materials such as nanomaterials, coatings, adhesives, composites and bio-engineered materials. Until our recent sale of SCC, we also provided applied research in the area of secure computing. We generally compete to win contracts in these areas on a fee-for-service basis. Our Technology Development segment has a successful track record of evaluating innovative technologies to address the needs of our customers.

We seek to maximize the benefits we derive from our contract research business, including revenue generation and identification of promising technologies for further development. We focus primarily on opportunities in which we develop intellectual property rights in areas that we believe have commercialization potential. We take a disciplined approach to contract research to try to ensure that the costs of any contract we undertake will be fully reimbursed. We believe that this model is cost-efficient and significantly reduces our development risk in that it enables us to defray the costs of riskier technology development with third-party funding.

As of December 31, 2012, our Technology Development segment, excluding SCC, was engaged in more than 65 active contracts, with typical terms ranging from six months to three years. These projects span a wide range of applications across our areas of focus.

Although we conduct our applied research on a fee-for-service basis for third parties, we seek to retain full or partial rights to the technologies and patents developed under those contracts and to continuously enlarge and strengthen our intellectual property portfolio. New technology that we develop may complement existing technologies and enable us to develop applications and products that were not previously possible. In addition, the technologies we develop may also be applicable to commercial markets beyond the scope of the applications originally contemplated in the contract research stage, and we endeavor to capture the value of those opportunities.

As of December 31, 2012, our Technology Development segment consisted of approximately 90 full time employees (including 23 within SCC), of whom 62 hold advanced degrees, including 21 Ph.D. degrees. We also utilize the knowledge and experience of researchers employed through the academic institutions, corporations and government agencies with which we subcontract. Our Technology Development segment is organized into subgroups according to areas of technology, with each subgroup being managed by its own director who is responsible for its financial performance. In addition, we have in place disciplined processes designed to ensure quality control of proposal preparation, program reviews, pipeline reviews, revenue tracking and financial reporting.

Each year, U.S. government federal agencies and departments are required to set aside a portion of their grant awards for SBIR-qualified organizations. SBIR contracts include Phase I feasibility contracts of up to $150,000 and Phase II proof-of-concept contracts, which can be as high as $1,000,000. We have won three National Tibbetts Awards from the SBA for outstanding SBIR performance. We have also won research contracts outside the SBIR program from corporations and government entities. These contracts typically have a longer duration and higher value than SBIR grants. In the future, we will seek to derive a larger portion of our contract research revenues from contracts outside of the SBIR program.

Materials

We are actively developing a wide variety of materials. One of these is a new class of non-halogenated fire retardant additives developed as a possible replacement for brominated fire retardants, which are coming under increasing criticism due to health concerns. Our non-halogenated fire retardant additives are being evaluated for use in composites, such as fiber reinforced composites.

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We have developed a range of coatings, including both hydrophobic and superoleophobic coatings. These coatings are being evaluated for use in a number of applications. Other coatings under development include anti-corrosion and damage-indicating coatings.

We are also working on a variety of bioengineered materials for homeostatic agents and wound healing. These materials must be approved by the FDA or similar foreign regulatory agencies before they can be marketed, which we do not expect to occur for at least several years, if at all.

Our nanomaterials activity is focused on fullerenes and tri-metal nitride endohedral fullerene (Trimetasphere®) materials. The Trimetasphere® nanomaterial is a carbon sphere with three metal atoms and an enclosed nitrogen atom. We have obtained an exclusive license from Virginia Tech to commercialize Trimetasphere nanomaterials under an issued U.S. patent and pending U.S. patent applications.

One potential market application of our nanomaterial technology is magnetic resonance imaging, (MRI). We believe that our Trimetasphere nanomaterial contrast agents may be able to provide a higher image contrast than existing contrast agents but with a lower risk of toxicity. Medical contrast agents for human use, such as our Trimetasphere nanomaterials, must be approved by the FDA or similar foreign regulatory agencies before they can be marketed, which we do not expect to occur for at least several years, if at all. As described below under Government Regulation, this approval process can involve significant time and expense and may delay or prevent our products from reaching the market.

We are also researching other applications for nanomaterial-based drugs based on the anti-oxidative characteristics of fullerenes. These products are in the early stages of development, but if successful, could offer new market opportunities for us.

In 2009, we acquired a patent portfolio from Tego Biosciences, Inc., including in- and out-licenses, generally for the use of carbon fullerene nanomolecules in the treatment of human health. We believe this acquisition strengthened our patent position in this area, but there can be no assurances that we will be able to obtain commercial success as a result of these patents and licenses.

Sensing

Our Technology Development segment also performs a significant amount of applied research towards developing new sensors. This includes sensors for the purpose of corrosion, temperature, strain, pressure, structural health and chemical detection. Much of the work is directed to harsh environments and uses optics. Examples include measuring temperature and neutron flux in nuclear reactors, pressure and temperature in gas turbines, and temperatures of cryogenic lines. The effort utilizes both discrete and distributed sensors. Our technology development work in this area is closely aligned with our Products and Licensing segment and is directed at advancing the technology and the development of new applications.

Intellectual Property

We seek patent protection on inventions that we consider important to the development of our business. We rely on a combination of patent, trademark, copyright and trade secret laws in the United States and other jurisdictions, as well as confidentiality procedures and contractual provisions to protect our proprietary technology and our brand. We control access to our proprietary technology and enter into confidentiality and invention assignment agreements with our employees and consultants and confidentiality agreements with other third parties.

Our success depends in part on our ability to develop patentable products and obtain, maintain and enforce patent and trade secret protection for our products, as well as to successfully defend these patents against third-party challenges both in the United States and in other countries. We will only be able to protect our technologies

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from unauthorized use by third parties to the extent that we own or have licensed valid and enforceable patents or trade secrets that cover them. Furthermore, the degree of future protection of our proprietary rights is uncertain because we may not be able to obtain patent protection on some or all of our technology and because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage.

Currently, we own or license approximately 70 U.S. and international patents and approximately 57 U.S. and international patent applications, and we intend to file, or request that our licensors file, additional patent applications for patents covering our products. Our issued patents generally have terms that are scheduled to expire between 2015 and 2031. However, patents may not be issued for any pending or future pending patent applications owned by or licensed to us. Claims allowed under any issued patent or future issued patent owned or licensed by us may not be valid or sufficiently broad to protect our technologies. Any issued patents owned by or licensed to us now or in the future may be challenged, invalidated or circumvented, and, in addition, the rights under such patents may not provide us with competitive advantages. In addition, competitors may design around our technology or develop competing technologies. Intellectual property rights may also be unavailable or limited in some foreign countries, which could make it easier for competitors to capture or increase their market share with respect to related technologies.

Corporate History and Chapter 11 Reorganization

We were incorporated in the Commonwealth of Virginia in 1990 and reincorporated in the State of Delaware in April 2003. We completed our initial public offering in June 2006. Our executive offices are located at 1 Riverside Circle, Suite 400, Roanoke, Virginia 24016 and our main telephone number is (540) 769-8400.

On July 17, 2009, we filed a voluntary petition for relief in order to reorganize under Chapter 11 of the United States Bankruptcy Code, including a proposed plan of reorganization, which we refer to in this report as the Reorganization Plan, with the United States Bankruptcy Court for the Western District of Virginia. On January 12, 2010, the Bankruptcy Court approved the Reorganization Plan and we emerged from bankruptcy on that date.

Litigation and Agreements with Hansen Medical, Inc.

In June 2007, Hansen, a company for which we had conducted certain research and performed certain services, filed a lawsuit against us for using allegedly misappropriated trade secrets from Hansen in connection with our work with Intuitive or otherwise. On April 21, 2009, a jury found in favor of Hansen and awarded a verdict of $36.3 million against us. As a result of this jury verdict, we filed for Chapter 11 reorganization in July 2009.

On December 11, 2009, we and our wholly owned subsidiary Luna Technologies, Inc. entered into a settlement agreement with Hansen to settle all claims arising out of the litigation. On January 12, 2010, as part of our Reorganization Plan, we entered into a series of agreements with Hansen and Intuitive that were contemplated by the settlement agreement. The following is a summary of the material terms of these agreements.

License Agreement with Hansen (the Hansen License)

Under the Hansen License, we granted Hansen (i) a co-exclusive (with Intuitive), royalty-free, fully paid, perpetual and irrevocable license to our fiber optic shape sensing/localization technology within the medical robotics field. The license can only be sublicensed by Hansen in connection with Hansen products, except that Hansen can grant full sublicenses to third parties for single degree of freedom robotic medical devices; (ii) an exclusive (and fully sublicenseable) royalty-free, fully paid, perpetual and irrevocable license to our fiber optic shape sensing/localization technology for non-robotic medical devices within the orthopedics, vascular, and endoluminal fields; and (iii) a co-exclusive (with us) royalty-free, fully paid, perpetual and irrevocable license to

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our fiber optic shape sensing/localization technology for non-robotic medical devices in other medical fields (including colonoscopies but not including devices described in clause (ii) above). In 2011, Hansen entered into certain agreements with Philips Medical Systems (and/or its affiliates) under which Hansen sublicensed its non-robotic medical rights to our fiber optic shape sensing/localization technology.

The Hansen License provides that Hansen and Intuitive have the right to enforce the intellectual property licensed by us within the medical robotics field. Hansen has the sole right to enforce such intellectual property for non-robotic devices in the orthopedics, vascular and endoluminal fields. We have the right to enforce such intellectual property in other non-robotic medical fields.

In addition, Hansen granted us a nonexclusive, sublicenseable, royalty-free, fully paid, perpetual and irrevocable license to certain Hansen fiber optic shape sensing/localization technology in all fields outside of the medical robotics field and the orthopedics, vascular and endoluminal fields. Furthermore, we confirmed Hansen s ownership of certain intellectual property developed in whole or in part by us under a prior agreement between us and Hansen.

Note Payable to Hansen (the Hansen Note)

In connection with the settlement agreement, we issued a promissory note to Hansen, which we refer to in this report as the Hansen Note, in the principal amount of $5.0 million, payable in 16 quarterly installments through January 2014. The note bore interest at a fixed rate of 8.5% and was secured by substantially all of our assets. In May 2011, we and Hansen entered into an amendment to the Hansen Note and a payoff letter. Under the terms of the payoff letter, we and Hansen agreed to a final payoff, including a discount of $190,000, of the Hansen Note as payment in full for all principal and accrued interest.

Development and Supply Agreement

In connection with the settlement agreement, we also entered into a development and supply agreement with Hansen. The agreement provides that we will perform product development services with respect to fiber optic shape sensing at Hansen s request and provide our shape sensing products to Hansen. Revenues earned for product development will be determined in a manner consistent with our normal contract development services and will be payable monthly to us. The agreement also sets forth certain terms under which we would supply fiber optic components to Hansen. At this time, Hansen is not requesting us to perform any significant amount of development work under this agreement.

In May 2011, we amended this development and supply agreement with Hansen in order to update the specifications and estimated budget amounts for certain development milestones and provide for additional development milestones and related budget estimates and specifications to be achieved. The amendment also provides for a payment structure whereby we share a specified percentage of the development expenses otherwise payable in connection with certain of the development milestones, up to a certain cumulative maximum, and changes the mechanism for calculating amounts that Hansen may hold back from being paid to us while such expenses are being shared by the parties. Finally, the amendment adjusted the commercial transfer pricing mechanism for our supply of fiber optic components to Hansen.

Common Stock Issued to Hansen

In connection with the settlement agreement, on January 12, 2010, we issued 1,247,330 shares of common stock to Hansen, representing 9.9% of our common stock then outstanding. In addition, we issued to Hansen a warrant entitling Hansen to purchase until January 12, 2013, a number of shares of common stock as necessary for Hansen to maintain a 9.9% ownership interest in our common stock, at an exercise price of $0.01 per share. Although this warrant was scheduled to expire on January 12, 2013, Hansen may still have the ability to exercise it for 29,126 shares of common stock.

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Competition

We compete for government, university and corporate research contracts relating to a broad range of technologies. Competition for contract research is intense and the industry has few barriers to entry. We compete against a number of in-house research and development departments of major corporations, as well as a number of small, limited-service contract research providers and companies backed by large venture capital firms. The contract research industry continues to experience consolidation, which has resulted in greater competition for clients. Increased competition might lead to price and other forms of competition that could harm our operating results. We compete for contract research on the basis of a number of factors, including reliability, past performance, expertise and experience in specific areas, scope of service offerings, technological capabilities and price.

We also compete, or will compete, with a variety of companies in several different product markets. The products that we have developed or are currently developing will compete with other technologically innovative products, as well as products incorporating conventional materials and technologies. We expect that we will compete with companies in a wide range of industries, including semiconductors, electronics, biotechnology, textiles, alternative energy, military, defense, healthcare, telecommunications, industrial measurement, security applications and consumer electronics. Although there can be no assurance that we will continue to do so, we believe that we compete favorably in these areas because our products leverage advanced technologies to offer superior performance. If we are unable to effectively compete in these areas in the future, we could lose business to our competitors, which could harm our operating results.

Government Regulation

Qualification for Small Business Innovation Research Grants

SBIR is a highly competitive program that encourages small businesses to explore their technological potential and provides them with incentives to commercialize their technologies by funding research that might otherwise be prohibitively expensive or risky for companies like us. As noted above, we presently derive a significant portion of our revenue from this program, but we must continue to qualify for the SBIR program in order to be eligible to receive future SBIR awards. The eligibility requirements are:

Ownership. The company must be at least 51 percent owned and controlled by U.S. citizens or permanent resident aliens, or owned by an entity that is itself at least 51 percent owned and controlled by U.S. citizens or permanent resident aliens; and

Size. The company, including its affiliates, cannot have more than 500 employees.

These requirements are set forth in the SBA s regulations and are interpreted by the SBA s Office of Hearings and Appeals. In determining whether we satisfy the 51% ownership requirement, agreements to merge, stock options, convertible debt and other similar instruments are given present effect by the SBA as though the underlying security were actually issued unless the exercisability or conversion of such securities is speculative, remote or beyond the control of the security holder. We therefore believe our outstanding options and warrants held by eligible individuals may be counted as outstanding equity for purposes of meeting the 51% equity ownership requirement. We believe that we are in compliance with the SBA ownership requirements.

In addition, to be eligible for SBIR contracts, the number of our employees, including those of any entities that are considered to be affiliated with us, cannot exceed 500. As of December 31, 2012, we, including all of our divisions, had 170 full- and part-time employees. In determining whether we have 500 or fewer employees, the SBA may count the number of employees of entities that are large stockholders who are affiliated or have the power to control us. In determining whether firms are affiliated, the SBA evaluates factors such as stock ownership and common management, but it ultimately may make its determination based on the totality of the circumstances. Under its regulations, the SBA may conclude that a stockholder that is large compared to others has the power to control us and is our affiliate. Eligibility protests can be raised to the SBA by a competitor or by

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the awarding contracting agency. We understand that the SBA is in the process of performing a formal size determination in connection with some of our SBIR contracts. We cannot provide assurance that the SBA will interpret its regulations in our favor. Regardless of the outcome of the SBA s pending determination, if we grow larger, and if our ownership becomes more diversified, we may no longer qualify for the SBIR program, and we may be required to seek alternative sources and partnerships to fund some of our research and development costs. Additional information regarding these risks may be found below in Risk Factors.

FDA Regulation of Products

Some of the products that we are developing are subject to regulation under the Food, Drug, and Cosmetic (FDC) Act. In particular, any Trimetasphere nanomaterial-based MRI contrast agent would be considered a drug, and our ultrasound diagnostic devices for measuring certain medical conditions will be considered medical devices, under the FDC Act. Both the statutes and regulations promulgated under the FDC Act govern, among other things, the testing, manufacturing, safety efficacy, labeling, storage, recordkeeping, advertising and other promotional practices involving the regulation of drug and devices. Compliance with the FDC Act may add time and expense to product development, and there can be no assurance that any of our products will be successfully developed and approved for marketing by the FDA.

Medical Devices

Our existing and future health care products are regulated by the FDA as medical devices. The nature of the requirements applicable to devices depends on their classification by the FDA. A device we develop would be automatically classified as a Class III device, requiring pre-market approval, unless the device is substantially equivalent to an existing device that has been classified in Class I or Class II or to a pre-1976 device that has not yet been classified. Class I or Class II devices require registration through the 510(k) exemption. If we were unable to demonstrate such substantial equivalence and unable to obtain reclassification, we would be required to undertake the costly and time-consuming approval process, comparable to that for new drugs, of conducting preclinical studies, obtaining an investigational device exemption to conduct clinical tests, filing a pre-market approval application and obtaining FDA approval.

If the device were a Class I product, the general controls of the FDC Act, primarily requirements relating to adulteration, misbranding and good manufacturing practices, would nevertheless apply, which would subject the device to regulatory oversight and compliance requirements. If substantial equivalence to a Class II device could be shown, the general controls plus special controls, such as performance standards, guidelines for safety and effectiveness and post-market surveillance, would apply. While demonstrating substantial equivalence to a Class I or Class II product is not as costly or time-consuming as the pre-market approval process for Class III devices, it can in some cases also involve conducting clinical tests to demonstrate that any differences between the new device and devices already on the market do not affect safety or effectiveness. If substantial equivalence to a pre-1976 device that has not yet been classified has been shown, it is possible that the FDA would subsequently classify the device as a Class III device and require the filing of pre-market approval applications at that time. If the FDA took that step, then filing an application acceptable to the FDA would be a prerequisite to remaining on the market.

New Drug Development

Any nanomaterial-based drug candidates, including any MRI contrast agent product candidates, are regulated by the FDA as pharmaceuticals. Obtaining FDA approval for a new drug has historically been a costly and time-consuming process. Generally, in order to gain FDA pre-market approval, a developer first must conduct preclinical studies in the laboratory and in animal model systems to gain preliminary information on an agent s efficacy and to identify any safety problems. The results of these studies are submitted as a part of an investigational new drug, (IND), application which the FDA must review before human clinical trials of an investigational drug can start. The IND application includes a detailed description of the clinical investigations to

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be undertaken. In order to commercialize any drug, we must sponsor and file an IND application and be responsible for initiating and overseeing the clinical studies to demonstrate the safety, efficacy and potency that are necessary to obtain FDA approval of any of the products. We will be required to select qualified investigators to supervise the administration of the products and ensure that the investigations are conducted and monitored in accordance with FDA regulations.

Clinical trials are normally done in three phases, although the phases may overlap. Phase I trials are concerned primarily with the safety and preliminary effectiveness of the drug, typically involve fewer than 100 subjects and may take from six months to over one year. Phase II trials typically involve larger patient populations and are designed primarily to demonstrate effectiveness in treating or diagnosing the disease or condition for which the drug is intended, although short-term side effects and risks in people whose health is impaired may also be examined. Phase III trials are expanded clinical trials with even larger numbers of patients and are intended to evaluate the overall benefit-risk relationship of the drug and to gather additional information for proper dosage and labeling of the drug. We believe the process of clinical trials generally takes two to five years to complete, but may take longer in certain circumstances. The FDA receives reports on the progress of each phase of clinical testing and may require the modification, suspension or termination of clinical trials if it concludes that an unwarranted risk is presented to patients.

If clinical trials of a new product are completed successfully, the sponsor of the product may seek FDA marketing approval. If the product is regulated as a drug, the FDA will require the submission and approval of a new drug application, (NDA), before commercial marketing of the drug. The NDA must include detailed information about the drug and its manufacture and the results of product development, preclinical studies and clinical trials. The testing and approval processes require substantial time and effort, and we cannot guarantee that any approval will be granted on a timely basis, if at all. If questions arise during the FDA review process, the approval process may be delayed or may not occur at all. Even with the submissions of relevant data, the FDA may ultimately decide that the NDA does not satisfy its regulatory criteria for approval and may deny approval or require additional clinical studies. In addition, the FDA may condition marketing approval on the conduct of specific post-marketing studies to further evaluate safety and effectiveness. Even if FDA regulatory clearances are obtained, a marketed product is subject to continual review. Later discovery of previously unknown problems or failure to comply with the applicable regulatory requirements may result in restrictions on the marketing of a product or withdrawal of the product from the market as well as possible civil or criminal sanctions.

Environmental, Health and Safety Regulation

Our facilities and current and proposed activities involve the use of a broad range of materials that are considered hazardous under applicable laws and regulations. Accordingly, we are subject to a number of domestic and foreign laws and regulations and other requirements relating to employee health and safety, protection of the environment, product labeling and product take back. Regulated activities include the storage, use, transportation and disposal of, and exposure to, hazardous or potentially hazardous materials and wastes. Our current and proposed activities also include potential exposure to physical hazards associated with work environment and equipment. We could incur costs, fines, civil and criminal penalties, personal injury and third-party property damage claims, or we could be required to incur substantial investigation or remediation costs, if we were to violate or become liable under environmental, health and safety laws and regulations or requirements. Liability under environmental, health and safety laws can be joint and several and without regard to fault. There can be no assurance that violations of environmental, health and safety laws will not occur in the future as a result of the inability to obtain permits in a timely manner, human error, equipment failure or other causes. Environmental, health and safety laws could also become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could harm our business. Further, violations of present and future environmental, health and safety laws could restrict our ability to expand facilities and pursue certain technologies, as well as require us to acquire costly equipment or to incur potentially significant costs to comply with environmental, health and safety regulations and other requirements.

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We have made, and will continue to make, expenditures to comply with current and future environmental, health and safety laws. We anticipate that we could incur additional capital and operating costs in the future to comply with existing environmental, health and safety laws and new requirements arising from new or amended statutes and regulations. In addition, because the applicable regulatory agencies have not yet promulgated final standards for some existing environmental, health and safety programs, we cannot at this time reasonably estimate the cost for compliance with these additional requirements. The amount of any such compliance costs could be material. We cannot predict the impact that future regulations will impose upon our business.

Employees

As of December 31, 2012, we had approximately 170 total employees of whom approximately 155 were full-time employees, approximately 89 of our employees hold advanced degrees, including approximately 30 Ph.D. degrees. None of our employees are covered by a collective bargaining agreement, and we consider our relationship with our employees to be good.

Backlog

We have historically had a backlog of contracts for which work has been scheduled, but for which a specified portion of work has not yet been completed. The approximate value of our backlog was $13.6 million at December 31, 2012, of which virtually all was from our Technology Development segment, including $3.3 million in our SCC group. At December 31, 2011, our backlog was $20.8 million, of which $20.4 million was from our Technology Development segment, including $4.2 million in our SCC group, and $0.4 million was from our Products and Licensing segment.

We define backlog as the dollar amount of obligations payable to us under negotiated contracts upon completion of a specified portion of work that has not yet been completed, exclusive of revenues previously recognized for work already performed under these contracts, if any. Total backlog includes funded backlog, which is the amount for which money has been directly authorized by the U.S. Congress or for which a purchase order has been received from a commercial customer, and unfunded backlog, which represents firm orders for which funding has not yet been appropriated. Unfunded backlog was $0.8 million as of December 31, 2012 and $13.7 million as of December 31, 2011. Indefinite delivery and quantity contracts and unexercised options are not reported in total backlog. Our backlog is subject to delays or program cancellations that may be beyond our control.

Research, Development and Engineering

We incur research, development and engineering expenses that are not related to our contract performance. These expenses were $1.7 million, $2.7 million and $2.6 million for the years ended December 31, 2010, 2011 and 2012, respectively. In addition, during these years, we spent $18.3 million, $19.1 million and $16.7 million, respectively, on customer-sponsored research activities, which amounts are reimbursed as part of our performance of customer contracts.

Operating Segments and Geographic Areas

For information with respect to our operating segments and geographic markets, see Note 13 to our Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

Website Access to Reports

Our website address is www.lunainc.com. We make available, free of charge under SEC Filings on the Investor Relations portion of our website, access to our annual report on Form 10-K, our quarterly reports on Form 10-Q and our current reports on Form 8-K, as well as amendments to those reports filed or furnished

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pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. Information appearing on our website is not incorporated by reference in and is not a part of this annual report. A copy of this annual report, as well as our other periodic and current reports, may be obtained from the SEC s public reference room at 100 F Street, N.E., Washington, D.C. 20549. Information on the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding our filings at www.sec.gov.

ITEM 1A. RISK FACTORS

You should carefully consider the risks described below before deciding whether to invest in our common stock. The risks described below are not the only ones we face. Additional risks not presently known to us or that we currently believe are immaterial may also impair our business operations and financial results. If any of the following risks actually occurs, our business, financial condition or results of operations could be adversely affected. In such case, the trading price of our common stock could decline and you could lose all or part of your investment. Our filings with the Securities and Exchange Commission also contain forward-looking statements that involve risks or uncertainties. Our actual results could differ materially from those anticipated or contemplated by these forward-looking statements as a result of a number of factors, including the risks we face described below, as well as other variables that could affect our operating results. Past financial performance should not be considered to be a reliable indicator of future performance, and investors should not use historical trends to anticipate results or trends in future periods.

RISKS RELATING TO OUR BUSINESS GENERALLY

We rely and will continue to rely on contracts and grants awarded under the SBIR program for a significant portion of our revenues. A finding by the SBA that we no longer qualify to receive SBIR awards could adversely affect our business.

We compete as a small business for some of our government contracts. As described above, our revenues derived from the SBIR program account for a significant portion of our consolidated total revenues, and contract research, including SBIR contracts, will remain a significant portion of our consolidated total revenues for the foreseeable future.

We may not continue to qualify to participate in the SBIR program or to receive new SBIR awards from federal agencies. In order to qualify for SBIR contracts and grants, we must meet certain size and ownership eligibility criteria. These eligibility criteria are applied as of the time of the award of a contract or grant. A company can be declared ineligible for a contract award as a result of a size challenge filed with the SBA by a competitor or a federal agency.

In order to be eligible for SBIR contracts and grants, under current SBA rules we must be 51% owned and controlled by individuals who are U.S. citizens or permanent resident aliens. In the event our institutional ownership significantly increases, either because of increased buying by institutions or selling by individuals, we could lose eligibility for new SBIR contracts, public contracts, grants and other awards that are set aside for small businesses, including SBIR grants.

Also, in order to be eligible for SBIR contracts and grants, the number of our employees, including those of any entities that are considered to be affiliated with us, cannot exceed 500. As of December 31, 2012, we had approximately 159 full-time employees. In determining whether we are affiliated with any other entity, the SBA will analyze whether another entity controls or has the power to control us. Carilion Clinic is our largest institutional stockholder. We understand that the SBA is in the process of performing a formal size determination that will focus on whether or not Carilion is our affiliate. Although we do not believe that Carilion has the power to control our company, we cannot assure you that the SBA will interpret its regulations in our favor on this

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question. Under its regulations, the SBA may conclude that a stockholder that is large compared to others has the power to control us and is our affiliate. If the SBA were to make a determination that we are affiliated with Carilion, we would exceed the size limitations, as Carilion has over 500 employees. In that case, we would lose eligibility for new SBIR grants and other SBA contracts, public contracts, grants and other awards that are set aside for small businesses based on the criterion of number of employees, and the relevant government agency would have the discretion to suspend performance on existing SBIR grants.

In addition, it is possible that the sale of common stock in the future by our founder, Dr. Kent Murphy, could negatively affect the interpretation of SBA regulations on this question of affiliation, as well as possibly result in an increase in our institutional ownership. Dr. Murphy has advised us of his request to exercise his right to require us to register his shares for resale in a registered offering on Form S-3. If Dr. Murphy pursues the registration of his shares, and sells a substantial portion of his shares to institutions or non-U.S. citizens, we may no longer meet the 51% ownership requirement described above, in which case we would become ineligible to receive SBIR contract awards. Moreover, if Dr. Murphy were to sell any portion of his shares without corresponding sales by Carilion, such sales may increase the likelihood that the SBA may conclude that Carilion is a stockholder that is large compared to others and hence has the power to control us and is our affiliate, in which case we would lose SBIR eligibility, as described above. The loss of our eligibility to receive SBIR awards would have a material adverse effect on our revenues, cash flows and ability to fund our growth.

Moreover, as we grow our business, it is foreseeable that we will eventually exceed the SBIR size limitations, in which case we may be required to seek alternative sources of revenues or capital.

If there are substantial sales of our common stock, or the perception that such sales may occur, our stock price could decline.

If any of our stockholders were to sell substantial amounts of our common stock, the market price of our common stock may decline, which might make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem appropriate. Substantial sales of our common stock, or the perception that such sales may occur, may have a material adverse effect on the prevailing market price of our common stock.

Pursuant to an Investor Rights Agreement, Carilion, Dr. Kent Murphy and certain other stockholders have rights to require us, subject to certain conditions, to file one or more registration statements providing for the sale of up to an aggregate of approximately 6.5 million shares of our common stock (which number includes approximately 2.8 million shares of common stock owned by Dr. Murphy, approximately 2.2 million shares of common stock owned by Carilion, approximately 1.2 million shares of common stock issuable to Carilion upon conversion of shares of Series A Preferred Stock it currently holds and approximately 215,000 shares of common stock issuable to Carilion as dividends on that preferred stock). Under the agreement, these stockholders also have the right to include their shares in registration statements that we may file for ourselves or other stockholders. Once we register the resale of these shares, they can generally be freely sold in the public market. Dr. Murphy has recently requested that we register his shares for resale on a Form S-3 registration statement. If Dr. Murphy continues to pursue the registration of his shares for resale or if Dr. Murphy or Carilion elect to pursue registration in the future, as described above, we may also be obligated to register shares held by the other for resale pursuant to our Investor Rights Agreement. Sales of shares by Dr. Murphy or Carilion, or even the filing of a registration statement registering the resale of such shares, may have a material adverse effect on the market price of our stock.

If Carilion, Dr. Murphy or any of our other significant stockholders seeks to sell their shares at any time, it could have an adverse effect on the market price of our stock. Any such continuing material adverse effect on the market price of our stock could impair our ability to comply with NASDAQ s continuing listing standards in respect of our minimum stock price, as further described below.

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A decline in government research contract awards or government funding for existing or future government research contracts, including SBIR contracts, could adversely affect our revenues, cash flows and ability to fund our growth.

Technology development revenue, which consists primarily of government-funded research, accounted for approximately 65% and 63% of our consolidated total revenues for the years ended December 31, 2012 and 2011, respectively. As a result, we are vulnerable to adverse changes in our revenues and cash flows if a significant number of our research contracts and subcontracts were to be simultaneously delayed or canceled for budgetary, performance or other reasons. For example, the U.S. government may cancel these contracts at any time without cause and without penalty or may change its requirements, programs or contract budget, any of which could reduce our revenues and cash flows from U.S. government research contracts. Our revenues and cash flows from U.S. government research contracts and subcontracts could also be reduced by declines or other changes in U.S. defense, homeland security and other federal agency budgets. In addition, we compete as a small business for some of these contracts, and in order to maintain our eligibility to compete as a small business, we, together with any affiliates, must continue to meet size and revenue limitations established by the U.S. government.

Our contract research customer base includes government agencies, corporations and academic institutions. Our customers are not obligated to extend their agreements with us and may elect not to do so. Also, our customers priorities regarding funding for certain projects may change and funding resources may no longer be available at previous levels.

In addition, the Budget Control Act commits the U.S. Government to reduce the federal deficit by $1.2 trillion over ten years through a combination of automatic, across-the-board spending cuts and caps on discretionary spending. This sequestration under the Budget Control Act is split equally between defense and non-defense programs. Originally scheduled to take effect on January 2, 2013, the deadline for averting sequestration was delayed until March 1, 2013 by the by the American Taxpayer Relief Act of 2012. Congress and the Administration continue to debate these issues. Any automatic across-the-board cuts required by sequestration could have a material adverse effect on our technology development revenue and, consequently, our results of operations. While the exact manner in which sequestration would impact our business is unclear, funding for programs in which we participate could be reduced, delayed or cancelled. Our ability to obtain new contract awards also could be negatively affected.

In addition to contract cancellations and changes in agency budgets, our future financial results may be adversely affected by curtailment of or restrictions on the U.S. government s use of contract research providers, including curtailment due to government budget reductions and related fiscal matters or any legislation or resolution limiting the number or amount of awards we may receive. These or other factors could cause U.S. defense and other federal agencies to conduct research internally rather than through commercial research organizations or direct awards to other organizations, to reduce their overall contract research requirements or to exercise their rights to terminate contracts. Alternatively, the U.S. government may discontinue the SBIR program or its funding altogether. Also, pending regulations implementing the recently-enacted SBIR reauthorization and implementing regulations will allow increased competition for SBIR awards from companies that may not have previously been eligible, such as those backed by venture capital firms. Any of these developments could limit our ability to obtain new contract awards and adversely affect our revenues, cash flows and ability to fund our growth.

Our failure to attract, train and retain skilled employees or members of our senior management and to obtain necessary security clearances for such persons or maintain a facility security clearance would adversely affect our business and operating results.

The availability of highly trained and skilled technical and professional personnel is critical to our future growth and profitability. Competition for scientists, engineers, technicians and professional personnel is intense and our competitors aggressively recruit key employees. In the past, we have experienced difficulties in

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recruiting and hiring these personnel as a result of the tight labor market in certain fields. Any difficulty in hiring or retaining qualified employees, combined with our growth strategy and future needs for additional experienced personnel, particularly in highly specialized areas such as nanomaterial manufacturing and fiber optic sensing technologies, may make it more difficult to meet all of our needs for these employees in a timely manner. Although we intend to continue to devote significant resources to recruit, train and retain qualified employees, we may not be able to attract and retain these employees, especially in technical fields in which the supply of experienced qualified candidates is limited, or at the senior management level. Any failure to do so would have an adverse effect on our business. Any loss of key personnel could have a material adverse effect on our ability to meet key operational objectives, such as timely and effective project milestones and product introductions, which in turn could adversely affect our business, results of operations and financial condition. We also have contractual obligations to adequately staff certain development projects, and a loss of key personnel could lead to our inability to meet these obligations, which in turn could expose us to claims for significant damages under any such agreement.

We provide certain services to the U.S. government that require us to maintain a facility security clearance and for certain of our employees and our board chairman to hold security clearances. In general, the failure for necessary persons to obtain or retain sufficient security clearances, any loss by us of a facility security clearance or any public reprimand related to security matters could result in a U.S. government customer terminating an existing contract or choosing not to renew a contract or prevent us from bidding on or winning certain new government contracts, any of which would have an adverse result on our operations and financial results.

In addition, our future success depends in a large part upon the continued service of key members of our senior management team. We do not maintain any key-person life insurance policies on our officers. The loss of any members of our management team or other key personnel could seriously harm our business.

The results of our operations could be adversely affected by economic and political conditions and the effects of these conditions on our customers businesses and levels of business activity.

Global economic and political conditions affect our customers businesses and the markets they serve. A severe or prolonged economic downturn or a negative or uncertain political climate could adversely affect our customers financial conditions and the timing or levels of business activity of our customers and the industries we serve. This may reduce the demand for our products or depress pricing for our products and have a material adverse effect on our results of operations. Changes in global economic conditions could also shift demand to products or services for which we do not have competitive advantages, and this could negatively affect the amount of business we are able to obtain. In addition, if we are unable to successfully anticipate changing economic and political conditions, we may be unable to effectively plan for and respond to those changes, and our business could be negatively affected as a result.

There was a rapid softening of the economy and tightening of the financial markets in the second half of 2008 that has continued into 2013. This slowing of the economy has reduced the financial capacity of our customers and possibly our potential customers, thereby slowing spending on the products and services we provide. The outlook for the economy for the remainder of 2013 and beyond remains uncertain, and until there is a sustained economic recovery our revenues and results of operations could be negatively impacted.

We have a history of losses, and because our strategy for expansion may be costly to implement, we may experience continuing losses and may never achieve or maintain profitability or positive cash flow.

We realized a consolidated net loss attributable to common stockholders of $1.5 million, $1.5 million and $3.0 million, for the years ended December 31, 2012, 2011 and 2010, respectively. We expect to continue to incur significant expenses as we pursue our strategic initiatives, including increased expenses for research and development, sales and marketing and manufacturing. We may also grow our business in part through acquisitions of additional companies and complementary technologies which could cause us to incur greater than

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anticipated transaction expenses, amortization or write-offs of intangible assets and other acquisition-related expenses. As a result, we expect to incur net losses for the foreseeable future, and these losses could be substantial. At a certain level, continued net losses could impair our ability to comply with NASDAQ continued listing standards, as described further below.

Our ability to generate additional revenues and to become profitable will depend on our ability to develop and commercialize innovative technologies, expand our contract research capabilities and sell the products that result from those development initiatives. We are unable to predict when or if we will be able to achieve profitability. If our revenues do not increase, or if our expenses increase at a greater rate than our revenues, we will continue to experience losses. Even if we do achieve profitability, we may not be able to sustain or increase our profitability on a quarterly or annual basis.

We have obtained capital by borrowing money under a credit facility and we might require additional capital to support and expand our business; our credit facility has various loan covenants with which we must comply and if we need any such additional capital or we fail to comply with our loan covenants, this capital might not be available or only available on unfavorable terms.

We intend to continue to make investments to support our business growth, including developing new products, enhancing our existing products, obtaining important regulatory approvals, enhancing our operating infrastructure, completing our development activities and building our commercial scale manufacturing facilities. To the extent that we are unable to become or remain profitable and to finance our activities from our continuing operations, we may require additional funds to support these initiatives and to grow our business.

If we are successful in raising additional funds through issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution, including as the result of the issuance of warrants in connection with the financing, and any new equity securities we issue could have rights, preferences and privileges superior to those of our existing common stock. Furthermore, such financings may jeopardize our ability to apply for SBIR grants or qualify for SBIR contracts or grants, and our dependence on SBIR grants may restrict our ability to raise additional outside capital. If we raise additional funds through debt financings, these financings may involve significant cash payment obligations and covenants that restrict our ability to operate our business and make distributions to our stockholders.

We maintain a credit facility with Silicon Valley Bank, (SVB), which requires us to observe a number of financial and operational covenants, including maintenance of a specified liquidity ratio, achievement of certain adjusted EBITDA targets, protection and registration of intellectual property rights, and certain customary negative covenants, as well as other customary events of default. If any event of default occurs SVB may declare due immediately all borrowings under our credit facility and foreclose on the collateral. Furthermore, an event of default would result in an increase in the interest rate on any amounts outstanding.

If we are unable to borrow under the SVB credit facility or otherwise obtain adequate financing or financing terms satisfactory to us when we require it, our ability to continue to support our business growth and to respond to business challenges could be significantly limited.

RISKS RELATING TO OUR OPERATIONS AND BUSINESS STRATEGY

If we cannot successfully transition our revenue mix from contract research revenues to product sales and license revenues, we may not be able to fully execute our business model or grow our business.

Our business model and future growth depend on our ability to transition to a revenue mix that contains significantly larger product sales and revenues from the provision of services or from licensing. Product sales and these revenues potentially offer greater scalability than contract research revenues. Our current plan is to increase our sales of commercial products, our licensing revenue and our provision of non-research services to customers

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so as to represent a larger percentage of our total revenues. If we are unable to develop and grow our product sales and revenues from the provision of services or from licensing to augment our contract research revenues, however, our ability to execute our business model or grow our business could suffer. There can be no assurance that we will be able to achieve increased revenues in this manner.

If we are unable to manage growth effectively, our revenue and net loss could be adversely affected.

While historically we have developed and commercialized only a few products at a time, we plan to grow our revenues by developing and commercializing multiple products concurrently across many industries, technologies and markets. Our ability to expand our business by developing and commercializing multiple products simultaneously requires that we manage a diverse range of projects and expand our personnel resources. Our inability to do any of these could prevent us from successfully implementing our growth strategy, causing our revenues and profits to be adversely affected.

To advance the development of multiple promising potential products concurrently, we need to manage effectively the logistics of maintaining the requisite corporate, operational, administrative and financing functions for each of these product opportunities. Potentially expanding our operations into new geographic areas and relying on multiple facilities to develop and manufacture different products concurrently pose additional challenges. We have little experience in managing these functions simultaneously for multiple projects in development or in building new infrastructure and integrating the operations of various facilities. If we cannot manage this process successfully, we may experience operating difficulties, additional expenditures and limited revenue growth.

We may need to expand our personnel resources to grow our business effectively. We believe that sustained growth at a higher rate will place a strain on our management as well as on our other human resources. To manage this growth, we must continue to attract and retain qualified management, professional, scientific and technical and operating personnel. If we are unable to recruit a sufficient number of qualified personnel, we may be unable to staff and manage projects adequately, which in turn may slow the rate of growth of our contract research revenue or our product development efforts.

We may not be successful in identifying market needs for new technologies and developing new products to meet those needs.

The success of our business model depends on our ability to correctly identify market needs for new technologies. We intend to identify new market needs, but we may not always have success in doing so in part because our contract research largely centers on identification and development of unproven technologies, often for new or emerging markets. Furthermore, we must identify the most promising technologies from a sizable pool of projects. If our commercialization strategy process fails to identify projects with commercial potential or if management does not ensure that such projects advance to the commercialization stage, we may not successfully commercialize new products and grow our revenues.

Our growth strategy requires that we not only identify new technologies that meet market needs, but that we also develop successful commercial products that address those needs. We face several challenges in developing successful new products. Many of our existing products and those currently under development, including our Trimetasphere® carbon nanomaterials, are technologically innovative and require significant and lengthy product development efforts. These efforts include planning, designing, developing and testing at the technological, product and manufacturing-process levels. These activities require us to make significant investments. Although there are many potential applications for our technologies, our resource constraints require us to focus on specific products and to forgo other opportunities. We expect that one or more of the potential products we choose to develop will not be technologically feasible or will not achieve commercial acceptance, and we cannot predict which, if any, of our products we will successfully develop or commercialize. The technologies we research and develop are new and steadily changing and advancing. The products that are derived from these technologies

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may not be applicable or compatible with the state of technology or demands in existing markets. Our existing products and technologies may become uncompetitive or obsolete if our competitors adapt more quickly than we do to new technologies and changes in customers requirements. Furthermore, we may not be able to identify if and when new markets will open for our products given that future applications of any given product may not be readily determinable, and we cannot reasonably estimate the size of any markets that may develop. If we are not able to successfully develop new products, we may be unable to increase our product revenues.

We depend on third-party vendors for specialized components in our manufacturing operations, making us vulnerable to supply shortages and price fluctuations that could harm our business.

We primarily rely on third-party vendors for the manufacture of the specialized components used in our products. The highly specialized nature of our supply requirements poses risks that we may not be able to locate additional sources of the specialized components required in our business. For example, there are few manufacturers who produce the special lasers used in our optical test equipment. Our reliance on these vendors subjects us to a number of risks that could negatively affect our ability to manufacture our products and harm our business, including interruption of supply. Although we are now manufacturing tunable lasers in low-rate initial production, we expect our overall reliance on third-party vendors to continue. Any significant delay or interruption in the supply of components, or our inability to obtain substitute components or materials from alternate sources at acceptable prices and in a timely manner could impair our ability to meet the demand of our customers and could harm our business.

We face and will face substantial competition in several different markets that may adversely affect our results of operations.

We face and will face substantial competition from a variety of companies in several different markets. Our competitors in contract research include, but are not limited to, companies such as General Dynamics Corporation, Lockheed Martin Corporation, SAIC, Inc. and SRA International, Inc. In the instrumentation and test and measurement products market, our competitors include, but are not limited to, large companies such as Agilent Technologies, Inc., Analog Devices, Inc., Freescale Semiconductor, Inc., JDS Uniphase Corp., Robert Bosch GmbH and Silicon Sensing, as well as emerging companies.

The products that we have developed or are currently developing will compete with other technologically innovative products as well as products incorporating conventional materials and technologies. We expect that our products will face competition in a wide range of industries, including telecommunications, industrial instrumentation, healthcare, military and security applications.

Many of our competitors have longer operating histories, greater name recognition, larger customer bases and significantly greater financial, sales and marketing, manufacturing, distribution, technical and other resources than we do. These competitors may be able to adapt more quickly to new or emerging technologies and changes in customer requirements. In addition, current and potential competitors have established or may establish financial or strategic relationships among themselves or with existing or potential customers or other third parties. Accordingly, new competitors or alliances among competitors could emerge and rapidly acquire significant market share. We cannot assure you that we will be able to compete successfully against current or new competitors, in which case our revenues may fail to increase or may decline.

We have limited experience manufacturing our products in commercial quantities in a cost-effective manner, which could adversely impact our business.

In the past, we produced most of our products on a custom order basis rather than pursuant to large contracts that require production on a large volume basis. Accordingly, other than the commercial manufacture of products by our Products and Licensing segment, we have no experience manufacturing products in large volumes. Because our experience in large scale manufacturing is limited, we may encounter unforeseen difficulties in our

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efforts to manufacture other products or materials in commercial quantities or have to rely on third-party contractors over which we may not have direct control to manufacture our products. We may also encounter difficulties and delays in manufacturing our products for any of the following reasons:

- we may need to expand our manufacturing operations, and our production processes may have to change to accommodate this growth;
- to increase our manufacturing output significantly, we will have to attract and retain qualified employees, who are in short supply, for the assembly and testing operations;
- we might have to sub-contract to outside manufacturers which might limit our control of costs and processes; and
- our manufacturing operations may have to comply with government or customer-mandated specifications.

If we are unable to keep up with demand for our products, our revenues could be impaired, market acceptance of our products could be adversely affected and our customers might instead purchase our competitors products. Moreover, failure to develop and maintain a U.S. market for goods developed with U.S. government-licensed technology may result in the cancellation of the relevant U.S. government licenses. Our inability to manufacture our products successfully would have a material adverse effect on our revenues.

Even if we are able to manufacture our products on a commercial scale, the cost of manufacturing our products may be higher than we expect. If the costs associated with manufacturing are not significantly less than the prices at which we can sell our products, we may not be able to operate at a profit.

Our nanotechnology-enabled products are new and may be, or may be perceived as being, harmful to human health or the environment.

While we believe that none of our current products contain chemicals known by us to be hazardous or subject to environmental regulation, it is possible that our current or future products, particularly carbon-based nanomaterials, may become subject to environmental or other regulation. We intend to develop and sell carbon-based nanomaterials as well as nanotechnology-enabled products, which are products that include nanomaterials as a component to enhance those products performance. Nanomaterials and nanotechnology-enabled products have a limited historical safety record. Because of their size or shape or because they may contain harmful elements, such as gadolinium and other rare-earth metals, our products could pose a safety risk to human health or the environment. These characteristics may also cause countries to adopt regulations in the future prohibiting or limiting the manufacture, distribution or use of nanomaterials or nanotechnology-enabled products. Such regulations may inhibit our ability to sell some products containing those materials and thereby harm our business or impair our ability to develop commercially viable products.

The subject of nanotechnology has received negative publicity and has aroused public debate. Government authorities could, for social or other purposes, prohibit or regulate the use of nanotechnology. Ethical and other concerns about nanotechnology could adversely affect acceptance of our potential products or lead to government regulation of nanotechnology-enabled products.

We face risks associated with our international business.

We currently conduct business internationally and we might considerably expand our international activities in the future. Our international business operations are subject to a variety of risks associated with conducting business internationally, including:

- having to comply with U.S. export control regulations and policies that restrict our ability to communicate with non-U.S. employees and supply foreign affiliates and customers;

changes in or interpretations of foreign regulations that may adversely affect our ability to sell our products, perform services or repatriate profits to the United States;

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the imposition of tariffs;

hyperinflation or economic or political instability in foreign countries;

imposition of limitations on, or increase of withholding and other taxes on remittances and other payments by foreign subsidiaries or joint ventures;

conducting business in places where business practices and customs are unfamiliar and unknown;

the imposition of restrictive trade policies;

the imposition of inconsistent laws or regulations;

the imposition or increase of investment and other restrictions or requirements by foreign governments;

uncertainties relating to foreign laws and legal proceedings;

having to comply with a variety of U.S. laws, including the Foreign Corrupt Practices Act; and

having to comply with licensing requirements.

We do not know the impact that these regulatory, geopolitical and other factors may have on our international business in the future.

We could be negatively affected by a security breach, either through cyber attack, cyber intrusion or other significant disruption of our IT networks and related systems.

We face the risk, as does any company, of a security breach, whether through cyber attack or cyber intrusion over the Internet, malware, computer viruses, attachments to e-mails, persons inside our organization or persons with access to systems inside our organization, or other significant disruption of our IT networks and related systems. The risk of a security breach or disruption, particularly through cyber attack or cyber intrusion, including by computer hackers, foreign governments and cyber terrorists, has increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased.

As a technology company, and particularly as a government contractor, we may face a heightened risk of a security breach or disruption from threats to gain unauthorized access to our proprietary, confidential or classified information on our IT networks and related systems. These types of information and IT networks and related systems are critical to the operation of our business and essential to our ability to perform day-to-day operations, and, in some cases, are critical to the operations of certain of our customers. In addition, as certain of our technological capabilities become widely known, it is possible and perhaps even foreseeable that we may be subjected to cyber attack or cyber intrusion as third parties seek to gain improper access to information regarding these capabilities. We have therefore taken particular steps to protect some of our most sensitive technologies, but cyber attacks or cyber intrusion could still compromise other of our confidential information or our IT networks and systems generally, as it is not practical as a business matter to isolate all of our confidential information and trade secrets from email and internet access. There can be no assurance that our security efforts and measures will be effective or that attempted security breaches or disruptions would not be successful or damaging.

A security breach or other significant disruption involving these types of information and IT networks and related systems could disrupt the proper functioning of these networks and systems and therefore our operations, could compromise our confidential information and trade secrets, or damage our reputation among our customers, particularly among agencies of the U.S. Government and potential customers of our secure

computing and communications group, as well as the public generally. Any or all of foregoing developments could have a negative impact on our results of operations, financial condition and cash flows.

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RISKS RELATING TO OUR REGULATORY ENVIRONMENT

As a provider of contract research to the U.S. government, we are subject to federal rules, regulations, audits and investigations, the violation or failure of which could adversely affect our business.

We must comply with and are affected by laws and regulations relating to the award, administration and performance of U.S. government contracts. Government contract laws and regulations affect how we do business with our government customers and, in some instances, impose added costs on our business. A violation of a specific law or regulation could result in the imposition of fines and penalties, termination of our contracts or debarment from bidding on contracts. In some instances, these laws and regulations impose terms or rights that are more favorable to the government than those typically available to commercial parties in negotiated transactions. For example, the U.S. government may terminate any of our government contracts and, in general, subcontracts, at their convenience, as well as for default based on performance.

In addition, U.S. government agencies, including the Defense Contract Audit Agency and the Department of Labor, routinely audit and investigate government contractors. These agencies review a contractor s performance under its contracts, cost structure and compliance with applicable laws, regulations and standards. The U.S. government also may review the adequacy of, and a contractor s compliance with, its internal control systems and policies, including the contractor s purchasing, property, estimating, compensation and management information systems. Any costs found to be improperly allocated to a specific contract will not be reimbursed, while such costs already reimbursed must be refunded. If an audit uncovers improper or illegal activities, we may be subject to civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, fines and suspension or prohibition from doing business with the U.S. government. In addition, our reputation could suffer serious harm if allegations of impropriety were made against us.

In addition to the risk of government audits and investigations, U.S. government contracts and grants impose requirements on contractors and grantees relating to ethics and business practices, which carry civil and criminal penalties including monetary fines, assessments, loss of the ability to do business with the U.S. government and certain other criminal penalties.

We may also be prohibited from commercially selling certain products that we develop under our Technology Development segment or related products based on the same core technologies if the U.S. government determines that the commercial availability of those products could pose a risk to national security. For example, certain of our wireless technologies have been classified as secret by the U.S. government and as a result we cannot sell them commercially. Any of these determinations would limit our ability to generate product sales and license revenues.

Our operations are subject to domestic and foreign laws, regulations and restrictions, and noncompliance with these laws, regulations and restrictions could expose us to fines, penalties, suspension or debarment, which could have a material adverse effect on our profitability and overall financial position.

Our operations, particularly our international sales, subject us to numerous U.S. and foreign laws and regulations, including, without limitation, regulations relating to imports, exports (including the Export Administration Regulations and the International Traffic in Arms Regulations), technology transfer restrictions, anti-boycott provisions, economic sanctions and the Foreign Corrupt Practices Act. The number of our various emerging technologies, the development of many of which has been funded by the Department of Defense, presents us with many regulatory challenges. Failure by us or our sales representatives or consultants to comply with these laws and regulations could result in administrative, civil, or criminal liabilities and could result in suspension of our export privileges, which could have a material adverse effect on our business. Changes in regulation or political environment may affect our ability to conduct business in foreign markets including investment, procurement and repatriation of earnings.

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Our healthcare and medical products are and may continue to be subject to a lengthy and uncertain domestic regulatory approval process. If we do not obtain and maintain the necessary domestic regulatory approvals or clearances, we will not be able to market and sell our products for clinical use in the United States. Complying with applicable regulations is an expensive and time-consuming process and any failure to fully comply with such regulations could subject us to enforcement actions.

Certain of our current and potential products could require regulatory clearances or approvals prior to commercialization. In particular, any Trimetasphere® nanomaterial-based MRI contrast agent is likely to be considered a drug under the Federal Food, Drug and Cosmetic Act, (FDC Act). Drugs and some medical devices are subject to rigorous preclinical testing and other approval requirements by the U.S. Food and Drug Administration, (FDA), pursuant to the FDC Act, and regulations under the FDC Act, as well as by similar health authorities in foreign countries.

Various federal statutes and regulations also govern or influence the testing, manufacturing, safety, labeling, packaging, advertising, storage, registration, listing and recordkeeping related to marketing of pharmaceuticals. The process of obtaining these clearances or approvals and the subsequent compliance with appropriate federal statutes and regulations require the expenditure of substantial resources, which we may not be able to obtain on favorable terms, if at all. We cannot be certain that any required FDA or other regulatory approval will be granted or, if granted, will not be withdrawn. Our failure to obtain the necessary regulatory approvals, or our failure to obtain them in a timely manner, will prevent or delay our commercialization of new products and our business or our stock price could be adversely affected as a result.

Our commercially distributed medical device products will be subject to various post-market regulatory requirements, compliance with which will be expensive and time-consuming.

We will also become subject to inspection and marketing surveillance by the FDA to determine our compliance with regulatory requirements. If the FDA determines that we have failed to comply, it can institute a wide variety of enforcement actions ranging from a regulatory letter to a public warning letter to more severe civil and criminal sanctions. Our failure to comply with applicable requirements could lead to an enforcement action that may have an adverse effect on our financial condition and results of operations.

If our manufacturing facilities do not meet Federal, state or foreign country manufacturing standards, we may be required to temporarily cease all or part of our manufacturing operations, which would result in product delivery delays and negatively impact revenue.

Our manufacturing facilities are subject to periodic inspection by regulatory authorities and our operations will continue to be regulated by the FDA for compliance with Good Manufacturing Practice requirements contained in the quality systems regulations. We are also required to comply with International Organization for Standardization, (ISO), quality system standards in order to produce products for sale in Europe. If we fail to continue to comply with Good Manufacturing Practice requirements or ISO standards, we may be required to cease all or part of our operations until we comply with these regulations. Obtaining and maintaining such compliance is difficult and costly. We cannot be certain that our facilities will be found to comply with Good Manufacturing Practice requirements or ISO standards in future inspections and audits by regulatory authorities. In addition, if we cannot maintain or establish manufacturing facilities or operations that comply with such standards or do not meet the expectations of our customers, we may not be able to realize certain economic opportunities in our current or future supply arrangements.

Medical products are subject to various international regulatory processes and approval requirements. If we do not obtain and maintain the necessary international regulatory approvals for any such potential products, we may not be able to market and sell our medical products in foreign countries.

To be able to market and sell medical products in other countries, we must obtain regulatory approvals and comply with the regulations of those countries. These regulations, including the requirements for approvals and

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the time required for regulatory review, vary from country to country. Obtaining and maintaining foreign regulatory approvals are expensive, and we cannot be certain that we will have the resources to be able to pursue such approvals or whether we would receive regulatory approvals in any foreign country in which we plan to market our products. For example, the European Union requires that manufacturers of medical products obtain the right to affix the CE mark to their products before selling them in member countries of the European Union, which we have not yet obtained and may never obtain. If we fail to obtain regulatory approval in any foreign country in which we plan to market our products, our ability to generate revenue will be harmed.

We are subject to additional significant foreign and domestic government regulations, including environmental and health and safety regulations, and failure to comply with these regulations could harm our business.

Our facilities and current and proposed activities involve the use of a broad range of materials that are considered hazardous under applicable laws and regulations. Accordingly, we are subject to a number of foreign, federal, state and local laws and regulations relating to health and safety, protection of the environment and the storage, use, disposal of, and exposure to, hazardous materials and wastes. We could incur costs, fines and civil and criminal penalties, personal injury and third party property damage claims, or could be required to incur substantial investigation or remediation costs, if we were to violate or become liable under environmental, health and safety laws. Moreover, a failure to comply with environmental laws could result in fines and the revocation of environmental permits, which could prevent us from conducting our business. Liability under environmental laws can be joint and several and without regard to fault. There can be no assurance that violations of environmental health and safety laws will not occur in the future as a result of the inability to obtain permits, human error, equipment failure or other causes. Environmental laws could become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could harm our business. Accordingly, violations of present and future environmental laws could restrict our ability to expand facilities, pursue certain technologies, and could require us to acquire costly equipment or incur potentially significant costs to comply with environmental regulations.

Compliance with foreign, federal, state and local environmental laws and regulations represents a small part of our present budget. If we fail to comply with any such laws or regulations, however, a government entity may levy a fine on us or require us to take costly measures to ensure compliance. Any such fine or expenditure may adversely affect our development. We cannot predict the extent to which future legislation and regulation could cause us to incur additional operating expenses, capital expenditures or restrictions and delays in the development of our products and properties.

RISKS RELATING TO OUR INTELLECTUAL PROPERTY

Our proprietary rights may not adequately protect our technologies.

Our commercial success will depend in part on our obtaining and maintaining patent, trade secret, copyright and trademark protection of our technologies in the United States and other jurisdictions as well as successfully enforcing this intellectual property and defending it against third-party challenges. We will only be able to protect our technologies from unauthorized use by third parties to the extent that valid and enforceable intellectual property protections, such as patents or trade secrets, cover them. In particular, we place considerable emphasis on obtaining patent and trade secret protection for significant new technologies, products and processes. The degree of future protection of our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. The degree of future protection of our proprietary rights is also uncertain for products that are currently in the early stages of development because we cannot predict which of these products will ultimately reach the commercial market or whether the commercial versions of these products will incorporate proprietary technologies.

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Our patent position is highly uncertain and involves complex legal and factual questions. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents. For example:

- we or our licensors might not have been the first to make the inventions covered by each of our pending patent applications and issued patents;
- we or our licensors might not have been the first to file patent applications for these inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies;
- it is possible that none of our pending patent applications or the pending patent applications of our licensors will result in issued patents;
- patents may issue to third parties that cover how we might practice our technology;
- our issued patents and issued patents of our licensors may not provide a basis for commercially viable technologies, may not provide us with any competitive advantages, or may be challenged and invalidated by third parties; and
- we may not develop additional proprietary technologies that are patentable.

Patents may not be issued for any pending or future pending patent applications owned by or licensed to us, and claims allowed under any issued patent or future issued patent owned or licensed by us may not be valid or sufficiently broad to protect our technologies. Moreover, protection of certain of our intellectual property may be unavailable or limited in the United States or in foreign countries, and we have not sought to obtain foreign patent protection for certain of our products or technologies due to cost, concerns about enforceability or other reasons. Any issued patents owned by or licensed to us now or in the future may be challenged, invalidated, or circumvented, and the rights under such patents may not provide us with competitive advantages. In addition, competitors may design around our technology or develop competing technologies. Intellectual property rights may also be unavailable or limited in some foreign countries, and in the case of certain products no foreign patents were filed or can be filed. This could make it easier for competitors to capture or increase their market share with respect to related technologies. We could incur substantial costs to bring suits in which we may assert our patent rights against others or defend ourselves in suits brought against us. An unfavorable outcome of any litigation could have a material adverse effect on our business and results of operations.

We also rely on trade secrets to protect our technology, especially where we believe patent protection is not appropriate or obtainable. However, trade secrets are difficult to protect. We regularly attempt to obtain confidentiality agreements and contractual provisions with our collaborators, employees and consultants to protect our trade secrets and proprietary know-how. These agreements may be breached or may not have adequate remedies for such breach. While we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors or scientific and other advisors, or those of our strategic partners, may unintentionally or willfully disclose our information to competitors. If we were to enforce a claim that a third party had illegally obtained and was using our trade secrets, our enforcement efforts would be expensive and time consuming, and the outcome would be unpredictable. In addition, courts outside the United States are sometimes unwilling to protect trade secrets. Moreover, if our competitors independently develop equivalent knowledge, methods and know-how, it will be more difficult for us to enforce our rights and our business could be harmed.

If we are not able to defend the patent or trade secret protection position of our technologies, then we will not be able to exclude competitors from developing or marketing competing technologies and we may not generate enough revenues from product sales to justify the cost of developing our technologies and to achieve or maintain profitability.

We also rely on trademarks to establish a market identity for our company and our products. To maintain the value of our trademarks, we might have to file lawsuits against third parties to prevent them from using

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trademarks confusingly similar to or dilutive of our registered or unregistered trademarks. Also, we might not obtain registrations for our pending trademark applications, and we might have to defend our registered trademark and pending trademark applications from challenge by third parties. Enforcing or defending our registered and unregistered trademarks might result in significant litigation costs and damages, including the inability to continue using certain trademarks.

Third parties may claim that we infringe their intellectual property, and we could suffer significant litigation or licensing expense as a result.

Various U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in our technology areas. Such third parties may claim that we infringe their patents. Because patent applications can take several years to result in a patent issuance, there may be currently pending applications, unknown to us, which may later result in issued patents that our technologies may infringe. For example, we are aware of competitors with patents in technology areas applicable to our optical test equipment products. Such competitors may allege that we infringe these patents. There could also be existing patents of which we are not aware that our technologies may inadvertently infringe. We have from time to time, and may in the future, be contacted by third parties, including patent monetization firms or intellectual property advisors, about licensing opportunities that also contain claims that we are infringing on third party patent rights. If third parties assert these claims against us including third parties that have asserted claims against businesses that we have acquired, prior to our acquisition of these businesses we could incur extremely substantial costs and diversion of management resources in defending these claims, and the defense of these claims could have a material adverse effect on our business, financial condition and results of operations. Even if we believe we have not infringed on a third party s patent rights, we may have to settle a claim on unfavorable terms because we cannot afford to litigate the claim. In addition, if third parties assert claims against us and we are unsuccessful in defending against these claims, these third parties may be awarded substantial damages as well as injunctive or other equitable relief against us, which could effectively block our ability to make, use, sell, distribute or market our products and services in the United States or abroad.

Commercial application of nanotechnologies in particular, or technologies involving nanomaterials, is new and the scope and breadth of patent protection is uncertain. Consequently, the patent positions of companies involved in nanotechnologies have not been tested, and there are complex legal and factual questions for which important legal principles will be developed or may remain unresolved. In addition, it is not clear whether such patents will be subject to interpretations or legal doctrines that differ from conventional patent law principles. Changes in either the patent laws or in interpretations of patent laws in the United States and other countries may diminish the value of our nanotechnology-related intellectual property. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our nanotechnology-related patents or in third party patents. In the event that a claim relating to intellectual property is asserted against us, or third parties not affiliated with us hold pending or issued patents that relate to our products or technology, we may seek licenses to such intellectual property or challenge those patents. However, we may be unable to obtain these licenses on commercially reasonable terms, if at all, and our challenge of the patents may be unsuccessful. Our failure to obtain the necessary licenses or other rights could prevent the sale, manufacture or distribution of our products and, therefore, could have a material adverse effect on our business, financial condition and results of operations.

A substantial portion of our technology is subject to retained rights of our licensors, and we may not be able to prevent the loss of those rights or the grant of similar rights to third parties.

A substantial portion of our technology is licensed from academic institutions, corporations and government agencies. Under these licensing arrangements, a licensor may obtain rights over the technology, including the right to require us to grant a license to one or more third parties selected by the licensor or that we provide licensed technology or material to third parties for non-commercial research. The grant of a license for any of our core technologies to a third party could have a material and adverse effect on our business. In addition, some of our licensors retain certain rights under the licenses, including the right to grant additional licenses to a

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substantial portion of our core technology to third parties for non-commercial academic and research use. It is difficult to monitor and enforce such non-commercial academic and research uses, and we cannot predict whether the third-party licensees would comply with the use restrictions of such licenses. We have incurred and could incur substantial expenses to enforce our rights against them. We also may not fully control the ability to assert or defend those patents or other intellectual property which we have licensed from other entities, or which we have licensed to other entities.

In addition, some of our licenses with academic institutions give us the right to use certain technology previously developed by researchers at these institutions. In certain cases we also have the right to practice improvements on the licensed technology to the extent they are encompassed by the licensed patents and are within our field of use. Our licensors may currently own and may in the future obtain additional patents and patent applications that are necessary for the development, manufacture and commercial sale of our anticipated products. We may be unable to agree with one or more academic institutions from which we have obtained licenses whether certain intellectual property developed by researchers at these academic institutions is covered by our existing licenses. In the event that the new intellectual property is not covered by our existing licenses, we would be required to negotiate a new license agreement. We may not be able to reach agreement with current or future licensors on commercially reasonable terms, if at all, or the terms may not permit us to sell our products at a profit after payment of royalties, which could harm our business.

Some of our patents may cover inventions that were conceived or first reduced to practice under, or in connection with, U.S. government contracts or other federal funding agreements. With respect to inventions conceived or first reduced to practice under a federal funding agreement, the U.S. government may retain a non-exclusive, non-transferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the invention throughout the world. We may not succeed in our efforts to retain title in patents, maintain ownership of intellectual property or in limiting the U.S. government s rights in our proprietary technologies and intellectual property when an issue exists as to whether such intellectual property was developed in the performance of a federal funding agreement or developed at private expense.

RISKS RELATING TO OUR COMMON STOCK

We may not be able to comply with all applicable listing requirements or standards of the NASDAQ Capital Market and NASDAQ could delist our common stock.

Our common stock is listed on the NASDAQ Capital Market. In order to maintain that listing, we must satisfy minimum financial and other continued listing requirements and standards. There can be no assurances that we will be able to comply with applicable listing standards. In the event that our common stock is not eligible for quotation on another market or exchange, trading of our common stock could be conducted in the over-the-counter market or on an electronic bulletin board established for unlisted securities such as the Pink Sheets or the OTC Bulletin Board. In such event, it could become more difficult to dispose of, or obtain accurate price quotations for, our common stock, and there would likely also be a reduction in our coverage by security analysts and the news media, which could cause the price of our common stock to decline further. Also, it may be difficult for us to raise additional capital if we are not listed on a major exchange.

Our common stock price has been volatile and we expect that the price of our common stock will fluctuate substantially in the future, which could cause you to lose all or a substantial part of your investment.

The public trading price for our common stock is volatile and may fluctuate significantly. For example, since January 1, 2009, our common stock has traded between a high of $5.00 per share and a low of $0.26 per share. Among the factors, many of which we cannot control, that could cause material fluctuations in the market price for our common stock are:

- changes in earnings estimates, investors perceptions, recommendations by securities analysts or our failure to achieve analysts earnings estimates;

- changes in our status as an entity eligible to receive SBIR contracts and grants;

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sales of our common stock by our significant stockholders, or the perception that such sales may occur, including as a result of the registration for resale of shares of common stock owned by Dr. Kent Murphy and/or Carilion Clinic;

quarterly variations in our or our competitors results of operations;

general market conditions and other factors unrelated to our operating performance or the operating performance of our competitors;

announcements by us, or by our competitors, of acquisitions, new products, significant contracts, commercial relationships or capital commitments;

litigation;

any major change in our board of directors or management or any competing proxy solicitations for director nominees;

changes in governmental regulations or in the status of our regulatory approvals;

announcements related to patents issued to us or our competitors;

a lack of, limited or negative industry or securities analyst coverage;

discussions of our company or our stock price by the financial and scientific press and online investor communities such as chat rooms; and

general developments in our industry.

In addition, the stock prices of many technology companies have experienced wide fluctuations that have often been unrelated to the operating performance of those companies. These factors may materially and adversely affect the market price of our common stock.

If our internal controls over financial reporting are found not to be effective or if we make disclosure of existing or potential significant deficiencies or material weaknesses in those controls, investors could lose confidence in our financial reports, and our stock price may be adversely affected.

Section 404 of the Sarbanes-Oxley Act of 2002 requires us to include an internal control report with our Annual Report on Form 10-K. That report must include management s assessment of the effectiveness of our internal control over financial reporting as of the end of the fiscal year.

We evaluate our existing internal control over financial reporting based on the framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. During the course of our ongoing evaluation of the internal controls, we may identify areas requiring improvement, and may have to design enhanced processes and controls to address issues identified through this review. Remedying any deficiencies, significant deficiencies or material weaknesses that we identify may require us to incur significant costs and expend significant time and management resources. We cannot assure you that any of the measures we implement to remedy any such deficiencies will effectively mitigate or remedy such deficiencies. Investors could lose confidence in our financial reports, and our stock price may be adversely affected, if our internal controls over financial reporting are found not to be effective by management or if we make disclosure of existing or potential significant deficiencies or material weaknesses in those controls.

Anti-takeover provisions in our amended and restated certificate of incorporation and bylaws and Delaware law could discourage or prevent a change in control, even if an acquisition would be beneficial to our stockholders, which could affect our stock price adversely and prevent attempts by our stockholders to replace or remove our current management.

Our amended and restated certificate of incorporation and bylaws and Delaware law contain provisions that might delay or prevent a change in control, discourage bids at a premium over the market price of our common

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stock and adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. These provisions include:

- a classified board of directors serving staggered terms;
- advance notice requirements to stockholders for matters to be brought at stockholder meetings;
- a supermajority stockholder vote requirement for amending certain provisions of our amended and restated certificate of incorporation and bylaws; and
- the right to issue preferred stock without stockholder approval, which could be used to dilute the stock ownership of a potential hostile acquirer.

We are also subject to provisions of the Delaware corporation law that, in general, prohibit any business combination with a beneficial owner of 15% or more of our common stock for five years unless the holder s acquisition of our stock was approved in advance by our board of directors.

The existence of these provisions could adversely affect the voting power of holders of common stock and limit the price that investors might be willing to pay in the future for shares of our common stock.

We may become involved in securities class action litigation that could divert management s attention and harm our business and our insurance coverage may not be sufficient to cover all costs and damages.

The stock market has from time to time experienced significant price and volume fluctuations that have affected the market prices for the common stock of technology companies. These broad market fluctuations may cause the market price of our common stock to decline. In the past, following periods of volatility in the market price of a particular company s securities, securities class action litigation has often been brought against that company. Securities class litigation also often follows certain significant business transactions, such as the sale of a business division or a change in control transaction. We may become involved in this type of litigation in the future. Litigation often is expensive and diverts management s attention and resources, which could adversely affect our business.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

We lease approximately 24,000 square feet of space in Roanoke, Virginia from Carilion Clinic, our largest institutional stockholder. This property is used for our corporate headquarters as well as for general administrative functions. Pursuant to a sublease entered into with Mac-B in connection with our sale of SCC to Mac-B, we sublease approximately 12,000 square feet of this space to Mac-B.

We lease approximately 37,000 square feet of space in Blacksburg, Virginia, near Virginia Tech, which is used by both our Technology Development segment and our Products and Licensing segment.

We lease approximately 16,000 square feet of space in Charlottesville, Virginia, near the University of Virginia, for use by certain groups in our Technology Development segment.

We own a 24,000 square foot facility in Danville, Virginia. This property was previously the subject of a lease with the city, and we exercised a purchase option during 2010 to acquire the building for approximately $70,000. Our Technology Development segment primarily uses this facility for nanomaterials research and development and manufacturing.

We believe that our existing facilities are adequate for our current needs and suitable additional or substitute space will be available as needed to accommodate expansion of our operations.

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ITEM 3. LEGAL PROCEEDINGS

From time to time, we may become involved in litigation or claims arising out of our operations in the normal course of business. Management currently believes the amount of ultimate liability, if any, with respect to these actions will not materially affect our financial position, results of operations, or liquidity.

ITEM 4. MINE SAFETY DISCLOSURE

Not applicable.

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PART II

ITEM 5. MARKET FOR REGISTRANT S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

PRICE RANGE OF COMMON STOCK

Our common stock trades on The NASDAQ Capital Market. The following table sets forth the high and low sales prices of our common stock for each period indicated and are as reported by NASDAQ.

	2012		2011	
Fiscal Period	**High**	**Low**	**High**	**Low**
First Quarter	$ 1.98	$ 1.20	$ 3.60	$ 1.46
Second Quarter	$ 1.80	$ 1.23	$ 2.50	$ 1.48
Third Quarter	$ 1.95	$ 1.31	$ 2.14	$ 1.16
Fourth Quarter	$ 1.92	$ 1.12	$ 1.77	$ 1.00

We have a single class of common stock outstanding. As of March 14, 2013, there were approximately 81 stockholders of record of our common stock. The number of holders of record of our common stock does not reflect the number of beneficial holders whose shares are held by depositories, brokers or other nominees.

STOCK PERFORMANCE GRAPH

The graph set forth below compares the cumulative total stockholder return on our common stock for the previous five years, during which our common stock was traded on the NASDAQ Global Market until being transferred to the NASDAQ Capital Market in 2009, as compared to the cumulative total return of the NASDAQ Composite Index and the Russell 2000 Index over the same period. This graph assumes the investment of $100,000 in our common stock at the closing price of the market on January 1, 2008, and an equivalent amount in the NASDAQ Composite Index and the Russell 2000 Index on that date, and assumes the reinvestment of dividends, if any. We have never paid dividends on our common stock and have no present plans to do so.

Since there is no published industry or line-of-business index for our business reflective of our performance, nor do we believe we can reasonably identify a peer group, we measure our performance against issuers with similar market capitalizations. We selected the Russell 2000 Index because it measures the performance of a broad range of companies with lower market capitalizations than those companies included in the S&P 500 Index.

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The comparisons shown in the graph below are based upon historical data. We caution that the stock price performance shown in the graph below is not necessarily indicative of, nor is it intended to forecast, the potential future performance of our common stock.

The preceding Stock Performance Graph is not deemed filed with the Securities and Exchange Commission and shall not be incorporated by reference in any of our filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

DIVIDEND POLICY

Since our inception, we have never declared or paid any cash dividends on our common stock. We currently expect to retain any future earnings for use in the operation and expansion of our business, and therefore do not anticipate paying any cash dividends in the foreseeable future. In addition, our line of credit facility with Silicon Valley Bank restricts us from paying cash dividends on our capital stock without the bank s prior written consent.

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ITEM 6. SELECTED FINANCIAL DATA

The consolidated statement of operations data for each of the three years in the period ended December 31, 2012 and the consolidated balance sheet data as of December 31, 2011 and 2012 have been derived from our audited consolidated financial statements appearing elsewhere in this report. The consolidated statement of operations data for the years ended December 31, 2008 and 2009 and the consolidated balance sheet data as of December 31, 2008, 2009 and 2010 have been derived from our audited consolidated financial statements that do not appear in this report. The following selected consolidated financial data should be read in conjunction with our consolidated financial statements and the accompanying notes and Management s Discussion and Analysis of Financial Condition and Results of Operations included at Part II, Item 7 in this Annual Report on Form 10-K. The selected data in this section is not intended to replace the consolidated financial statements, and the historical results are not necessarily indicative of the results to be expected in any future period.

In thousands, except share and per share data	2008	2009 (a)	2010	2011	2012
Consolidated Statement of Operations Data:					
Revenues:					
Technology development revenues	$ 26,518	$ 25,198	$ 22,405	$ 22,418	$ 21,098
Products and Licensing revenues	10,380	9,374	12,133	13,196	11,251
Total revenues	36,898	34,572	34,538	35,614	32,349
Cost of revenues:					
Technology development costs	17,367	17,032	15,808	15,793	14,929
Products and Licensing costs	5,490	4,784	5,787	6,590	5,242
Total cost of revenues	22,858	21,815	21,595	22,383	20,171
Gross profit	14,041	12,757	12,944	13,231	12,178
Operating expense	21,335	30,200	14,992	14,464	13,363
Operating loss	(7,294)	(17,444)	(2,049)	(1,233)	(1,185)
Other income, net	1,198	1	77	228	108
Interest income (expense), net	(190)	(504)	(474)	(377)	(287)
Loss before reorganization items and income tax	(6,286)	(17,947)	(2,446)	(1,382)	(1,363)
Reorganization Costs		1,898	174		
Loss before income tax	(6,286)	(19,845)	(2,620)	(1,382)	(1,363)
Income tax expense		600		10	21
Net loss	(6,286)	(20,445)	(2,620)	(1,392)	(1,384)
Preferred stock dividend			361	127	120
Net loss attributable to common stockholders	$ (6,286)	$ (20,445)	$ (2,981)	$ (1,519)	$ (1,504)
Net loss per common share:					
Basic	$ (0.57)	$ (1.82)	$ (0.23)	$ (0.11)	$ (0.11)
Diluted	$ (0.57)	$ (1.82)	$ (0.23)	$ (0.11)	$ (0.11)
Weighted-average number of shares used in per share calculations:					
Basic	10,974,010	11,232,716	13,009,326	13,647,555	13,930,267
Diluted	10,974,010	11,232,716	13,009,326	13,647,555	13,930,267

	2008	2009	2010	2011	2012
Consolidated Balance Sheet Data:					
Cash and cash equivalents	$ 15,519	$ 5,229	$ 7,217	$ 8,939	$ 6,340
Working capital	14,992	16,529	8,055	10,928	10,509
Total assets	34,017	21,758	22,876	22,919	20,458
Total current liabilities	11,129	5,556	10,648	8,407	6,932
Total debt	10,000	5,000	6,307	5,250	3,625

(a) In April 2009, a jury awarded Hansen Medical Inc. (Hansen) a judgment of $36.3 million following a trial. In January 2010, we and Hansen entered into a settlement agreement that reduced our liability to $9.7 million. This amount was recognized in operating expenses for the year ended December 31, 2009 and is included in accrued liabilities at December 31, 2009. As a result of the jury award, we performed an interim goodwill and intangible asset impairment analysis. As a result of this analysis, we recognized an impairment of $1.3 million during the quarter ended March 31, 2009. We also determined that our remaining deferred tax asset was no longer likely to be realized and placed a valuation allowance of $0.6 million against the asset. On July 17, 2009, we filed a voluntary petition for relief in order to reorganize under Chapter 11 of the United States Bankruptcy Code. As a result of this action, we incurred significant legal expenses that are included in reorganization expenses for the year ended December 31, 2009 in the table above.

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ITEM 7. MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the related notes to those statements included elsewhere in this report. In addition to historical financial information, the following discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results and timing of selected events may differ materially from those anticipated in these forward-looking statements as a result of many factors, including those discussed under Risk Factors and elsewhere in this report.

Business Overview

We develop, manufacture and market fiber optic test & measurement, sensing, and instrumentation products and are focused on bringing new and innovative technology solutions to measure, monitor, protect and improve critical processes in the telecommunications, medical, composite and defense industries. Our business model is designed to accelerate the process of bringing new and innovative products to market. We use our in-house technical expertise across a range of technologies to perform applied research services for companies and government-funded projects. We continue to invest in product development and commercialization, which we anticipate will lead to increased product sales growth.

Our corporate strategy focuses on two key objectives for growth as we seek to commercialize our technologies:

Develop and become the leading supplier of fiber optic shape sensing technology for robotic and minimally invasive surgical systems.

Become the leading provider of fiber optic sensing systems and standard test methods for composite materials.

We are organized into two main business segments, our Products and Licensing segment and our Technology Development segment. Our Products and Licensing segment develops, manufactures and markets our fiber optic test and measurement, sensing, and instrumentation products and also conducts applied research in the fiber optic sensing area for both corporate and government customers. Revenues in this segment are currently largely derived from sales of test and measurement equipment for optical components and networks. Our Products and Licensing segment is also focused on our two key strategic objectives. We are working to develop and commercialize our fiber optic shape sensing technology in the medical industry with the goal of supplying fiber optic shape sensing components for use in robotic and minimally invasive surgical systems. We are also working to develop and commercialize our fiber optic technology for strain and temperature sensing applications for the composite materials industry. Our Products and Licensing segment revenues represented approximately 35%, 37% and 35% of our total revenues for the years ended December 31, 2010, 2011 and 2012, respectively. A breakdown of our operating income (loss) by segment, as well as our total assets by segment, is provided in footnote 13 to our consolidated financial statements included in this report.

Our Technology Development segment performs applied research for government funded projects and previously included our secure computing and communications group, or SCC. Our Technology Development segment comprised approximately 65%, 63% and 65% of our total revenues for the years ended December 31, 2010, 2011 and 2012, respectively. Prior to our sale of SCC to Mac-B, SCC provided innovative solutions designed to secure critical technologies within the U.S. government. SCC conducted applied research and provided services to the government in this area, with its revenues primarily derived from U.S. government contracts and purchase orders. Following the sale of SCC, our Technology Development segment predominantly performs applied research in the areas of sensing and materials. Most of the government funding for our Technology Development segment excluding SCC is derived from the Small Business Innovation Research, or SBIR, program coordinated by the U.S. Small Business Administration, or SBA.

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We generate revenues through technology development services provided under contractual arrangements, product sales, product development under contractual relationships and license fees. Our Technology Development segment revenues have historically accounted for a large portion of our total revenues, and we expect that they will continue to represent a significant portion of our total revenues for the foreseeable future. Our Technology Development segment revenues remained unchanged at $22.4 million from 2010 to 2011 and decreased to $21.1 million in 2012. The decline from 2011 to 2012 resulted primarily from lower contract awards in our secure computing group and our nanotechnology group during 2012. Of those amounts, SCC accounted for revenues of $8.0 million, $6.8 million and $6.0 million for the years ended December 31, 2010, 2011 and 2012, respectively.

Within the Technology Development segment, we have historically had a backlog of contracts for which work has been scheduled, but for which a specified portion of work has not yet been completed. We define backlog as the dollar amount of obligations payable to us under negotiated contracts upon completion of a specified portion of work that has not yet been completed, exclusive of revenues previously recognized for work already performed under these contracts, if any. Total backlog includes funded backlog, which is the amount for which money has been directly authorized by the U.S. Congress and for which a purchase order has been received by a commercial customer, and unfunded backlog, representing firm orders for which funding has not yet been appropriated. Indefinite delivery and quantity contracts and unexercised options are not reported in total backlog. The approximate value of our Technology Development segment backlog was $13.6 million at December 31, 2012 (which includes $3.3 million of backlog related to SCC), compared to $20.4 million at December 31, 2011 (which includes $4.2 million backlog related to SCC). The decrease is due to lower win rates and bidding opportunities.

Revenues from product sales currently represent a smaller portion of our total revenues, and, historically, we have derived most of these revenues from the sales of our sensing systems and products that make use of light-transmitting optical fibers, or fiber optics. We continue to invest in product development and commercialization, which we anticipate will lead to increased product sales growth. Although we have been successful in licensing certain technology in past years, we do not expect license revenues to represent a significant portion of future revenues. Over time, however, we do intend to gradually increase such revenues. In the near term, we expect revenues from product sales and product development to be primarily in areas associated with our fiber optic instrumentation, test and measurement and sensing platforms. In the long term, we expect that revenues from product sales will represent a larger portion of our total revenues and that as we develop and commercialize new products, these revenues will reflect a broader and more diversified mix of products.

We incurred net losses attributable to common stockholders of approximately $3.0 million, $1.5 million and $1.5 million for the years ended December 31, 2010, 2011 and 2012, respectively.

We expect to continue to incur increasing expenses as we expand our business, including expenses for research and development, sales and marketing and manufacturing capabilities. We may also grow our business in part through acquisitions of additional companies and complementary technologies, which could cause us to incur transaction expenses, amortization or write-offs of intangible assets and other acquisition-related expenses. As a result, we expect to incur net losses for the foreseeable future, and these losses could be substantial.

Economic conditions have experienced a significant prolonged downturn and remain uncertain. This slowing of the economy has reduced the financial capacities of our customers and possibly our potential customers, thereby slowing spending on the products and services we provide. Furthermore, pending reductions in government spending may impact the availability of new program awards in 2013. For example, the Budget Control Act commits the U.S. Government to reduce the federal deficit by $1.2 trillion over ten years through a combination of automatic, across-the-board spending cuts and caps on discretionary spending. This sequestration under the Budget Control Act is split equally between defense and non-defense programs. Originally scheduled to take effect on January 2, 2013, the deadline for averting sequestration was delayed until March 1, 2013 by the by the American Taxpayer Relief Act of 2012. Congress and the Administration

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continue to debate these issues. Any automatic across-the-board cuts required by sequestration could have a material adverse effect on our technology development revenue and, consequently, our results of operations. While the exact manner in which sequestration would impact our business is unclear, funding for programs in which we participate could be reduced, delayed or cancelled. Our ability to obtain new contract awards also could be negatively affected. The outlook for the economy for 2013 and beyond remains uncertain.

Sale of Secure Computing and Communications (SCC) Group

On March 1, 2013, we entered into an Asset Purchase Agreement with Mac-B, under which we sold SCC to Mac-B for $6.1 million in cash. Of the purchase price, $0.1 million will be payable on December 31, 2013 and an additional $0.6 million was placed in escrow to be released in tranches over 18 months, subject to certain events and dates and to any indemnification claims of Mac-B. Mac-B acquired all of the assets of SCC, including SCC s intellectual property, in the transaction. We estimate that the net proceeds received upon the closing of the transaction, after the payment of our transaction expenses and assuming our receipt of the $0.7 million of aggregate purchase price payable in the future as described above, will be approximately $5.2 million. In connection with the transaction, Mac-B also entered into a sublease with us that permits Mac-B to continue operating the SCC business in our Roanoke, Virginia headquarters through December 31, 2013. During 2013, we expect to collect approximately $0.3 million in sublease payments from Mac-B.

In light of the significance of SCC to our business, we expect the sale of SCC will have a significant impact on our financial results. SCC accounted for 18.5% of our revenues, and 20.7% of our cost of revenues for the year ended December 31, 2012. Additionally, we expect the sale of SCC to result in a reduction in annual operating expenses of approximately $0.8 million, including the effects of the sublease described above.

Chapter 11 Reorganization and Settlement with Hansen

On July 17, 2009, we filed for reorganization under Chapter 11 of the United States Bankruptcy Code. During the period from the filing date until January 12, 2010, the date we emerged from bankruptcy, we operated as a Debtor in Possession. As a result of these Chapter 11 filings, actions to collect pre-petition indebtedness and the pending Hansen litigation were stayed. In addition, under the Bankruptcy Code we had the right to assume or reject executory contracts, including real estate leases, employment contracts, personal property leases, service contracts and other unexpired executory pre-petition contracts, subject to court approval. We did not reject any such contracts in our Chapter 11 plan as confirmed by the court.

Our plan of reorganization was confirmed by the bankruptcy court on January 12, 2010, and we emerged from bankruptcy on that date.

In December 2009, we entered into a settlement agreement with Hansen which reduced our liability with respect to our outstanding litigation to $9.7 million. As part of the settlement, in January 2010 we issued to Hansen a $5.0 million secured promissory note, referred to in this report as the Hansen Note, approximately 1.3 million shares of our common stock and a warrant entitling Hansen to purchase, until January 12, 2013, a number of shares of our common stock as necessary for Hansen to maintain a 9.9% ownership interest in our common stock, at an exercise price of $0.01 per share, referred to in this report as the Hansen Warrant. We also entered into several related agreements described in this report. We repaid the Hansen Note in May 2011, as described further below. Although the Hansen Warrant was scheduled to expire in January 2013, Hansen may still have the ability to exercise it for 29,126 shares of common stock.

The Hansen litigation, including settlement efforts, resulted in significant legal expenses and related costs that are included in operating expenses for the year ended December 31, 2009. The Chapter 11 reorganization also resulted in significant legal expenses and related costs that are included in reorganization expenses for the year ended December 31, 2009. While we incurred certain expenses for both our Chapter 11 reorganization and the Hansen litigation during the year ended December 31, 2010, these amounts were not material and we incurred no such costs during the year ended December 31, 2011.

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Description of Our Revenues, Costs and Expenses

Revenues

We generate revenues from technology development, product sales and commercial product development and licensing activities. We derive technology development revenues from providing research and development services to third parties, including government entities, academic institutions and corporations, and from achieving milestones established by some of these contracts and in collaboration agreements. In general, we complete contracted research over periods ranging from six months to three years, and recognize these revenues over the life of the contract as costs are incurred or upon the achievement of certain milestones built into the contracts. Our technology development revenues represented approximately 63% and 65% of our total revenues for the years ended December 31, 2011 and 2012, respectively. Within technology development revenues, revenues from SCC represented approximately 19.2% and 18.5% of our total revenues for the years ended December 31, 2011 and 2012, respectively.

Our product and license revenues reflect amounts that we receive from sales of our products or development of products for third parties, as well as fees paid to us in connection with licenses or sublicenses of certain patents and other intellectual property, and represented approximately 37% and 35% of our total revenues for the years ended December 31, 2011 and 2012, respectively.

Cost of Revenues

Cost of revenues associated with technology development revenues consists of costs associated with performing the related research activities including direct labor, amounts paid to subcontractors and overhead allocated to technology development activities.

Cost of revenues associated with product sales and license revenues consists of license fees for use of certain technologies; product manufacturing costs including all direct material and direct labor costs; amounts paid to our contract manufacturers; manufacturing, shipping and handling; provisions for product warranties; and inventory obsolescence, as well as overhead allocated to each of these activities.

Operating Expense

Operating expense consists of selling, general and administrative expenses, as well as expenses related to research, development and engineering, depreciation of fixed assets and amortization of intangible assets. These expenses also include compensation for employees in executive and operational functions including: certain non-cash charges related to expenses from option grants, facilities costs, professional fees, salaries, commissions, travel expense and related benefits of personnel engaged in sales, product management and marketing activities; costs of marketing programs and promotional materials; salaries, bonuses and related benefits of personnel engaged in our own research and development beyond the scope and activities of our Technology Development segment; product development activities not provided under contracts with third parties; and overhead costs related to these activities.

Interest Income/Expense

In February 2010, we entered into a new line of credit facility with Silicon Valley Bank, or SVB, with a borrowing capacity of $5.0 million. In May 2011, we entered into a loan modification agreement with SVB under which we repaid the outstanding balance under the prior line of credit and obtained a term loan in the amount of $6.0 million, along with a new $1.0 million line of credit. In May 2012, we entered into another loan modification agreement with SVB under which we extended the maturity date of the line of credit to May 2014 and adjusted certain covenants. At December 31, 2012, we had $3.6 million outstanding on the term loan and no amounts outstanding on the line of credit. On March 21, 2013, we entered into another loan modification agreement with SVB under which we replaced the previous financial covenants with a single covenant that we maintain a minimum cash balance of $5.0 million.

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During 2011 and 2012, interest expense included interest accrued on our outstanding bank credit facilities, interest incurred with respect to the Hansen Note until it was paid in full in May 2011, and interest incurred with respect to our capital lease obligations.

Interest income includes amounts earned on our cash deposits with financial institutions.

Critical Accounting Policies and Estimates

Technology Development Revenues

We perform research and development for U.S. Federal government agencies, educational institutions and commercial organizations. We recognize revenue under research contracts when a contract has been executed, the contract price is fixed and determinable, delivery of services or products has occurred, and collectability of the contract price is considered reasonably assured and can be reasonably estimated. Revenue is earned under cost reimbursable, time and materials and fixed price contracts. Direct contract costs are expensed as incurred.

Under cost reimbursable contracts, we are reimbursed for costs that are determined to be reasonable, allowable and allocable to the contract and paid a fixed fee representing the profit negotiated between us and the contracting agency. Revenue from cost reimbursable contracts is recognized as costs are incurred plus an estimate of applicable fees earned. We consider fixed fees under cost reimbursable contracts to be earned in proportion to the allowable costs incurred in performance of the contract.

Revenue from time and materials contracts is recognized based on direct labor hours expended at contract billing rates plus other billable direct costs.

Fixed price contracts may include either a product delivery or specific service performance throughout a period. For fixed price contracts that are based on the proportional performance method and involve a specified number of deliverables, we recognize revenue based on the proportion of the cost of the deliverables compared to the cost of all deliverables included in the contract as this method more accurately measures performance under these arrangements. For fixed price contracts that provide for the development and delivery of a specific prototype or product, revenue is recognized based upon the percentage of completion method.

Our contracts with agencies of the U.S. government are subject to periodic funding by the respective contracting agency. Funding for a contract may be provided in full at inception of the contract or ratably throughout the contract as the services are provided. In evaluating the probability of funding for purposes of assessing collectability of the contract price, we consider our previous experience with our customers, communication with our customers regarding funding status and our knowledge of available funding for the contract or program. If funding is not assessed as probable, revenue recognition is deferred until realization is reasonably assured.

Contract revenue recognition inherently involves estimation, including the contemplated level of effort to accomplish the tasks under the contract, the cost of the effort and an ongoing assessment of progress toward completing the contract. From time to time, as part of normal management processes, facts may change, causing revisions to estimated total costs or revenues expected. The cumulative impact of any revisions to estimates and the full impact of anticipated losses on any type of contract are recognized in the period in which they become known.

The underlying bases for estimating our contract research revenues are measurable expenses, such as labor, subcontractor costs and materials, and data that are updated on a regular basis for purposes of preparing our cost estimates. Our research contracts generally have a period of performance of six to 18 months, and our estimates of contract costs have historically been consistent with actual results. Revisions in these estimates between accounting periods to reflect changing facts and circumstances have not had a material impact on our operating results, and we do not expect future changes in these estimates to be material.

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Whether certain costs under government contracts are allowable is subject to audit by the government. Certain indirect costs are charged to contracts using provisional or estimated indirect rates, which are subject to later revision based on government audits of those costs. Management is of the opinion that costs subsequently disallowed, if any, would not likely have a significant impact on revenues recognized for those contracts.

Products and Licensing Revenues

We recognize revenue relating to our product sales when persuasive evidence of an arrangement exists, delivery has occurred, the selling price is fixed or determinable and collectability of the resulting receivable is reasonably assured. For tangible products that contain software that is essential to the tangible product s functionality, we consider the product and software to be a single unit of accounting and recognize revenue accordingly. We evaluate product sales that are a part of multiple-element revenue arrangements to determine whether separate units of accounting exist, and we follow appropriate revenue recognition policies for each separate unit. For multi-element arrangements we allocate revenue to all significant deliverables based on their relative selling prices. In such circumstances, we use a hierarchy to determine the selling price to be used for allocating revenue to deliverables: (i) vendor-specific objective evidence of fair value (VSOE), (ii) third-party evidence of selling price (TPE), and (iii) best estimate of the selling price, (ESP). VSOE generally exists only when we sell the deliverable separately and is the price actually charged by us for that deliverable. Our product sales often include bundled products, options and services and therefore VSOE is not readily determinable. In addition, we believe that because of unique features of our products, TPE also is not available. ESPs reflect our best estimates of what the selling prices of elements would be if they were sold regularly on a stand-alone basis.

Our process for determining ESP for deliverables without VSOE or TPE considers multiple factors that may vary depending upon the unique facts and circumstances related to each deliverable. Key factors considered in developing the ESPs include prices charged by us for similar offerings, our historical pricing practices, the nature of the deliverables, and the relative ESP of all of the deliverables as compared to the total selling price of the product. We may also consider, when appropriate, the impact of other products and services, on selling price assumptions when developing and reviewing our ESPs.

Income Taxes

We estimate our tax liability through calculating our current tax liability, together with assessing temporary differences resulting from the different treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which we record on our balance sheet. Management then assesses the likelihood that deferred tax assets will be recovered in future periods. In assessing the need for a valuation allowance against the net deferred tax asset, management considers factors such as future reversals of existing taxable temporary differences, taxable income in prior carry back years, whether carry back is permitted under the tax law, tax planning strategies and estimated future taxable income exclusive of reversing temporary differences and carry forwards. To the extent that we cannot conclude that it is more likely than not that the benefit of such assets will be realized, we establish a valuation allowance to reduce their net carrying value.

As we assess our projections of future taxable income or other factors that may impact our ability to generate taxable income in future periods, our estimate of the required valuation allowance may change, which could have a material impact on future earnings or losses.

We recognize tax benefits from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities. While it is often difficult to predict the final outcome of timing of the resolution of any particular tax matter, we establish a liability at the time we determine it is probable we will be required to pay additional taxes related to certain matters. These liabilities are recorded in accrued liabilities in our consolidated balance sheets. We adjust this provision, including any impact on the related interest and penalties, in light of changing facts and circumstances, such as the progress of a tax audit. A

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number of years may elapse before a particular matter for which we have established a liability is audited and finally resolved. The number of years with open tax audits varies depending on the tax jurisdiction. Settlement of any particular issue would usually require the use of cash. We recognize favorable resolutions of tax matters for which we have previously established liabilities as a reduction to our income tax expense when the amounts involved become known.

Due to differences between federal and state tax law, and accounting principles generally accepted in the United States of America, or GAAP, certain items are included in the tax return at different times than when those items are reflected in the consolidated financial statements. Therefore, the annual tax rate reflected in our consolidated financial statements is different than that reported in our tax return. Some of these differences are permanent, such as expenses that are not deductible in our tax return. Some differences, such as depreciation expense, reverse over time and create deferred tax assets and liabilities. The tax rates used to determine deferred tax assets or liabilities are the enacted tax rates in effect for the year in which the differences are expected to reverse. Based on the evaluation of all available information, we recognize future tax benefits, such as net operating loss carry forwards, to the extent that realizing these benefits is considered more likely than not.

Stock-Based Compensation

We recognize stock-based compensation expense based upon the fair value of the underlying equity award on the date of the grant. We have elected to use the Black-Scholes option pricing model to value any awards granted. We amortize stock-based compensation for such awards on a straight-line basis over the related service period of the awards taking into account the effects of the employees expected exercise and post-vesting employment termination behavior. To compute the volatility used in this model, we use the lifetime volatility of our common stock.

Long-lived and Intangible Assets

Long-lived assets and certain identifiable intangibles are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset might not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be disposed of are reported at the lower of the carrying amount or fair value, less cost to sell.

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Results of Operations

The following table shows information derived from our consolidated statements of operations expressed as a percentage of total revenues for the periods presented.

	Year ended December 31,		
	2010	2011	2012
Revenues:			
Technology development revenues	64.9%	62.9%	65.2%
Product and licensing revenues	35.1	37.1	34.8
Total revenues	100.0	100.0	100.0
Cost of Revenues:			
Technology development costs	45.8	44.3	46.1
Product and licensing costs	16.8	18.5	16.2
Total cost of revenues	62.5	62.8	62.4
Gross Profit	37.5	37.2	37.6
Operating Expense	43.4	40.7	41.3
Operating Loss	(5.9)	(3.5)	(3.7)
Total Other Income (Expense), net	(1.1)	(0.4)	(0.6)
Loss before reorganization items and income tax	(7.0)	(3.9)	(4.2)
Reorganization Costs	0.5		
Loss Before Income Taxes	(7.6)	(3.9)	(4.2)
Net Loss	(7.6)	(3.9)	(4.3)

Year Ended December 31, 2012 Compared to Year Ended December 31, 2011

Revenues

	2012	2011	$ Difference	% Difference
Technology development revenues	$ 21,098,286	$ 22,417,902	$ (1,319,616)	(5.9)%
Products and licensing revenues	11,250,717	13,195,822	(1,945,105)	(14.7)%
Total revenues	$ 32,349,003	$ 35,613,724	$ (3,264,721)	(9.2)%

Our Technology Development segment revenue decreased $1.3 million from $22.4 million in the year ended December 31, 2011 to $21.1 million in the year ended December 31, 2012. Within this segment SCC s revenues for 2012 were $6.0 million compared to $6.8 million for 2011, a decrease of $0.8 million. Revenues for SCC were driven primarily by a decrease in two of our larger commercial contracts of $0.7 million. Within our remaining Technology Development segment, revenues in our materials groups were $6.5 million for 2012 as compared to $7.1 for 2011. The decrease of $0.6 million was due primarily to continued lower contract awards within our Nanotechnology group. Revenues in our biomedical group decreased to $1.5 million, a decrease of $0.4 million from $1.9 million in 2011. This decrease is due primarily to a large contract ending mid-year and a program delay due to subcontractor relocation. These decreases were partially offset by an increase in revenues in our sensing groups, which generated $7.1 million in revenue for 2012, compared to $6.4 million for 2011. This increase of $0.7 million was due to an increase in funding in 2012 of one of our larger phase II contracts.

Our Products and Licensing segment revenue decreased from $13.2 million to $11.3 million, a decrease of $1.9 million, for 2012 as compared to 2011. Within our Products and Licensing segment, product sales revenue decreased by 7.4% to $8.7 million during the year ended December 31, 2012 as compared to $9.4 million for 2011. We experienced an increase of $2.2 million in sales of our sensing products, primarily our ODiSI product, which was offset by a decrease in our telecom industry sales products of $3.1 million, primarily our OBR and

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OVA products. Our product development revenue also decreased to $2.6 million for the year ended December 31, 2012 as compared to $3.6 million for 2011, a decrease of $1.0 million. This decrease was due to the decreased level of work performed under our development agreements for shape sensing in medical applications.

Cost of Revenues

	2012	2011	$ Difference	% Difference
Technology development costs	$ 14,928,887	$ 15,793,279	$ (864,392)	(5.5)%
Products and licensing costs	5,242,043	6,589,943	(1,347,900)	(20.5)%
Total costs of revenues	$ 20,170,930	$ 22,383,222	$ (2,212,292)	(9.9)%

Our Technology Development segment costs decreased to $14.9 million for the year ended December 31, 2012 from $15.8 million in 2011. Within the Technology Development segment, SCC s cost of revenues decreased from $4.3 million for 2011 to $4.2 million for 2012, a decrease of $0.1 million, due primarily to a decrease in costs, primarily for labor of $0.2 million, partially offset by an increase in overhead and materials of $0.1 million. Our materials groups also saw a decline in their cost of revenues from $5.5 million for 2011 to $4.8 million for 2012, a decline of $0.7 million, due to a decrease in direct labor and overhead. Cost of revenues in our sensing groups increased from $4.6 million for 2011 to $5.0 million for 2012, an increase of $0.4 million, with all areas of direct costs in our sensing groups showing increases, commensurate with their increases in revenue.

Our Products and Licensing segment costs decreased from $6.6 million for 2011 to $5.2 million for 2012, a decrease of 20.5%. Within our Products and Licensing segment, product sales costs for 2012 increased to $3.6 million from $3.3 million for 2011. This increase of $0.3 million of costs related to component costs for our increased sensing product sales. Contract development costs of revenues were $1.6 million for 2012, as compared to $3.3 million for 2011, a decrease of $1.7 million. This decrease in costs was primarily associated with a decrease in resources assigned to work performed on the Hansen supply and development agreement.

Operating Expense

	2012	2011	$ Difference	% Difference
Selling general and administrative expense	$ 10,804,156	$ 11,788,866	$ (984,710)	(8.4)%
Research, development, and engineering expense	2,558,417	2,674,730	(116,313)	(4.3)%
Total operating expense	$ 13,362,573	$ 14,463,596	$ (1,101,023)	(7.6)%

Selling, general and administrative expenses decreased by $1.0 million, or 8.4%, to $10.8 million for 2012, as compared to $11.8 million for 2011. This decrease is due primarily to a decrease in incentive compensation of $0.4 million in 2012 and a decrease of $0.3 million in stock-based compensation expense.

Research, development, and engineering expenses decreased were virtually unchanged at $2.6 million and $2.7 million for 2012 and 2011, respectively.

Interest and Other Income (Expense)

Our net interest expense was approximately $287,000 for the year ended December 31, 2012 compared to approximately $377,000 for the year ended December 31, 2011. During the year ended December 31, 2012 our primary outstanding borrowing was the term loan provided by SVB. During the year ended December 31, 2011 we maintained a $2.5 million balance on our line of credit until May 2011, at which time we refinanced both the

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line of credit and the remaining balance under the Hansen Note with a $6.0 million term loan also provided by SVB. Interest expense incurred in 2011 included approximately $267,000 associated with our SVB debt facility and approximately $97,000 associated with the Hansen Note. The average principal balance on outstanding borrowings was $4.4 million and $4.5 million for the years ended 2012 and 2011, respectively.

Other income was approximately $108,000 for the year ended December 31, 2012 and $228,000 for the year ended December 31, 2011. Other income in 2012 was primarily due to $93,000 from the discount we received on the final payoff of the Hansen Note in 2011. During the year ended December 31, 2011, we received approximately $154,000 for reimbursement of costs incurred by us in anticipation of a new development agreement. We also recognized approximately $58,000 in Other Income from the discount we received on the final payoff of the Hansen Note in 2011.

Income Tax Expense

We paid alternative minimum income taxes in the amount of $21,417 and $10,307 for the years ended December 31, 2012 and 2011, respectively.

Preferred Stock Dividend

In January 2010, we issued 1,321,514 shares of our newly designated Series A Convertible Preferred Stock to Carilion. The Series A Convertible Preferred Stock carries an annual cumulative dividend of 6%, or approximately $0.2815 per share. During 2012 and 2011, we accrued approximately $120,000 and $127,000, respectively, for the dividends payable to Carilion. The dividends are not payable in cash, but rather in shares of our Common Stock, until liquidation event occurs. During each of 2012 and 2011, 79,292 shares of common stock became issuable to Carilion as dividends and have been recorded in the statement of stockholders equity.

Year Ended December 31, 2011 Compared to Year Ended December 31, 2010

Revenues

	2011	2010	$ Difference	% Difference
Technology development revenues	$ 22,417,902	$ 22,404,931	$ 12,971	0.1%
Products and licensing revenues	13,195,822	12,133,463	1,062,359	8.8%
Total revenues	$ 35,613,724	$ 34,538,394	$ 1,075,330	3.1%

Our Technology Development segment revenue was unchanged at $22.4 million in each of the years ended December 31, 2011 and 2010. Within this segment SCC s revenues for 2011 were $6.8 million compared to $8.0 million for 2010, a decrease of $1.2 million. Revenues for SCC were typically driven by a single significant government contract. During 2011 SCC s primary contract reached its scheduled end date. SCC received a follow-on contract in 2011, with a lower overall contract value than the preceding contract, with the reduction in contract value largely driven by lower pass-through type costs. Within our Technology Development segment, revenues in our materials groups were $7.1 million for 2011 as compared to $7.9 for 2010. The decrease of $0.8 million was due primarily to lower contract awards within our Nanotechnology group. These decreases were partially offset by an increase in revenues in our sensing groups, which generated $6.4 million in revenue for 2011 and $5.0 million for 2010. This increase of $1.4 million was due to an increase in phase II awards in our optical sensing groups.

Our Products and Licensing segment revenue increased from $12.1 million to $13.2 million, an increase of 8.8%, for 2011 as compared to 2010. Within our Products and Licensing segment, product sales revenue increased by 5.6% to $9.4 million during the year ended December 31, 2011 as compared to $8.9 million for 2010. Product sales increased primarily due to higher sales of our OVA and OBR products, principally in the first two quarters of the year. Our product development revenue also increased to $3.6 million for the year ended December 31, 2011 as compared to $3.2 million for 2010, an increase of $0.4 million. This increase was due to the increased level of work performed under the Hansen supply and development agreement.

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Cost of Revenues

	2011	2010	$ Difference	% Difference
Technology development costs	$ 15,793,279	$ 15,808,108	$ (14,829)	(0.1%)
Products and licensing costs	6,589,943	5,786,567	803,376	13.9%
Total costs of revenues	$ 22,383,222	$ 21,594,675	$ 788,547	3.7%

Our Technology Development segment costs were substantially unchanged at $15.8 million for each of the years ended December 31, 2011 and 2010. Within the Technology Development segment, SCC s cost of revenues decreased from $5.4 million for 2010 to $4.3 million for 2011, a decrease of $1.1 million, due primarily to a decrease in costs, primarily for subcontracts required to support the group s new contract awarded in 2011 compared to its previous primary government contract. Our materials groups also saw a decline in their cost of revenues from $5.8 million for 2010 to $5.5 million for 2011, a decline of $0.3 million, due to a decrease in direct labor and subcontracts in our nanotechnology area. Cost of revenues in our sensing groups increased from $3.6 million for 2010 to $4.6 million for 2011, an increase of $1.0 million, with all areas of direct costs in our sensing groups showing increases, commensurate with their increases in revenue.

Our Products and Licensing segment costs increased from $5.8 million for 2010 to $6.6 million for 2011, an increase of 13.9%. Within our Products and Licensing segment, product sales costs for 2011 increased to $3.3 million from $3.2 million for 2010. This increase of $0.1 million of costs related to component costs for our increased OBR and OVA product sales. Contract development costs of revenues were $3.3 million for 2011, as compared to $2.5 million for 2010, an increase of $0.8 million. This increase in costs was primarily associated primarily with an increase in resources assigned to work performed on the Hansen supply and development agreement.

Operating Expense

	2011	2010	$ Difference	% Difference
Selling general and administrative expense	$ 11,788,866	$ 13,297,705	$ (1,508,839)	(11.3%)
Research, development, and engineering expense	2,674,730	1,694,643	980,087	57.8%
Total operating expense	$ 14,463,596	$ 14,992,348	$ (528,752)	(3.5%)

Selling, general and administrative expenses decreased by $1.5 million, or 11.3%, to $11.8 million for 2011, as compared to $13.3 million for 2010. Stock-based compensation expense decreased by $1.3 million as some stock options ceased vesting, resulting in no additional expense recognition during 2011. We account for options granted at fair value on the date of grant and then recognize the compensation expense over the applicable vesting period of the option.

Research, development, and engineering expenses increased $1.0 million, or 57.8%, from $1.7 million for 2010 to $2.7 million for 2011. This can be partially attributed to a higher amount of internal research and development expenses for SCC of $0.4 million, principally during the period between the end of SCC s prior large government contract and the commencement of its new follow-on contract during 2011. Research, development and engineering expenses also increased in 2011 compared to 2010 due to additional product development expenses incurred in our Products and Licensing segment of $0.4 million, primarily due to increased labor expenses in enhancement and support of our Luna Technologies brand of products.

Interest and Other Income (Expense)

Our net interest expense was approximately $377,000 for the year ended December 31, 2011 compared to approximately $474,000 for the year ended December 31, 2010. During 2010 we incurred interest with respect to

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the Hansen note and our $2.5 million outstanding balance under our line of credit with SVB. During the year ended December 31, 2011 we maintained the $2.5 million balance on our line of credit until May at which time we refinanced both the line of credit and the remaining balance under the Hansen Note with a $6.0 million term loan also provided by SVB. Interest expense incurred in 2011 included approximately $267,000 associated with our SVB debt facility and approximately $97,000 associated with the Hansen Note. Interest expense in 2010 included approximately $120,000 associated with our SVB facility and $365,000 associated with the Hansen Note.

Other income was approximately $77,000 for the year ended December 31, 2010 and $228,000 for the year ended December 31, 2011. During the year ended December 31, 2011, we received approximately $154,000 for reimbursement of costs incurred by us in anticipation of a new development agreement. We also recognized approximately $58,000 in Other Income from the discount we received on the final payoff of the Hansen Note in 2011.

Income Tax Expense

During 2011, we paid alternative minimum income taxes in the amount of $10,307. We did not incur any income tax liability during 2010.

Preferred Stock Dividend

In January 2010, we issued 1,321,514 shares of our newly designated Series A Convertible Preferred Stock to Carilion. The Series A Convertible Preferred Stock carries an annual cumulative dividend of 6%, or approximately $0.2815 per share. During 2011 and 2010, we accrued approximately $127,000 and $361,000, respectively, for the dividends payable to Carilion. The dividends are not payable in cash, but rather in shares of our Common Stock, until liquidation event occurs. During 2011 and 2010, 79,292 and 76,649 shares of common stock, respectively, for a cumulative total of 155,941 shares of common stock, became issuable to Carilion as dividends and have been recorded in the statement of stockholders equity.

Liquidity and Capital Resources

At December 31, 2012, our total cash and cash equivalents were approximately $6.3 million. The sale of SCC on March 1, 2013 significantly increased our cash and cash equivalents by providing us with net proceeds at closing, after deducting estimated transaction expenses payable by us, of approximately $5.2 million. Under the terms of the transaction, we are entitled to receive an additional $110,000 on December 31, 2013 and up to an additional $600,000, which was placed in escrow to be released in tranches over 18 months, subject to certain events and dates and to any indemnification claims of Mac-B.

On May 18, 2011, we entered into an agreement with SVB under which SVB made a term loan to us in the amount of $6.0 million. The term loan is to be repaid by us in 48 monthly installments, plus accrued interest payable monthly in arrears, and, unless earlier terminated, matures on the earlier of either May 1, 2015 or an event of a default under the underlying loan and security agreement. The term loan carries a floating annual interest rate equal to SVB s prime rate then in effect plus 2%.

We may prepay amounts due under the term loan for a fee equal to (i) $60,000, if such prepayment is made after May 18, 2012, but on or before May 18, 2013; or (ii) zero, if such prepayment is made after May 18, 2013.

In addition to the terms and conditions of the term loan, we have a revolving credit facility with SVB with a maximum borrowing capacity of $1.0 million and a maturity date of May 18, 2014.

The annual interest rate on the revolving facility is equal to SVB s prime rate plus 1.25%, payable monthly in arrears, with an unused line of credit fee one-quarter of one percent (0.25%), payable monthly. We may terminate the line of credit for a termination fee of $10,000, which fee would not be payable in the event that the line of credit is replaced by another loan facility with SVB.

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Amounts due under the term loan and the revolving line of credit, which we refer to together as the Credit Facilities, are secured by substantially all of our assets, including intellectual property, personal property and bank accounts.

On March 21, 2013, the Credit Facilities were amended to replace the existing financial covenants with a single covenant that we maintain a cash balance of $5.0 million. As of the date of the filing of this report, we were in compliance with all covenants under the Credit Facilities.

The Credit Facilities contain customary events of default, including nonpayment of principal, interest or other amounts, violation of covenants, material adverse change, an event of default under any subordinated debt documents, incorrectness of representations and warranties in any material respect, bankruptcy, judgments in excess of a threshold amount, and violations of other agreements in excess of a threshold amount. If any event of default occurs SVB may declare due immediately all borrowings under the Credit Facilities and foreclose on the collateral. Furthermore, an event of default under the Credit Facilities would result in an increase in the interest rate on any amounts outstanding.

The balance under the term loan at December 31, 2012 was $3,625,000, of which $2,125,000 was classified as long-term and $1,500,000 was classified as short-term. No amounts were outstanding under the line of credit at December 31, 2012.

We believe that our current cash balance, our cash flow from operations, and the funds available to us under the Credit Facilities with SVB, provide adequate liquidity for us to meet our working capital needs during the remainder of 2013.

Discussion of Cash Flows

	Twelve months ended		
	2012	**2011**	**2010**
Net cash (used in)/provided by operating activities	$ (416,768)	$ 2,990,389	$ (87,282)
Net cash used in investing activities	(595,927)	(675,517)	(450,682)
Net cash (used in)/provided by financing activities	(1,585,971)	(592,325)	2,525,742
	$ (2,598,666)	$ 1,722,547	$ 1,987,778

During 2012, operations used $0.4 million of net cash, as compared to 2011, when operations provided $3.0 million of net cash, and 2010 in which operations used $87,000 of net cash. In 2012, our net loss of $1.4 million and $2.0 million in net cash outflows from changes in operating assets and liabilities was partially offset by $3.0 million in non-cash expenses.

In 2011, our net loss of $1.4 million was offset by $3.6 million in non-cash expenses, primarily stock based compensation and $0.8 million of net cash inflows from changes in operating assets and liabilities, primarily resulting from a decrease in accounts receivable, which was partially offset by outflows in all other categories.

In 2010, our operating cash outflow was the result of our net loss of $2.6 million, which was offset by $4.8 million of non-cash expenses, while net changes in operating assets and liabilities during the year resulted in a net cash outflow of $2.3 million. Included in these working capital changes was our $9.7 million settlement with Hansen, which was accrued as an expense during 2009 but paid in 2010.

Cash used in investing activities relates to the purchase of property and equipment as well as capitalized costs associated with securing intellectual property rights. Our overall cash used in investing activities was $0.6 million in 2012 compared to $0.7 million in 2011 and $0.5 million in 2010.

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Cash used in financing activities for the year ended December 31, 2012 was $1.6 million compared to cash used in financing activities of $0.6 million in 2011 and cash flows provided by financing activities of $2.5 million in 2010.

During 2012 we repaid $1.6 million to SVB for principal on our Term Loan. We also paid about $50,000 for leased equipment and received $90,000 from the exercise of options and warrants.

During 2011, we received $6.0 million in term loan proceeds from SVB, which we used to repay the then outstanding balance on our revolving line of credit with SVB of $2.5 million and the then outstanding balance on our Hansen Note of approximately $3.0 million. We also made additional payments on those loans during 2011 prior to their repayment in full as well as approximately $42,000 in principal on capitalized lease obligations. Also during 2011 we received approximately $317,000 from the exercise of options and warrants.

During 2010, we borrowed $2.5 million from our line of credit with SVB, repaid $834,000 of indebtedness to Hansen, received $865,000 in proceeds from the exercise of options and warrants and paid $5,000 on our capital leases.

Summary of Contractual Obligations

The following table sets forth information concerning our known contractual obligations as of December 31, 2012 that are fixed and determinable.

	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Long-term debt obligations (1)	$ 3,625,000	$ 1,500,000	$ 2,125,000	$	$
Operating facility leases (2)	3,480,761	1,316,961	2,163,800		
Other leases (3)	183,008	54,091	128,917		
Purchase order obligation (4)	193,050	193,050			
City of Danville grant (5)	43,186	21,593	21,593		
Other liabilities (6)	2,738,000	438,000	664,000	454,000	1,182,000
Total	$ 10,263,005	$ 3,523,695	$ 5,103,310	$ 454,000	$ 1,182,000

(1) Amounts due under our debt obligations to SVB are payable in monthly installments through May 2015.

(2) We lease our facilities in Blacksburg, Charlottesville and Roanoke, Virginia under operating leases that as of December 31, 2012, were scheduled to expire between November 2014 and December 2015. On March 21, 2013, we amended the lease on our Roanoke office to reduce the square footage covered by the lease effective as of January 1, 2014 and extend the term of the lease through December 2018. After giving effect to this amendment, contractual obligations under the operating facility leases for 2013 are $1,316,961, for 2014-2015 are $1,505,455, for 2016-2017 are $661,880 and for the years after 2017 are $330,840. Upon expiration of the leases, we may exercise certain renewal options as specified in the leases.

(3) In February 2011 we executed a $274,000 lease for equipment for our offices in Roanoke, Blacksburg and Charlottesville, Virginia. The lease expires in February of 2016.

(4) In September 2011, our Luna Technologies subsidiary executed a non-cancelable $1.2 million purchase order for multiple shipments of tunable lasers to be delivered over a 12-month period beginning in February 2012.

(5) In March 2004, we received a $900,000 grant from the City of Danville, Virginia. One-half of the grant was to be used to offset certain capital expenditures for leasehold improvements being made at our Danville facility, and one-half was to be used for our creation of new jobs. We satisfied the job creation criteria in full and the capital expenditures criteria in part in 2008 and recognized $668,000 of the grant as income for that year. In 2009 and 2010 we satisfied additional criteria and earned another approximately $124,000 of the grant. In January 2010, we agreed to repay the remaining $108,000 of the grant in quarterly installments through November 2014.

(6) Other liabilities include remaining amounts payable for minimum royalty payments for certain licensed technologies payable over the remaining patent terms of the underlying technology.

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Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements as defined in Regulation S-K, Item 303(a)(4)(ii).

Inflation

We do not believe that inflation has had a material effect on our business, financial condition or results of operations.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. We do not hold or issue financial instruments for trading purposes or have any derivative financial instruments. Our exposure to market risk is limited to interest rate fluctuations due to changes in the general level of United States interest rates.

Interest Rate Risk

We do not use derivative financial instruments as a hedge against interest rate fluctuations, and, as a result, interest income earned on our cash and cash equivalents and short-term investments is subject to changes in interest rates. However, we believe that the impact of these fluctuations does not have a material effect on our financial position due to the immediate available liquidity or short-term nature of these financial instruments.

We are exposed to interest rate fluctuations as a result of our SVB debt facility having a variable interest rate. However, the loan facility has a minimum fixed interest rate of 6%, which was in effect during both 2011 and 2012. We do not currently use derivative instruments to alter the interest rate characteristics of our debt. For the principal amount of $3.6 million outstanding under the term loan as of December 31, 2012, a change in the interest rate by one percentage point for one year would result in a change in our annual interest expense of approximately $29,000.

Foreign Currency Exchange Rate Risk

As of December 31, 2012, all payments made under our research contracts have been denominated in United States dollars. Our product sales to foreign customers are also denominated in U.S. dollars, and we do not receive payments in foreign currency. As such, we are not directly exposed to currency gains or losses resulting from fluctuations in foreign exchange rates.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders

Luna Innovations Incorporated

We have audited the accompanying consolidated balance sheets of Luna Innovations Incorporated (a Delaware corporation) and subsidiaries (the Company) as of December 31, 2012 and 2011, and the related consolidated statements of operations, stockholders equity (deficit), and cash flows for each of the three years in the period ended December 31, 2011. Our audits of the basic consolidated financial statements included the financial statement schedule listed in the index appearing under Item 15 (a)(2). These financial statements and financial statement schedule are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements and financial statement schedule 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 consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform an audit of its internal control over financial reporting. Our 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 control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Luna Innovations Incorporated and subsidiaries as of December 31, 2012 and 2011, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2012, in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the related financial statement schedule, when considered in relation to the basic financial consolidated statements taken as a whole, present fairly, in all material respects, the information set forth therein.

/s/ GRANT THORNTON LLP

McLean, Virginia

March 29, 2013

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CONSOLIDATED BALANCE SHEETS

	December 31, 2011	December 31, 2012
Assets		
Current assets;		
Cash and cash equivalents	$ 8,939,127	$ 6,340,461
Accounts receivable, net	5,958,086	7,059,635
Inventory, net	3,330,773	3,336,916
Prepaid expenses	1,071,438	667,773
Other current assets	35,717	35,629
Total current assets	19,335,141	17,440,414
Property and equipment, net	2,816,674	2,426,638
Intangible assets, net	539,563	437,839
Other assets	228,043	152,877
Total assets	**$ 22,919,421**	**$ 20,457,768**
Liabilities and stockholders equity		
Current Liabilities;		
Current portion of long term debt obligation	1,625,000	1,500,000
Current portion of capital lease obligation	50,949	54,091
Accounts payable	1,656,602	1,797,571
Accrued liabilities	3,612,193	2,747,175
Deferred credits	1,462,603	832,822
Total current liabilities	8,407,347	6,931,659
Long-term debt obligation	3,625,000	2,125,000
Long-term capital lease obligation	183,008	128,917
Total liabilities	**12,215,355**	**9,185,576**
Commitments and contingencies		
Stockholders equity;		
Preferred stock, par value $0.001, 1,321,514 shares authorized, issued and outstanding at December 31, 2011 and 2012, respectively	1,322	1,322
Common stock, par value $0.001, 100,000,000 shares authorized, 13,449,345 and 14,009,280 shares issued and outstanding at December 31, 2011 and 2012, respectively	13,969	14,245
Additional paid-in capital	59,289,516	61,361,505
Accumulated deficit	(48,600,741)	(50,104,880)
Total stockholders equity	**10,704,066**	**11,272,192**
Total liabilities and stockholders equity	**22,919,421**	**20,457,768**

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

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CONSOLIDATED STATEMENTS OF OPERATIONS

	Years ended December 31,		
	2010	2011	2012
Revenues:			
Technology development revenues	$ 22,404,931	$ 22,417,902	$ 21,098,286
Product and license revenues	12,133,463	13,195,822	11,250,717
Total revenues	34,538,394	35,613,724	32,349,003
Cost of revenues:			
Technology development costs	15,808,108	15,793,279	14,928,887
Product and license costs	5,786,567	6,589,943	5,242,043
Total cost of revenues	21,594,675	22,383,222	20,170,930
Gross profit	12,943,719	13,230,502	12,178,073
Operating expense:			
Selling, general & administrative	13,297,705	11,788,866	10,804,156
Research, development, and engineering	1,694,643	2,674,730	2,558,417
Total operating expense	14,992,348	14,463,596	13,362,573
Operating loss	(2,048,629)	(1,233,094)	(1,184,500)
Other income (expense):			
Other income, net	77,299	227,565	108,061
Interest (expense), net	(474,408)	(376,524)	(286,529)
Total other income (expense)	(397,109)	(148,959)	(178,468)
Loss before reorganization costs and income tax expense	(2,445,738)	(1,382,053)	(1,362,968)
Reorganization costs	174,292		
Loss before income tax expense	(2,620,030)	(1,382,053)	(1,362,968)
Income tax expense		10,307	21,417
Net loss	(2,620,030)	(1,392,360)	(1,384,385)
Preferred stock dividend	360,631	127,462	119,754
Net loss attributable to common stockholders	$ (2,980,661)	$ (1,519,822)	$ (1,504,139)
Net loss per share:			
Basic and diluted	$ (0.23)	$ (0.11)	$ (0.11)
Weighted average shares:			
Basic and diluted	13,009,326	13,647,555	13,930,267

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

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CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS EQUITY (DEFICIT)

	Preferred Stock		Common Stock		Additional Paid in	Accumulated	
	Shares	$	Shares	$	Capital	Deficit	Total
Balance January 1, 2010			11,351,967	$ 11,352	$ 41,228,698	$ (44,100,258)	$ (2,860,208)
Issuance of Preferred Stock, in exchange of Carilion notes	1,321,514	$ 1,322			4,835,420		4,836,742
Issuance of Common Stock, Hansen Settlement			1,247,330	1,247	4,563,981		4,565,228
Stock-based compensation			11,522	12	3,472,318		3,472,330
Issuance of Warrants, other					1,264,946		1,264,946
Issuance of Common Stock, Other (1)			25,000	25	91,475		91,500
Exercise of stock options and warrants			813,526	814	864,363		865,177
Stock dividends (2)				76	360,555	(360,631)	
Net loss						(2,620,030)	(2,620,030)
Balance December 31, 2010	1,321,514	1,322	13,449,345	13,526	56,681,756	(47,080,919)	9,615,685
Exercise of stock options and warrants			249,388	249	219,327		219,576
Stock-based compensation			51,648	52	2,163,238		2,163,290
Stock dividends (2)				80	127,382	(127,462)	
Issuance of Common Stock, Other (3)			62,109	62	97,813		97,875
Net loss						(1,392,360)	(1,392,360)
Balance December 31, 2011	1,321,514	1,322	13,812,490	13,969	59,289,516	(48,600,741)	10,704,066
Exercise of stock options and warrants			182,702	183	69,795		69,978
Stock-based compensation					1,862,533		1,862,533
Stock dividends (2)				79	119,675	(119,754)	
Issuance of Common Stock, Other (3)			14,088	14	19,986		20,000
Net loss from operations						(1,384,385)	(1,384,385)
Balance December 31, 2012	1,321,514	$ 1,322	14,009,280	$ 14,245	$ 61,361,505	$ (50,104,880)	$ 11,272,192

(1) In January 2010 we settled a complaint filed by a former employee in exchange for the payment of $13,000 in cash and the issuance of 25,000 shares of our common stock. The settlement was included as an accrued liability on our December 31, 2009 consolidated balance sheet.

(2) The stock dividends payable in connection with the Series A Convertible Preferred Stock are issuable upon the request of Carilion.

(3) Fees paid to our board of directors by issuance of our common stock.

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

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CONSOLIDATED STATEMENTS OF CASH FLOWS

	2010	2011	2012
Cash flows (used in)/provided by operating activities:			
Net loss	$ (2,620,030)	$ (1,392,360)	$ (1,384,385)
Adjustments to reconcile net loss to net cash (used in)/provided by operating activities:			
Depreciation and amortization	1,331,809	1,462,511	1,092,027
Stock-based compensation	3,472,330	2,163,290	1,862,533
Changes in operating assets and liabilities:			
Accounts receivable	(466,422)	1,711,539	(1,101,549)
Inventory	(261,972)	(224,173)	(10,482)
Other assets	669,759	(321,430)	478,919
Accounts payable and accrued expenses	7,091,386	(288,989)	(724,050)
Accrued litigation settlement	(9,669,728)		
Deferred credits	365,586	(119,999)	(629,781)
Net cash (used in)/provided by operating activities	(87,282)	2,990,389	(416,768)
Cash flows used in investing activities:			
Acquisition of property and equipment	(85,149)	(327,704)	(371,390)
Intangible property costs	(365,533)	(347,813)	(224,537)
Net cash used in investing activities	(450,682)	(675,517)	(595,927)
Cash flows provided by/(used in) financing activities:			
Proceeds from debt obligations	2,500,000	6,000,000	
Payments on debt obligations	(834,119)	(6,867,393)	(1,625,000)
Payments on capital lease obligation	(5,316)	(42,383)	(50,949)
Proceeds from the exercise of options and warrants	865,177	317,451	89,978
Net cash provided by/(used in) financing activities	2,525,742	(592,325)	(1,585,971)
Net change in cash	1,987,778	1,722,547	(2,598,666)
Cash and cash equivalents beginning of period	5,228,802	7,216,580	8,939,127
Cash and cash equivalents end of period	$ 7,216,580	$ 8,939,127	$ 6,340,461
Supplemental disclosure of cash flow information			
Cash paid for interest	$ 397,020	$ 239,521	$ 297,875
Common stock issued in litigation settlement (1,247,330 shares)	$ 4,565,228	$	$
Installment note issued in litigation settlement	$ 5,000,000	$	$
Preferred stock issued in exchange of notes (1,321,514 shares)	$ 4,836,742	$	$
Warrants issued in exchange of notes payable (356,000 warrants)	$ 1,261,879	$	$
Common stock issued in settlement of other claims (25,000 shares)	$ 91,500	$	$
Dividend on preferred stock, 76,649 shares of common stock issuable at 12/31/2010 and 79,233 shares of common stock issuable at 12/31/2011 and 2012, respectively	$ 360,631	$ 127,462	$ 119,754
Reduction to principal of Hansen Note in exchange for development services	$ 358,488	$	$
Property and equipment financed by capital leases	$	$ 274,145	$
Cash paid for income taxes	$	$ 10,307	$ 21,618

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

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Summary of Significant Accounting Policies

Luna Innovations Incorporated (We or the Company), headquartered in Roanoke, Virginia was incorporated in the Commonwealth of Virginia in 1990 and reincorporated in the State of Delaware in April 2003.

We research, develop and commercialize innovative technologies in three primary areas of focus: fiber optic shape sensing technology for robotic and minimally invasive surgical systems and fiber optic sensing systems and standard test methods for composite materials. Our business model is designed to accelerate the process of bringing new and innovative products to market. We use our in-house technical expertise to perform applied research services on government-funded projects across a range of technologies and also for corporate customers in the fiber optic sensing area. We are organized into two business segments: our Technology Development segment and our Products and Licensing segment. Our Technology Development segment performs applied research on government-funded projects and includes our secure computing and communications group, or SCC, which we sold on March 1, 2013 (See Note 15). Most of the government funding in our Technology Development segment is derived from the U.S. Government s Small Business Innovation Research, or SBIR, program coordinated by the U.S. Small Business Administration, or SBA. Our Products and Licensing segment focuses on fiber optic test and measurement, sensing, and instrumentation products and also conducts applied research in the fiber optic sensing area to corporate and government customers. The Products and Licensing segment also includes healthcare products.

We have a history of net losses and negative cash flow from operations with the exception of 2011. We have historically managed our liquidity through cost reduction initiatives, debt financings and capital markets transactions.

Since 2008, the increased turmoil in the U.S. and global capital markets and a global slowdown of economic growth created a substantially more difficult business environment. Additionally, in 2013 spending levels for government programs may be reduced. Our ability to access the capital markets is expected to be extremely limited. Economic and market conditions may not improve significantly during 2013 and could get worse.

Although there can be no guarantees, we believe that our current cash balance including the proceeds from the sale of SCC described in Note 15, our cash flow from operations, and the funds available to us under the Credit Facility described in Note 3 below, provide adequate liquidity for us to meet our working capital needs through 2013.

Consolidation Policy

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States, or GAAP and include the accounts of the Company, its wholly owned subsidiaries and other entities in which the Company has a controlling financial interest. We eliminate from our financial results all significant intercompany transactions. We do not have any investments in entities we believe are variable interest entities for which the Company is the primary beneficiary.

Emergence from Chapter 11 Reorganization

On July 17, 2009, we and our wholly owned subsidiary Luna Technologies, Inc. filed a voluntary petition for relief in order to reorganize under Chapter 11 of the United States Bankruptcy Code, including a proposed plan of reorganization, in the United States Bankruptcy Court for the Western District of Virginia (the Bankruptcy Court). During the period from July 17, 2009 through January 12, 2010, the Company continued to operate its business in the ordinary course as a Debtor-in-Possession. On January 12, 2010, the Bankruptcy Court approved our plan of reorganization, and the Company successfully emerged from bankruptcy.

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Upon our emergence from bankruptcy and in connection with our litigation settlement, we issued approximately 1.2 million shares of common stock to Hansen Medical, Inc., or Hansen, as described below. Other outstanding shares of common stock were not directly affected by our plan of reorganization. Because the shareholders immediately prior to our emergence from bankruptcy continued to own more than 50% of the total outstanding common stock immediately following our emergence from bankruptcy, we did not adopt the fresh-start reporting principles of Accounting Standards Codification (ASC) 852-10-45, Financial Reporting during Reorganization.

Settlement of Hansen Litigation

In June 2007, Hansen, a company for which we had conducted certain research and performed certain services, filed a lawsuit against us for using allegedly misappropriated trade secrets from Hansen in connection with our work with Intuitive Surgical, Inc., or Intuitive, or otherwise. On April 21, 2009, a jury found in favor of Hansen and awarded a verdict for $36.3 million against us. As a result of this jury verdict, we filed for Chapter 11 reorganization in July 2009, as described above under Emergence from Chapter 11 Reorganization.

On December 11, 2009, we and our wholly owned subsidiary Luna Technologies, Inc. entered into a settlement agreement with Hansen to settle all claims arising out of the litigation. As a result of the settlement, our accrual of $36.3 million recorded during the quarter ended March 31, 2009 was adjusted to $9.7 million at December 31, 2009.

Preferred Stock Issued to Carilion Clinic

In January 2010, we entered into a transaction with Carilion Clinic (Carilion), in which Carilion agreed to exchange all of its Senior Convertible Promissory Notes in the principal amount of $5.0 million plus all accrued but unpaid interest, totaling $1.2 million, for (i) 1,321,514 shares of our newly designated Series A Convertible Preferred Stock and (ii) an additional warrant to purchase 356,000 shares of our common stock at an exercise price of $2.50 per share. This warrant is exercisable beginning February 1, 2013, and continuing until December 31, 2020. We also agreed to reduce the exercise price of Carilion s prior common stock warrant from $7.98 to $2.50 per share and to extend its expiration date to December 31, 2020. The Series A Convertible Preferred Stock carries a dividend of 6% payable in shares of common stock and maintains a liquidation preference up to $6.2 million. As of December 31, 2012, a cumulative total of 235,233 shares of common stock were issuable to Carilion, on their demand, as dividends and have been recorded in the statement of stockholders equity. Each share of Series A Convertible Preferred Stock may be converted into one share of our common stock at the option of the holder. We recorded the fair value of the Series A Convertible Preferred Stock, determined based upon the conversion value immediately prior to the exchange, the fair value of the new warrant issued, determined using the Black-Scholes valuation model, and the incremental fair value of the prior warrant due to the re-pricing and extension of maturity to stockholders equity.

Use of Estimates

The preparation of our consolidated financial statements in accordance with U.S. GAAP requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities in our consolidated financial statements and accompanying notes.

Although these estimates are based on our knowledge of current events and actions we may undertake in the future, actual results may differ from such estimates and assumptions.

Technology Development Revenues

We perform research and development for U.S. government agencies, educational institutions and commercial organizations. We recognize revenues under research contracts when a contract has been executed,

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the contract price is fixed and determinable, delivery of services or products has occurred and collection of the contract price is considered reasonably assured. Revenue is earned under cost reimbursable, time and materials and fixed price contracts. Direct contract costs are expensed as incurred.

Under cost reimbursable contracts, we are reimbursed for costs that are determined to be reasonable, allowable and allocable to the contract and are paid a fixed fee representing the profit negotiated between us and the contracting agency. Revenue from cost reimbursable contracts is recognized as costs are incurred plus a portion of the fee earned. Revenue from time and materials contracts is recognized based on direct labor hours expended at contract billing rates plus other billable direct costs.

Revenue from fixed price research contracts that involve the delivery of services and a prototype model is recognized under the percentage of completion method. Fixed price arrangements that involve the delivery of research reports are recognized under the proportional performance method based upon the ratio of costs incurred to achieve contract milestones to total estimated cost as this method more accurately measures performance under these arrangements. Losses on contracts, if any, are recognized in the period in which they become known.

Intellectual Property License Revenues

Amounts received from third parties for licenses to our intellectual property are recognized when earned under the terms of the agreements. Revenues are recognized upon transfer of the license unless we have continuing obligations for which fair value cannot be established, in which case the revenues are recognized over the period of the obligation. If there are extended payment terms, license fee revenues are recognized as these payments become due and collection is reasonably assured. We consider all arrangements with payment terms extending beyond 12 months not to be fixed and determinable.

Certain of our license arrangements have also required us to enter into research and development agreements. Accordingly, we allocate our arrangement fees to the various elements based upon objective reliable evidence of fair value, if available. For those arrangements in which evidence of fair value is not available, we defer revenues from any up-front payments and recognize them over the service period in the arrangement. Certain of these arrangements also include the payment of performance bonuses based upon the achievement of specific milestones. Generally, there are no assurances at the onset of these arrangements that the milestones will be achieved. As such, fees related to such milestones are excluded from the initial allocation of the arrangement fee and are recognized upon achievement of the milestone provided that all other revenue recognition criteria are met.

Product Sales Revenues

Revenues from product sales are generated by the sale of commercial products and services under various sales programs to the end user and through distribution channels. We sell fiber optic sensing systems to end users for use in numerous fiber optic based measurement applications. Revenues are recorded net of applicable sales taxes collected from customers and payable to state or local governmental entities.

We recognize revenue relating to our products when persuasive evidence of an arrangement exists, delivery has occurred, the selling price is fixed or determinable and collectability of the resulting receivable is reasonably assured.

For multi-element arrangements that include tangible products that contain software that is essential to the tangible product s functionality, we allocate revenue to all deliverables based on their relative selling prices. In such circumstances, we use a hierarchy to determine the selling price to be used for allocating revenue to deliverables: (i) vendor-specific objective evidence of fair value or VSOE, (ii) third-party evidence of selling price or TPE, and (iii) best estimate of the selling price or ESP. VSOE generally exists only when we sell the deliverable separately and is the price actually charged by us for that deliverable. ESPs reflect our best estimates of what the selling prices of elements would be if they were sold regularly on a stand-alone basis.

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Our process for determining our ESP for deliverables without VSOE or TPE considers multiple factors that may vary depending upon the unique facts and circumstances related to each deliverable. Key factors considered in developing the ESPs include prices charged by us for similar offerings, our historical pricing practices, the nature of the deliverables, and the relative ESP of all of the deliverables as compared to the total selling price of the product. We may also consider, when appropriate, the impact of other products and services on selling price assumptions when developing and reviewing our ESPs.

Revenues from product sales that require no ongoing obligations are recognized as revenues when shipped to the customer, title has passed and collection is reasonably assured. In transactions in which a right-of-return exists, revenues are deferred until acceptance has occurred and the period for the right-of-return has lapsed.

Allowance for Uncollectible Receivables

Accounts receivable are recorded at their face amount, less an allowance for doubtful accounts. We review the status of our uncollected receivables on a regular basis. In determining the need for an allowance for uncollectible receivables, we consider our customers financial stability, past payment history and other factors that bear on the ultimate collection of such amounts. The allowance was unchanged at approximately $22,000 at December 31, 2010 and 2011, respectively and zero at December 31, 2012.

Cash Equivalents

We consider all highly liquid investments purchased with maturities of three months or less to be cash equivalents. To date, we have not incurred losses related to cash and cash equivalents.

Fair Value Measurements

The Company s financial assets and liabilities are measured at fair value, which is defined as the price that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants. Valuation techniques are based on observable or unobservable inputs. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Company s market assumptions. These two types of inputs have created the following fair value hierarchy:

Level 1 Quoted prices for identical instruments in active markets.

Level 2 Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which significant value drivers are observable.

Level 3 Valuations derived from valuation techniques in which significant value drivers are unobservable.

The carrying values of cash and cash equivalents, accounts receivable and accounts payable approximate fair value because of the short-term nature of these instruments. The carrying value of the promissory notes approximate fair value as the interest rate is comparable to the interest rate on our credit facility with Silicon Valley Bank, which we consider to be at market.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation. We record depreciation using the straight-line method over the following estimated useful lives:

Equipment	3 7 years
Furniture and fixtures	7 years
Software	3 years
Leasehold improvements	Lesser of lease term or life of improvements

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Intangible Assets

Intangible assets consist of patents related to certain intellectual property that we have developed or acquired. We amortize our patents over their estimated useful life of five years, and analyze them whenever events or circumstances indicate that the carrying amount may not be recoverable to determine whether their carrying value has been impaired.

Research, Development and Engineering

Research, development and engineering expenses not related to contract performance are expensed as incurred. We expensed $1.7 million, $2.7 million and $2.6 million of non-contract related research, development and engineering expenses for the years ended December 31, 2010, 2011 and 2012, respectively.

Valuation of Long-Lived Assets

We review our long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets is measured by comparing the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds their fair value. Assets to be disposed of by sale are reflected at the lower of their carrying amount or fair value less cost to sell.

Inventory

Inventory consists of finished goods and parts valued at the lower of cost (determined on the first-in, first-out basis) or market. We provide reserves for estimated obsolescence or unmarketable inventory equal to the difference between the carrying value of the inventory and the estimated market value based upon assumptions about future demand and market conditions. Inventory reserves at December 31, 2011 and 2012 were $172,902 and $108,649, respectively.

Net Loss per Share

Basic per share data is computed by dividing net loss atributable to common stockholders by the weighted average number of shares outstanding during the period. Diluted per share data is computed by dividing net loss attributable to common stockholders by the weighted average shares outstanding during the period increased to include, if dilutive, the number of additional common share equivalents that would have been outstanding if potential common shares had been issued using the treasury stock method. Diluted per share data would also include the potential common share equivalents relating to convertible securities by application of the if-converted method.

The effect of 6.5 million, 2.5 million and 2.4 million common stock equivalents (which include outstanding warrants and stock options) are not included for the years ended December 31, 2010, 2011 and 2012 respectively, as they are antidilutive to earnings per share.

Stock-Based Compensation

We have a stock-based compensation plan, which is described further in Note 8. We recognize compensation expense based upon the fair value of the underlying equity award as of the date of grant. The Company has elected to use the Black-Scholes option pricing model to value any awards granted. We amortize stock-based compensation for such awards on a straight-line method over the related service period of the awards taking into account the effects of the employees expected exercise and post-vesting employment termination behavior.

The Company recognizes expense for equity instruments issued to non-employees based upon the fair value of the equity instruments issued.

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The fair value of each option granted is estimated as of the grant date using the Black-Scholes option pricing model with the following assumptions:

	2010	2011	2012
Risk-free interest rate range	2.09% 3.22%	1.48% 2.81%	1.02% 1.49%
Expected life of option-years	7.5	7.5	7.5
Expected stock price volatility	117%	111%	108%
Expected dividend yield			

The risk-free interest rate is based on U.S. Treasury interest rates, the terms of which are consistent with the expected life of the stock options. Expected volatility is based upon the average volatility of our common stock. The expected life and estimated post-employment termination behavior is based upon historical experience of homogeneous groups within our company. We do not currently issue dividends nor do we expect to in the foreseeable future.

Advertising

We expense the cost of advertising as incurred. Historically such amounts have not been significant to our operations.

Income Taxes

We account for income taxes using the liability method. Deferred tax assets or liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities as measured by the enacted tax rates which will be in effect when the differences reverse. A valuation allowance against net deferred tax assets is provided unless we conclude it is more likely than not that the deferred tax assets will be realized.

We recognize tax benefits from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities.

Recent Accounting Pronouncements

There are no recently issued accounting standards that are expected to have a material impact on our consolidated results of operations, financial position and cash flows.

2. Inventory

Inventory consists of finished goods, work-in-process and parts valued at the lower of cost (determined on the first-in, first-out basis) or market. We provide reserves for estimated obsolescence or unmarketable inventory equal to the difference between the cost of the inventory and the estimated market value based upon assumptions about future demand and market conditions.

Components of inventory are as follows:

	December 31, 2011	December 31, 2012
Finished goods	$ 531,418	$ 195,578
Work-in-process	210,459	252,227
Parts	2,739,335	2,975,297
	3,481,212	3,423,102
Less: Inventory reserves	150,439	86,186

Total inventory, net	$ 3,330,773	$ 3,336,916

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3. Debt

Silicon Valley Bank Facility

On February 18, 2010, we entered into a Loan and Security Agreement with Silicon Valley Bank or SVB to provide us with a revolving credit facility that provided us with borrowing capacity of up to $5.0 million, subject to a percentage of our outstanding eligible accounts receivable, at a floating annual interest rate equal to the greater of (a) 6% or (b) SVB s prime rate then in effect plus 2%. The credit facility was originally scheduled to mature on February 17, 2011, but it was amended to extend the maturity date until May 18, 2011 and to revise the calculation of eligible borrowing base and add certain financial covenants relating to our adjusted EBITDA.

On May 18, 2011, we entered into a Second Loan Modification Agreement with SVB. Under the Second Loan Modification Agreement, SVB made a term loan to us in the amount of $6.0 million (the Term Loan). The Term Loan is to be repaid by us in 48 monthly installments, plus accrued interest payable monthly in arrears, and unless earlier terminated, matures on the earlier of either May 1, 2015 or an event of a default under the loan agreement. The Term Loan carries a floating annual interest rate equal to SVB s prime rate then in effect plus 2%.

We may prepay amounts due under the Term Loan for a fee equal to (i) $60,000, if such prepayment is made after May 18, 2012, but on or before May 18, 2013; or (ii) zero, if such prepayment is made after May 18, 2013.

In addition to the terms and conditions of the Term Loan, the Second Loan Modification Agreement reduced our maximum borrowing capacity under a separate revolving credit facility (the Line of Credit and together with the Term Loan, the Credit Facilities) from $5.0 million to $1.0 million and extended its maturity date until May 18, 2012.

Effective as of May 17, 2012, we entered into a Third Loan Modification Agreement (the Third Loan Modification Agreement) with SVB. Under the Third Loan Modification Agreement, the Line of Credit maturity date was extended until May 17, 2014.

The annual interest rate on the Line of Credit is SVB s prime rate plus 1.25%, payable monthly in arrears, and we are required to pay an unused Line of Credit fee of one-quarter of one percent (0.25%), payable monthly. We may terminate the Line of Credit for a termination fee of $10,000, which fee would not be payable in the event that the Line of Credit is replaced by another loan facility with SVB.

Amounts due under the Credit Facilities are secured by substantially all of our assets, including intellectual property, personal property and bank accounts.

The Credit Facilities have historically required us to observe a number of financial and operational covenants, including maintenance of a specified liquidity ratio, achievement of certain adjusted EBITDA targets, protection and registration of intellectual property rights, and certain customary negative covenants. As of December 31, 2012, we were in compliance with all covenants. On March 21, 2013 the financial covenants were amended to require only that we maintain a minimum cash balance of $5.0 million.

In addition, the Credit Facilities contain customary events of default, including nonpayment of principal, interest or other amounts, violation of covenants, material adverse change, an event of default under any subordinated debt documents, incorrectness of representations and warranties in any material respect, bankruptcy, judgments in excess of a threshold amount, and violations of other agreements in excess of a threshold amount. If any event of default occurs SVB may declare due immediately all borrowings under the Credit Facilities and foreclose on the collateral. Furthermore, an event of default under the Credit Facilities would result in an increase in the interest rate on any amounts outstanding.

The balance under the Term Loan at December 31, 2012 was $3,625,000, of which $2,125,000 was classified as long-term and $1,500,000 was classified as short-term. No amounts were outstanding under the Line of Credit at December 31, 2012.

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Note Payable to Hansen (the Hansen Note)

In January 2010, we issued a promissory note to Hansen in the principal amount of $5.0 million, payable in 16 quarterly installments beginning in April 2010. The Hansen Note bore interest at a fixed rate of 8.5% and was secured by substantially all of our assets. The Hansen Note was subordinated to our primary bank credit facility. As part of our Second Loan Modification Agreement with SVB, we and Hansen entered into an Amendment to Secured Promissory Note and Payoff Letter (the Payoff Letter).

Under the terms of the Payoff Letter, we and Hansen agreed upon a final payoff in the amount of approximately $3.0 million as payment in full for all principal and accrued interest under the Hansen Note, which represented a $190,000 discount from the then outstanding balance, which discount will be amortized into income over the remaining life of the Company s Development and Supply Agreement with Hansen. At December 31, 2012, there was approximately $40,000 remaining in deferred credits to be amortized. On May 23, 2011, we repaid the Hansen Note in full. Upon receipt of this final payment, all security interests in our assets held by Hansen as collateral for our obligations under the Hansen Note were terminated and released.

The following table presents a summary of debt outstanding as of December 31, 2011 and 2012:

	December 31,	
	2011	2012
Silicon Valley Bank Term Loan	$ 5,250,000	$ 3,625,000
Less: current portion	1,625,000	1,500,000
Total long-term debt	$ 3,625,000	$ 2,125,000

Maturities on long-term debt are as follows:

Year	Amount
2013	$ 1,500,000
2014	1,500,000
2015	625,000
Total	$ 3,625,000

Costs associated with loans outstanding were as follows:

	Years Ended December 31,		
	2010	2011	2012
Interest expense	$ 480,469	$ 377,096	$ 286,529
Amortization of transaction costs		10,491	25,843
Total interest expense	$ 480,469	$ 387,587	$ 312,372

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4. Accounts Receivable Trade

Accounts receivable consist of the following:

	December 31, 2011	December 31, 2012
Billed	$ 4,349,750	$ 5,175,395
Unbilled	1,619,844	1,873,376
Other	10,864	10,864
	$ 5,980,458	$ 7,059,635
Less: allowance for doubtful accounts	(22,372)	
	$ 5,958,086	$ 7,059,635

Unbilled receivables result from contract retainages and revenues that have been earned in advance of billing and can be invoiced at contractually defined intervals, milestones, or at completion of the contract.

Unbilled amounts are expected to be billed in future periods and are classified as current assets in accordance with industry practice.

5. Property and Equipment

Property and equipment, net, consists of the following at:

	December 31, 2011	December 31, 2012
Building	$ 69,556	$ 69,556
Equipment	6,853,589	7,222,208
Furniture and fixtures	622,944	622,944
Software	1,181,156	1,185,290
Leasehold improvements	3,193,613	3,196,590
	11,920,858	12,296,588
Less accumulated depreciation	(9,104,184)	(9,869,950)
	$ 2,816,674	$ 2,426,638

Depreciation for the years ended December 31, 2010, 2011 and 2012 was approximately $1.1 million, $1.0 million and $0.8 million, respectively.

6. Intangible Assets

The following is a summary of intangible assets:

	December 31, 2011	December 31, 2012

Patent costs	$ 2,034,573	$ 2,264,441
Accumulated amortization	(1,495,010)	(1,826,602)
	$ 539,563	$ 437,839

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Amortization for the years ended December 31, 2010, 2011 and 2012 was approximately $0.3 million, $0.5 million and $0.3 million, respectively. Estimated aggregate amortization, based on the net value of intangible assets at December 31, 2012, for each of the next five years is as follows:

Year Ending December 31,