

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K**

(MARK ONE)
 ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2009

OR

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
(State or Other Jurisdiction of Incorporation or Organization)

54-1560050
(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:

<u>Title of Each Class</u>	<u>Name of Each Exchange on which Registered</u>
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

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

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

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

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

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant on June 30, 2009, based upon the closing price of Common Stock on such date as reported by the NASDAQ Global Market, was approximately \$3.1 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 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 23, 2010 there were 12,767,335 shares of the registrant's common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Specified portions of the registrant's Proxy Statement with respect to its 2010 Annual Meeting of stockholders, anticipated to be filed within 120 days after the end of its fiscal year ended December 31, 2009, are incorporated by reference into Part III of this annual report on Form 10-K.

[Table of Contents](#)

LUNA INNOVATIONS INCORPORATED
ANNUAL REPORT ON FORM 10-K
FOR THE PERIOD ENDED DECEMBER 31, 2009
TABLE OF CONTENTS

[PART I](#)

Item 1.	Business	1
Item 1A.	Risk Factors	14
Item 1B.	Unresolved Staff Comments	32
Item 2.	Properties	32
Item 3.	Legal Proceedings	32
Item 4.	Reserved	33

[PART II](#)

Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	
Item 6.	Selected Financial Data	34
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	37
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	39
Item 8.	Financial Statements and Supplementary Data	50
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	52
Item 9A.	Controls and Procedures	76
Item 9B.	Other Information	76

[PART III](#)

Item 10.	Directors, Executive Officers and Corporate Governance	77
Item 11.	Executive Compensation	78
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	78
Item 13.	Certain Relationships and Related Transactions, and Director Independence	78
Item 14.	Principal Accounting Fees and Services	78

[PART IV](#)

Item 15.	Exhibits, Financial Statement Schedules	79
----------	---	----

[SIGNATURES](#)

86

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, or 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 Background

We research, develop and commercialize innovative technologies in two primary areas of focus:

- Test & measurement, sensing, and instrumentation products; and
- Health care products.

We have a business model that is designed to accelerate the process of bringing new and innovative products to market. We identify technologies that can fulfill large and unmet market needs and then take these technologies from the applied research stage through commercialization. Although revenues from product sales currently represent less than half of our total revenues, we continue to invest in product development and commercialization, which we anticipate will lead to increased product sales growth. In the future, we expect that revenues from product sales will represent a larger proportion of our total revenues. In addition, we anticipate that these revenues will reflect a broader and more diversified mix of products as we develop and commercialize new products.

Chapter 11 Reorganization

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.

Our Business Model

We have developed a disciplined and integrated process to accelerate the development and commercialization of innovative technologies. Our business model employs a market-driven approach and provides the infrastructure, resources and know-how throughout the process of developing and commercializing new products. We are organized into two main groups: our Technology Development Division and our Products Division. These groups work together through all product development stages, including:

- Searching for emerging technologies based on market needs;
- Conducting applied research;
- Developing and commercializing innovative products; and
- Applying proven technologies and products to new market opportunities.

The strength of our business model is exemplified by our track record in taking innovative technologies from the applied research stage through product development and ultimately to the creation of independent businesses. For example, we have created five companies in our areas of focus, two of which were sold to industry leaders in their fields and two of which were financed by private venture capital. In addition, we have developed more than a dozen products serving several industries including energy, telecommunications, life sciences and defense.

Our commercialization strategy leverages opportunity teams, which are cross-staffed with professionals from both our Products Division and our Technology Development Division. The objective of these opportunity teams is to identify technologies that have demonstrated proof of concept and that are ready for further development. Each opportunity team includes personnel with a mix of intellectual property, technical and business backgrounds, including individuals who have experience with venture capital-backed companies and others who have successfully run major divisions of large corporations. In addition, as part of this process we plan to consult with members of our Technical Advisory Board with respect to product development matters from time to time. We believe that this combination of skills and experience is critical to the success of the product development process.

To this end, we have rigorous processes to evaluate the merits of further developing any given technology. Investment proposals to develop technologies that have demonstrated proof-of-concept are submitted for consideration to our internal investment committee. These proposals have the basic elements of a business plan, including market, competition, distribution, financing and intellectual property analyses related to products that may be developed based on these technologies. Our internal investment committee, which is composed of key members of our senior management team, evaluates the merits of each proposal and makes investment decisions. It is at this stage that we first consider investing our own funds to finance continued development. Once qualified opportunities are approved, our internal investment committee regularly reviews progress and evaluates whether or not to continue funding development of individual projects.

Products and Services

Our principal products are organized into two broad classes—test & measurement, sensing, and instrumentation products and health care products, all of which are managed by our Products Division. Our Products Division is supported by our Technology Development Division, which provides applied research

[Table of Contents](#)

services to our government and corporate customers. The Technology Development Division seeks to continuously supply our Products Division with new opportunities that can be applied to potential market opportunities identified by our Products Division. Our primary product lines and technology development services are described in more detail below.

Test & Measurement, Sensing, and Instrumentation Products

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

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 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 measure failures in optical networks, such as bad splices, bends, crimps and other reflective and non-reflective events. Our optical test equipment products replace the need for these multiple test products and address all stages of the end user's product development life cycle including: design verification, component qualification, assembly process verification and failure analysis.

Luna Technologies has three flagship product lines—our Optical Vector Analyzer, or OVA, our Optical Backscatter Reflectometer, or OBR, and the Phoenix family of lasers. Our OVA platform allows manufacturers and suppliers of optical components and sub-assemblies to reduce 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 that 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 introduces the ability to inspect metropolitan fiber networks with higher resolution and better sensitivity than previously possible. 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 a continuous thermometer that could be used in a variety of applications including power generation, civil structure monitoring, industrial process control, component-level heating in optical amplifiers, strain and load distribution in aircraft harnesses and temperature monitoring inside telecommunications cabinets and enclosures. We intend to increase sales of our optical test equipment products by expanding our customer base beyond the telecommunications industry into avionics, defense and academic research laboratories.

Our Phoenix laser is a MEMs-based, external cavity laser, offering low noise and precise tuning capability over the C-band.

Integrated Sensing

We have significant expertise in distributed sensing systems, or DSS, which are products composed of multiple sensors whose inputs are integrated through a fiber optic network and software. Our DSS 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 include:

- **Distributed Strain.** Potential markets for our DSS products include the airframe industry, integrated structural monitoring on civil structures and space applications. For example, a major air frame manufacturer deployed our DSS products during fatigue testing to measure strain through a network of sensors distributed throughout an aircraft.
- **Distributed Temperature.** Our DSS product also enables the direct monitoring of temperature. Potential markets include industrial process control and electrical system monitoring. For example, we

[Table of Contents](#)

have sold a network of distributed temperature sensors to a major manufacturer of electrical generators, who uses our sensors to increase operational efficiency and prolong generator life. We have also sold our DSS temperature sensors to NASA for both ultra-cold and extremely high-temperature measurements.

- **Distributed Shape.** A derivation of our distributed strain measurement technology is being utilized to enable three-dimensional shape and position measurement. We are developing this technology for use in robotic tethers, flexible structures used by the US Navy for undersea systems, and other applications.

We have also previously sold shape-sensing probes to a major aircraft manufacturer for measuring shape on an aerodynamic surface.

Tunable Lasers

In December 2006, we acquired the rights to manufacture an existing line of swept tunable lasers from a major laser manufacturer. We acquired this technology and related manufacturing assets to allow us to compete more effectively in our existing fiber optic test and measurement as well as sensing markets. This laser went into initial production in October 2007. We are integrating this technology into current and new products to help us provide our customers with faster and more flexible and cost-effective test and measurement products. With this technology in hand, we are pursuing business opportunities in new markets such as industrial and medical sensing.

Healthcare Products

Medical Devices for Minimally Invasive Diagnostics, Surgery, and Therapy

We have made significant progress in applying our award winning distributed 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 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 provide similar benefits to non-robotic devices such as endoscopes.

In June 2007, we entered into an intellectual property licensing, development, and supply agreement with Intuitive Surgical, Inc., a technology leader in robotic-assisted minimally invasive surgery. Under this multi-year agreement, we are to develop and supply a fiber optic-based shape sensing and position tracking system for integration into Intuitive Surgical's products, which includes the da Vinci® Surgical System.

We expect that this agreement with Intuitive Surgical will allow us to expand our presence within the medical devices market. Our shape sensing and position tracking system promises to provide real-time position measurements to 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 with no adverse effect from line of sight limitations and without introducing electrical signals or radiation into the body.

Under the agreement, Intuitive agreed to pay us an up-front license fee, development fees payable in quarterly installments for the first 18 months of the agreement, and certain other fees, subject to specified termination rights by Intuitive and other rights of repayment or reduction. There were also minimum purchase requirements by Intuitive, which were subject to our successful completion of the development criteria and certain other terms and conditions. During 2008 and 2009, we developed the position tracking system for integration into Intuitive's products and achieved several significant milestones specified in the development and supply agreement. In December 2009, we satisfied certain product development milestones.

[Table of Contents](#)

In January 2010, we amended our agreement with Intuitive in order to make it consistent with our January 2010 license agreement with Hansen Medical, Inc. described below and to make certain other changes to provide additional development of enhancements to the Intuitive product platform. The amendment also provides that Intuitive may request us to perform additional development work for a period of 10 years. This additional development work, if requested, will be paid by Intuitive on a time and materials basis. The amendment also eliminates certain future fees that would have otherwise been payable by Intuitive and also eliminates all of Intuitive's minimum purchase requirements.

Medical Devices for Non-Invasive Monitoring and Diagnosis

Ultrasound is an important, non-invasive tool for diagnosis of some medical conditions. All of our ultrasound medical products are built around a common platform, with customized processing and interfaces specific to each application. The pathway to market for medical diagnostic devices requires pre-clearance by government agencies, for example, certification for safety through international standards as well as approval from the Food and Drug Administration, or FDA, through a 510(k) registration.

Our lead product in this field is our Emboli Detection and Classification (EDAC®) QUANTIFIER. The EDAC® QUANTIFIER is a non-invasive medical device that uses quantitative ultrasound technology to count emboli in ex-vivo blood circuits in real-time. Emboli can be air bubbles or solid matter, such as lipids or blood clots, and can enter the blood circuit during critical and invasive medical procedures such as cardiopulmonary bypass surgery. Emboli are believed to be the cause of neurological or neuropsychological post-operative deficits and, in some cases, can be fatal. The EDAC® system uses advanced ultrasound technology to detect individual microemboli at rates up to 1,000 per second. Employing complex algorithms originally developed for the defense industry, the system is designed to provide cardiothoracic surgeons, perfusionists and anesthesiologists with an accurate rate of emboli in the blood circuit during heart-lung bypass and other operations. We launched the EDAC® QUANTIFIER in 2006 and received FDA clearance of our 510(k) application for this product in 2007. In September 2007, we entered into a joint marketing alliance agreement with Terumo Cardiovascular Systems Corporation, or Terumo CVS, a leading supplier of products for cardiopulmonary bypass surgeries. Under the terms of this agreement, we and Terumo CVS market the EDAC® QUANTIFIER for clinical use in the United States.

Nanomaterial-based Products

Our nanomaterial manufacturing and research and development team is developing advanced carbon nanomaterials, which are molecular structures consisting of carbon atoms in distinctive geometric shapes. Such materials include Trimetasphere® nanomaterials, a new class of materials that we describe in more detail below; fullerenes, which are carbon spheres that resemble a soccer ball; and carbon nanotubes, which are carbon rings shaped like a cylinder.

A Trimetasphere® nanomaterial is a carbon sphere with three metal atoms and a nitrogen atom enclosed inside. Using different combinations of a group of 17 rare earth metals, we can develop thousands of different types of Trimetasphere® nanomaterials, each with distinctive properties and performance characteristics and each potentially marketable as a separate product. Each type of Trimetasphere® nanomaterial has distinctive chemical, physical or biological properties due to the properties of the metals enclosed in its carbon cage. We can further customize Trimetasphere® nanomaterials for specific applications by attaching different atoms or molecules to the surface of their carbon spheres. In some cases, the knowledge we gain from customizing Trimetasphere® nanomaterials for specific applications may provide us with new intellectual property covering Trimetasphere nanomaterials and may also provide us with new intellectual property covering carbon nanomaterials other than Trimetasphere® nanomaterials, further expanding our inventory of potential new products. Through our collaborative relationship with Virginia Tech, we have obtained an exclusive license to commercialize Trimetasphere® nanomaterials under an issued U.S. patent and pending U.S. applications.

[Table of Contents](#)

Medical Imaging

One potential market application of our nanomaterial technology is magnetic resonance imaging, or MRI. MRI has been established as the imaging technology of choice for a broad range of applications, including the identification and diagnosis of a variety of medical disorders. MRI provides three-dimensional images that enable physicians to diagnose and manage disease in a minimally invasive manner. MRI contrast agents, used in about 30% of MRI procedures, improve the resolution of images by enhancing the contrast in the organ or tissue in the body where the contrast agent circulates. We believe that our Trimetasphere® nanomaterial contrast agents can provide a higher image contrast than existing contrast agents with a lower risk of toxicity.

Most current contrast agents approved by the FDA use gadolinium, a toxic metal. To neutralize gadolinium's toxicity, contrast agents use organic compounds called chelates that wrap around the gadolinium, shielding the patient from its toxicity. However, chelates cannot neutralize the gadolinium if it escapes from the chelate. The longer the agent circulates, the greater the risk of gadolinium escaping from the chelate and causing toxicity to the patient. As a result, the contrast agents currently in use need to be eliminated from the body quickly, making it difficult to produce high quality images. The FDA has warned radiologists regarding the dangers of current gadolinium-based contrast agents to patients with impaired kidney function, noting that there have been fatalities within 18 months after the patient received such contrast agents in an MRI procedure.

To solve this problem, our Trimetasphere® nanomaterial MRI contrast agents utilize a completely new approach to preventing toxicity. Due to the strength of the Trimetasphere® nanomaterial carbon cage enclosing the gadolinium, we believe that our Trimetasphere® nanomaterial-based contrast agent can encapsulate gadolinium for a longer period of time, and therefore allow the contrast agent to remain safely in the body longer. Experiments have also shown that our Trimetasphere® nanomaterials may provide a stronger contrast effect than the other contrast agents currently on the market.

Our Trimetasphere MRI compounds are currently still in preclinical development. We are also developing modifications to the Trimetasphere® nanomaterials to target them for specific tissues or physiological conditions. We believe that, using these nanomaterials, we can create additional disease-targeting diagnostic agents in order to enhance the capabilities of MRI and significantly expand its applications.

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. 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.

Other Nanomaterial-based Products

In October 2008, we received an award from the National Cancer Institute (NCI) of the National Institutes of Health (NIH) to improve the detection and diagnosis of brain tumors. Under this program, we intend to adapt our contrast agent technology using carbon nanospheres to produce an improved magnetic resonance imaging (MRI) agent. This next-generation contrast agent is being designed to enhance tumor imaging and advance the diagnosis and treatment of this disease by directing nanomolecules to seek out specific biological targets, such as a glioblastoma tumor, one specific form of brain cancer.

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

Technology Development Division

Our Technology Development Division provides applied research to customers in our primary areas of focus. Our Technology Development Division competes to win contracts in these areas on a fee-for-service basis. This group has a successful track record of evaluating innovative technologies to address the needs of our

[Table of Contents](#)

customers. We identify these needs by utilizing our knowledge of the markets in our areas of focus and by consulting with major government entities, leading research universities and large corporations. We also use this network to obtain favorable technology transfer agreements, contract research revenues and strategic partnerships for the products that we develop based on our applied research.

We are working or have worked with over 60 corporate, academic and government collaborators, including:

- **Universities.** The College of William and Mary, Duke University, Georgia Institute of Technology, Harvard University, North Dakota State University, The Ohio State University, The Pennsylvania State University, The Johns Hopkins University, University of California, San Diego, University of Pittsburgh, University of Virginia, Washington University in St. Louis, University of Wyoming, Virginia Commonwealth University, and Virginia Polytechnic Institute and State University, or Virginia Tech;
- **Government entities.** Defense Advanced Research Projects Agency, Defense Threat Reduction Agency, Environmental Protection Agency, National Aeronautics and Space Administration, National Institutes of Health, National Institute of Standards and Technology, National Science Foundation, United States Air Force, United States Army, United States Department of Agriculture, United States Department of Commerce, United States Department of Defense, United States Department of Energy, United States Department of Transportation and United States Navy; and
- **Corporations.** Anteon International Corporation, Applied Research Associates, Inc., Dana Corporation, Northrop Grumman Corporation, Boeing, Raytheon, Lockheed Martin, General Dynamics, Sherwin-Williams, General Electric Aviation, Baker Hughes, and International Paint.

We seek to continue 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 where we can retain partial or full rights to the intellectual property developed and proactively target projects that we believe have the highest commercialization potential. Also, we take a disciplined approach to contract research to try to ensure that the costs of any contract we undertake are fully covered. This approach enables us to cover the costs of riskier stage technology development with third-party funding. We believe that this model is cost efficient and reduces our risk significantly.

As of December 31, 2009, our Technology Development Division was engaged in 106 separate active contracts. Such contracts typically last 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. Often, a new technology that we develop complements existing technologies and enables us to develop applications and products that were not previously possible. In addition, the technologies we develop are often applicable to commercial markets beyond what was originally contemplated in the contract research of such technologies and we endeavor to capture the value of those opportunities.

As of December 31, 2009, our Technology Development Division team consisted of 118 full time employees, of whom 60 hold advanced degrees with 31 of these a Ph.D. Our Technology Development Division also utilizes the knowledge and experience of researchers employed through the academic institutions, corporations and government agencies with which we subcontract. The Technology Development Division is organized into subgroups according to the area of technology, with each subgroup managed by its own director responsible for its financial performance. In addition, our Technology Development Division has in place disciplined processes designed to ensure quality control of proposal preparation, program reviews, pipeline reviews, revenue tracking and financial reporting.

[Table of Contents](#)

Our Technology Development Division has a high historical success rate in winning bids for U.S. Government Small Business Innovation Research, or SBIR, contracts, and we have won three National Tiddett's Awards from the Small Business Administration for outstanding SBIR performance. SBIR contracts include Phase I feasibility contracts of up to \$100,000 and Phase II proof-of-concept contracts, which can be as high as \$750,000. We also have been successful at winning contracts outside the SBIR program from corporations and government entities. Such contracts have no financial limit and typically have a longer duration, ranging from 12 to 24 months. As we continue to grow, one of our goals is to derive a larger portion of our contract research revenues from contracts outside the SBIR program. For instance, in March 2010 we were awarded a \$6.0 million extension on a government research contract outside the SBIR program.

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 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 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 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 numerous U.S. patents and patent applications, and we intend to file, or request that our licensors file, additional patent applications for patents covering our products. 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.

We could incur substantial costs to defend ourselves in suits brought against us or in suits in which we may assert our patent rights against others. An unfavorable outcome of any such litigation could have a material adverse effect on our business and results of operations.

Litigation and Agreements with Hansen Medical, Inc.

In June 2007, Hansen Medical Inc., or 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 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 "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. On January 12, 2010, as part of

Table of Contents

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 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). After five years, the exclusive license in the non-robotic endoluminal field may be converted to a co-exclusive (with us) license in certain circumstances in connection with certain supply provisions applicable to that field under the Development and Supply Agreement described below.

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 field, the vascular field and the endoluminal field. 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 beginning in April 2010. The note bears interest at a fixed rate of 8.5% and is secured by substantially all of our assets. The Hansen Note is subordinated to our primary bank credit facility.

Development and Supply Agreement

In connection with the settlement agreement, we also entered into a development and supply agreement with Hansen. Under the terms of this agreement, we will perform product development services with respect to fiber optic shape sensing at Hansen's request and provide Luna shape sensing products to Hansen. Revenues earned for product development will be determined in a manner consistent with our contract development services in our Technology Development business segment and will be payable monthly to us. Each quarter, to the extent such revenues exceed the installment payment owed by us to Hansen under the Hansen Note, then such excess will not be payable in cash and instead will be credited against the outstanding principal balance of the Hansen Note.

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.

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. 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 our products 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. 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

We presently derive approximately 42% of our revenue from the U.S. Government's Small Business Innovation Research, or SBIR, program administered by the U.S. Small Business Administration, or SBA. SBIR is a highly competitive program that encourages small businesses to explore their technological potential and provides them incentive to profit from the commercialization of technologies. 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 \$100,000 and Phase II proof-of-concept contracts, which can be as high as \$750,000. Several of our research contracts have used this program as a key source of project funding to develop new technologies.

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% equity 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. As of December 31, 2009, giving present effect to our outstanding options, we estimate that at least 60% of our equity is owned by U.S. citizens or permanent residents.

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, 2009, we, including all of our divisions, had 192 full and part-time employees. In determining whether we have 500 or fewer employees, the

[Table of Contents](#)

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 two or more firms are affiliated, the SBA evaluates factors such as stock ownership or common management, but ultimately will make its determination based on the “totality of the circumstances.” The SBA may presume that a large stockholder of ours has the power to control us absent evidence rebutting that presumption. With respect to Carilion Clinic (formerly Carilion Health System), our largest institutional stockholder, we believe we would not be required to count the employees of Carilion Clinic. Eligibility protests can be raised to the SBA by a competitor or by the awarding contracting agency. Accordingly, a company can be declared ineligible for a contract award as a result of a competitor’s protest to the SBA or as a result of questioning by the awarding contracting agency. We believe that we are currently in compliance with the SBIR eligibility criteria, but we cannot provide assurance that the SBA will interpret its regulations in our favor. As we grow larger, and as 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 in Part I, Item 1A of this Annual Report on Form 10-K—“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, our Trimetasphere® nanomaterial-based MRI contrast agent will 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 approved for marketing by the FDA.

Medical Devices

Our existing and future health care products, including our EDAC® product, 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 developed by us 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 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, chiefly adulteration, misbranding and good manufacturing practice requirements, would nevertheless apply. 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 call for 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.

[Table of Contents](#)

New Drug Development

Our nanomaterial based drug candidates, including our 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 premarket 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, or 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 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 it 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, or 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 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 foreign and domestic laws and regulations relating to health and safety, protection of the environment, product labeling and product take back, 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 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. 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

[Table of Contents](#)

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. Further, 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 to incur potentially significant costs to comply with environmental regulations.

The European Union Directive 2002/96/EC on Waste Electrical and Electronic Equipment, known as the “WEEE Directive,” requires producers of certain electrical and electronic equipment, including monitoring instruments, to be financially responsible for specified collection, recycling, treatment and disposal of past and present covered products placed on the market in the European Union. As a manufacturer of covered products, we may be required to register as a producer in some European Union countries, and we may incur some financial responsibility for the collection, recycling, treatment and disposal of both new products sold, and products already sold prior to the WEEE Directive’s enforcement date, including the products of other manufacturers where these are replaced by our own products. European Union Directive 2002/95/EC on the Restriction of the Use of Hazardous Substances in electrical and electronic equipment, known as the “RoHS Directive,” restricts the use of certain hazardous substances, including mercury, lead and cadmium in specified covered products; however, the RoHS Directive currently exempts monitoring instruments from its requirements. If the European Commission were to remove this exemption in the future, we would be required to change our manufacturing processes, and redesign products regulated under the RoHS Directive in order to be able to continue to offer them for sale within the European Union. For some products, substituting certain components containing regulated hazardous substances may be difficult or costly, or result in production delays. We will continue to review the applicability and impact of both directives on the sale of our products within the European Union. Although we cannot currently estimate the extent of such impact, they are likely to result in additional costs, and could require us to redesign or change how we manufacture our products, any of which could adversely affect our operating results. Failure to comply with the directives could result in the imposition of fines and penalties, inability to sell covered products in the European Union and loss of revenues.

We have made, and will continue to make, expenditures to comply with current and future environmental laws. We anticipate that we could incur additional capital and operating costs in the future to comply with existing environmental 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 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, 2009, we had 192 full -time employees, of whom 85 hold advanced degrees, including 43 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 \$20.5 million at December 31, 2009 as compared to \$29.4 million at December 31, 2008.

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 (the amount for which money has been directly authorized by the U.S. Congress and for which a purchase order has

[Table of Contents](#)

been received from a commercial customer) and unfunded backlog (firm orders for which funding has not been appropriated). 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.

Corporate Information

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.

Operating Segments and Geographic Areas

For segment information with respect to our operating segments and geographic markets, see Note 14 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.lunainnovations.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, and amendments to those reports filed or furnished 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 Securities and Exchange Commission, or 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 public reference room at 100 F Street, NE, 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

Our business could suffer as a result of our filing for reorganization under Chapter 11 of the U.S. Bankruptcy Code in 2009.

As described elsewhere in this report, in July 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, under Chapter 11 of the U.S. Bankruptcy Code. In January 2010, the bankruptcy court approved our reorganization plan and we emerged from bankruptcy on that date. Even though our plan of reorganization has been implemented, operating results may be adversely affected by the possible reluctance of prospective

[Table of Contents](#)

customers, suppliers and lenders to do business with a company that recently emerged from bankruptcy proceedings. In addition, our emergence from bankruptcy may result in reputational risks that increase our difficulty in attracting and retaining employees.

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 level of business activity.

Global economic and political conditions affect our customers' businesses and the markets they serve. A severe and/or prolonged economic downturn or a negative or uncertain political climate could adversely affect our customers' financial condition 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 that 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.

There was a rapid softening of the economy and tightening of the financial markets in the second half of 2008 that continued throughout 2009. 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 2010 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 we may never achieve or maintain profitability or positive cash flow.

We incurred consolidated net losses of approximately \$20.4 million, \$6.3 million and \$7.9 million for the years ended December 31, 2009, 2008, and 2007, respectively. As of December 31, 2009, our accumulated deficit totaled \$44.1 million. While our 2009 loss exceeded our historical losses due to expenses associated with litigation and our Chapter 11 filing, each of which was resolved in January 2010, we expect to continue to incur significant expenses as we expand our operations, including increased expenses for research and development, sales and marketing, manufacturing, finance and accounting personnel and expenses associated with being a public company. We may also grow our business in part through acquisitions of additional companies and complementary technologies which could cause us to incur greater than anticipated transaction expenses, amortization or write-offs of intangible assets and other acquisition-related expenses. As a result, we expect that we may likely continue to incur losses for the foreseeable future, and these losses could be substantial.

Because of the numerous risks and uncertainties associated with our business, we are unable to predict when or if we will be able to achieve profitability again. 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 might require additional capital to support and expand our business, and this capital might not be available on favorable terms, if at all.

We intend to continue to make investments to support our business growth, including the development of new products and the enhancement of 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 warrants in connection with

[Table of Contents](#)

the financing, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders 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.

As part of the settlement of our litigation with Hansen Medical, we issued to Hansen a warrant for additional shares of our common stock in an amount such that Hansen may maintain ownership of 9.9% of our total outstanding common stock for a period of three years at a price of one cent per common share. In the event that we raise capital through the issuance of common stock, shareholders will experience further dilution to the extent that Hansen exercises this warrant, which may make it more difficult to raise equity capital or adversely impact the price at which we are able to raise equity capital.

If we are unable to 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.

We rely on contract research, including government-funded research contracts, for a significant portion of our revenues. A decline in government funding of existing or future government research contracts, including Small Business Innovation Research (SBIR), could adversely affect our revenues and cash flows and our ability to fund our growth.

Technology development revenue, which consists primarily of government-funded research, accounted for approximately 73% of our consolidated total revenues for each of the years ended December 31, 2009 and 2008. 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. The U.S. government, for example, 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. In addition, we may not be successful in securing future contracts. Our customers' priorities regarding funding for certain projects may change and funding resources may no longer be available at previous levels.

In addition to contract cancellations and changes in agency budgets, our future financial results may be adversely affected by curtailment of the U.S. government's use of contract research providers, including curtailment due to government budget reductions and related fiscal matters. These or other factors could cause U.S. defense and other federal agencies to conduct research internally rather than through commercial research 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. Any of these actions could limit our ability to obtain new contract awards and adversely affect our revenues and cash flows and our ability to fund our growth.

[Table of Contents](#)

We rely and will continue to rely on contracts and grants awarded under the Small Business Innovation Research program for a significant portion of our revenues. A finding by the U.S. Small Business Administration, or SBA, that we no longer qualify to receive SBIR funding could adversely affect our business.

We compete as a small business for some of our government contracts. Our revenues under the Small Business Innovation Research, or SBIR, program accounted for approximately 42% and 44% of our total revenues for the years ended December 31, 2009 and 2008, respectively. 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 receive new SBIR awards from federal agencies. In order to qualify for SBIR contracts and grants, we must meet certain size and revenue eligibility criteria, as described in “Business—Government Regulation” above. These eligibility criteria are applied as of the time of the award of a contract or grant. We believe that we are currently in compliance with the SBIR eligibility criteria, but we cannot assure you that the U.S. Small Business Administration, or SBA, the federal agency that administers the SBIR program, will interpret its regulations in our favor. As we grow our business, it is foreseeable that we will eventually exceed the SBIR eligibility limitations, in which case we may be required to seek alternative sources of revenues or capital.

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. In determining whether we are affiliated with any other entity, the SBA analyzes whether another entity controls or has the power to control us. As of December 31, 2009, we had 192 employees. Our largest institutional stockholder, Carilion Clinic, holds approximately 28% of our common stock, including shares issuable upon conversion of preferred stock. If the SBA were to make a determination that we are affiliated with Carilion Clinic, we could exceed the size limitations, as Carilion Clinic has over 500 employees. In that case, we could lose eligibility for new SBA contracts, public contracts, grants and other awards that are set aside for small businesses, including SBIR grants.

Alternatively, the U.S. government may decrease the scope of or discontinue the SBIR program or its funding altogether, which would limit our ability to obtain new contract awards and adversely affect our revenues and cash flows and our ability to fund our growth.

Our settlement agreement and related agreements with Hansen could result in our making substantial future cash payments.

As part of the settlement of our litigation with Hansen Medical, we issued a promissory note payable to Hansen in the principal amount of \$5.0 million. The note bears interest at a rate of 8.5% and is payable in quarterly installments commencing April 2010 and continuing through January 2014. Additionally, we entered into a Development and Supply Agreement with Hansen under which we will develop certain fiber optic shape sensing technologies or products for Hansen. Hansen is required to pay us for the development services provided. In the event that the amounts owed by Hansen under the Development and Supply Agreement exceed the quarterly installment payment under Hansen’s promissory note, then the excess amount will not be payable in cash by Hansen but will reduce the outstanding principal balance on the note to Hansen. Additionally, Hansen may terminate the Development and Supply Agreement at any time without further obligation, while we would remain liable for the payments due under the note, which would have a material adverse effect on our cash flows. The Development and Supply Agreement also provides for substantial liquidated damages in the event that we are deemed not to have complied in a commercially reasonable good faith manner with respect to our technology development obligations under the agreement. In the event that we are required to make substantial payments to Hansen under the Development and Supply Agreement, it would adversely affect our results of operations and cash flows.

[Table of Contents](#)

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 revenues mix that contains significantly larger product sales and license revenues components. Product sales and license revenues potentially offer greater scalability than services-based contract research revenues. Our current plan is to increase our portfolio of commercial products and, accordingly, we expect that our future product sales and license revenues will represent a larger percentage of total revenues. However, if we are unable to develop and grow our product sales and license revenues to augment our contract research revenues, our ability to execute our business model or grow our business could suffer.

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, and our revenues and profits could 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 be subject to 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; this 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 identify correctly 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

[Table of Contents](#)

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 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.

Our failure to attract, train and retain skilled employees 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 competitors aggressively recruit key employees. In the past, we have experienced difficulties in recruiting and hiring these personnel as a result of the tight labor market in certain fields. Any such difficulty, 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 where the supply of experienced qualified candidates is limited. Any failure to do so would have an adverse effect on our business.

In addition, our future success depends in a large part upon the continued service of key members of our senior management team. Except with respect to our CEO and founder, Kent A. Murphy, Ph.D., we do not maintain any key-person life insurance policies on our officers. The loss of any of our management or key personnel could seriously harm our business.

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 in a timely manner, could impair our ability to meet the demand of our customers and harm our business.

If we are unable to secure third-party reimbursement for our health care products, including our EDAC[®] product, our revenue and net loss could be adversely affected.

In both the United States and foreign markets where we intend to sell our medical products, third-party payers such as the government and health insurance companies are generally responsible for hospital and doctor reimbursement for medical products and services. Governments and insurance companies carefully review and increasingly challenge the prices charged for medical products and services. Reimbursement rates from private insurance companies vary depending on the procedure performed, the third party involved, the insurance plan involved, and other factors. In the United States, reimbursement for medical procedures under the Medicare and

[Table of Contents](#)

Medicaid programs is administered by Centers for Medicare & Medicaid Services. Medicare reimburses both hospitals and physicians a pre-determined, fixed amount based on the procedure performed. This fixed amount is paid regardless of the actual costs incurred by the hospital or physician in furnishing the care and is often unrelated to the specific devices used in that procedure. Thus, any reimbursements that hospitals or physicians obtain for using our medical products will generally have to cover any additional costs that hospitals incur in purchasing such products.

Hospitals and medical centers to which we intend to sell our EDAC[®] product typically bill the services performed with our products to various third-party payers, such as Medicare, Medicaid and other government programs and private insurance plans. If hospitals do not obtain sufficient reimbursement from third-party payors' for procedures performed with our products, or if governmental and private payors' policies do not permit reimbursement for services performed using our products, demand for our product may be negatively impacted.

In countries outside the United States, reimbursement is obtained from various sources, including governmental authorities, private health insurance plans and labor unions. To sell our product in foreign markets, we may need to seek international reimbursement approvals. We cannot be certain whether such required approvals will be obtained in a timely manner or at all.

Furthermore, any regulatory or legislative developments in domestic or foreign markets that eliminate or reduce reimbursement rates for procedures performed with our products could harm our ability to sell our products or cause downward pressure on the prices of our products, either of which would have a negative effect on our product revenue and net loss.

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

We face or 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. In addition, in the MRI contrast agent market our competitors include Amersham Plc, Berlex Laboratories, Inc., Bracco Diagnostics, Inc., and Mallinckrodt Inc.

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 net 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 Luna Technologies division, we have no experience manufacturing products in large volume. Because our experience in large scale manufacturing is limited, we may encounter unforeseen difficulties in our 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. For example, we may need to develop or in-license Trimetasphere® nanomaterial purification and isolation technology, which would result in manufacturing delays or shortfalls. 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 specifications.

If we are unable to keep up with demand for our products, our revenues could be impaired, market acceptance for 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 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.

[Table of Contents](#)

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;
- 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.

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 specific laws and regulations could result in the imposition of fines and penalties or the 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.

[Table of Contents](#)

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 division 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 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. 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.

Our health care and medical products are 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.

Certain of our current and potential products will require regulatory clearances or approvals prior to commercialization. In particular, our Trimetasphere[®] nanomaterial-based MRI contrast agent will be considered a drug under the Federal Food, Drug and Cosmetic Act, or FDC Act, and our EDAC[®] ultrasound diagnostic devices for measuring certain medical conditions will be considered medical devices under the 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, or 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.

In general, the FDA regulates the research, testing, manufacturing, safety, labeling, storage, record keeping, promotion, distribution and production of medical devices in the United States to ensure that medical products distributed domestically are safe and effective for their intended uses. In order for us to market medical devices for clinical use in the United States, we generally must first obtain clearance from the FDA pursuant to Section 510(k) of the FDC Act, which has occurred in the case of the EDAC[®] product. Clearance under Section 510(k) requires demonstration that a new device is substantially equivalent to another device with 510(k)

Table of Contents

clearance or is eligible for grandfather status. If we significantly modify our products after they receive FDA clearance, the FDA may require us to submit a separate 510(k) or premarket approval application, or PMA, for the modified product before we are permitted to market the products in the United States. In addition, if we develop products in the future that are not considered to be substantially equivalent to a device with 510(k) clearance or is eligible for grandfather status, we will be required to obtain FDA approval by submitting a PMA.

The FDA may not act favorably or quickly in its review of our 510(k) or PMA submissions, or we may encounter significant difficulties and costs in our efforts to obtain FDA clearance or approval, all of which could delay or preclude sale of new products for clinical use in the United States. Furthermore, the FDA may request additional data or require us to conduct further testing, or compile more data, including clinical data and clinical studies, in support of a 510(k) submission. The FDA may also, instead of accepting a 510(k) submission, require us to submit a PMA, which is typically a much more complex and burdensome application than a 510(k). To support a PMA, the FDA would likely require that we conduct one or more clinical studies to demonstrate that the device is safe and effective. We may not be able to meet the requirements to obtain 510(k) clearance or PMA approval, or the FDA may not grant any necessary clearances or approvals. In addition, the FDA may place significant limitations upon the intended use of our products as a condition to a 510(k) clearance or PMA approval. Product applications can also be denied or withdrawn due to failure to comply with regulatory requirements or the occurrence of unforeseen problems following clearance or approval. Any delays or failure to obtain FDA clearance or approvals of new products we develop, any limitations imposed by the FDA on new product use, or the costs of obtaining FDA clearance or approvals could have a material adverse effect on our business, financial condition and results of operations.

Complying with FDA regulations is an expensive and time-consuming process. Our failure to comply fully with such regulations could subject us to enforcement actions.

Our commercially distributed medical device products will be subject to numerous post-market regulatory requirements, including the following:

- Quality System Regulation, or QSR, which requires manufacturers to follow elaborate design, testing, control, documentation and other quality assurance procedures during the manufacturing process;
- labeling regulations;
- the FDA's general prohibition against false or misleading statements in the labeling or promotion of products for unapproved or "off-label" uses;
- the Reports of Corrections and Removals regulation, which requires that manufacturers report to the FDA recalls and field corrective actions taken to reduce a risk to health or to remedy a violation of the FDC Act that may pose a risk to health; and
- the Medical Device Reporting regulation, which requires that manufacturers report to the FDA if their device may have caused or contributed to a death or serious injury or malfunctioned in a way that would likely cause or contribute to a death or serious injury if it were to recur.

We will also become subject to inspection and marketing surveillance by the FDA to determine our compliance with regulatory requirements. If the FDA finds 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.

[Table of Contents](#)

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 QSRs. We are also required to comply with International Organization for Standardization, or 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.

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

To be able to market and sell our 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 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 receive regulatory approvals in any foreign country in which we plan to market our products. 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.

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. The CE mark is an international symbol of adherence to quality assurance standards and compliance with applicable European medical device directives. In order to obtain the right to affix the CE mark to products, a manufacturer must obtain certification that its processes meet certain European quality standards.

We have not yet received permission to affix the CE mark to our medical products. We do not know whether we will be able to obtain permission to affix the CE mark for new or modified products. If we are unable to obtain permission to affix the CE mark to our products, we will not be able to sell our products in member countries of the European Union.

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 to incur potentially significant costs to comply with environmental regulations.

[Table of Contents](#)

The European Union Directive 2002/96/EC on Waste Electrical and Electronic Equipment, known as the “WEEE Directive,” requires producers of certain electrical and electronic equipment, including monitoring instruments, to be financially responsible for specified collection, recycling, treatment and disposal of past and present covered products placed on the market in the European Union. As a manufacturer of covered products, we may be required to register as a producer in some European Union countries, and we may incur some financial responsibility for the collection, recycling, treatment and disposal of both new product sold, and product already sold prior to the WEEE Directive’s enforcement date, including the products of other manufacturers where these are replaced by our own products. European Union Directive 2002/95/EC on the Restriction of the use of Hazardous Substances in electrical and electronic equipment, known as the “RoHS Directive,” restricts the use of certain hazardous substances, including mercury, lead and cadmium in specified covered products; however, the RoHS Directive currently exempts monitoring instruments from its requirements. If the European Commission were to remove this exemption in the future, we would be required to change our manufacturing processes and redesign products regulated under the RoHS Directive in order to be able to continue to offer them for sale within the European Union. For some products, substituting certain components containing regulated hazardous substances may be difficult, costly or result in production delays. We will continue to review the applicability and impact of both directives on the sale of our products within the European Union, and although we cannot currently estimate the extent of such impact, they are likely to result in additional costs and could require us to redesign or change how we manufacture our products, any of which could adversely affect our operating results. Failure to comply with the directives could result in the imposition of fines and penalties, inability to sell covered products in the European Union and loss of revenues.

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 are committed to complying with and, to our knowledge, are in compliance with, all governmental regulations. 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 this intellectual property 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. Furthermore, 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—such as the Trimetasphere® carbon nanomaterials products—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.

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;

[Table of Contents](#)

- 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 certain of our products—including our Trimetasphere® carbon nanomaterials products—do not have foreign patent protection. 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, such as our recently settled litigation with Hansen, 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 and 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 development of 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 trademarks confusingly similar to or dilutive of our registered or unregistered trademarks. Also, we might not obtain registrations for our pending trademark applications, and 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. If third parties assert claims against us alleging that we infringe their patents or other intellectual property rights—including third parties that have asserted claims against businesses that we have acquired prior to our acquisition of these businesses—we could incur 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. 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 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 substantial portion of our core technology to third parties for noncommercial academic and research use. It is difficult to monitor and enforce such noncommercial 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

[Table of Contents](#)

improvements on the licensed technology to the extent they are encompassed by the licensed patents and 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 that 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 nonexclusive, 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 be successful or 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 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 quotations for the price of 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 in such event, 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 and will continue to be affected by a number of factors, many of which we cannot control. For example, since January 1, 2008, our common stock has traded between a high of \$8.49 per share and a low of \$0.30 per share. Among the factors that could cause material fluctuations in the market price for our common stock include:

- 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;
- 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 our competitors, of acquisitions, new products, significant contracts, commercial relationships or capital commitments;
- litigation, such as our recently settled litigation with Hansen;

Table of Contents

- any major change in our board of directors or management;
- 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 security 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 there are substantial sales of our common stock, or the perception that such sales may occur, our stock price could decline.

Certain of our employees, including some of our executive officers, have entered into agreements with us that restrict their ability to sell shares of our common stock beyond specified amounts through December 31, 2010. These employees currently beneficially own approximately 24% of our outstanding common stock, including shares issuable upon exercise of stock options. We have the right to waive any of these sale restrictions for employees and management at our discretion, and in such instance, the shares would become freely tradable.

If our stockholders 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. We are unable to predict the effect that sales of our common stock may have on the prevailing 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. Additionally, our independent registered public accounting firm will be required to issue a report on their evaluation of the operating effectiveness of our internal control over financial reporting beginning with our Annual Report for the year ending December 31, 2010.

We evaluate our existing internal control over financial reporting against the standards adopted by 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 or our independent registered public accounting firm may 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 by an independent registered public accounting firm or if we make disclosure of existing or potential significant deficiencies or material weaknesses in those controls.

[Table of Contents](#)

Our directors and executive officers collectively control approximately 50% of our outstanding common stock and if they choose to act together, they can significantly influence our management and operations in a manner that may be in their best interests and not in the best interests of other stockholders.

As of the date of this report, our directors and executive officers, together with their affiliates, collectively own an aggregate of approximately 50% of our outstanding common stock, determined on an as-converted basis. As a result, these stockholders, if they were to act together, will be able to significantly influence our management and affairs and all matters requiring stockholder approval, including the election of directors and approval of mergers or other significant corporate transactions. You and other stockholders will have minimal influence over these actions. The interests of this group of stockholders may not always coincide with our interests or the interests of other stockholders, and this group may act in a manner that advances their best interests and not necessarily those of other stockholders. This concentration of ownership may also have the effect of delaying or preventing a change in control of our company and might adversely affect the market price of our common stock.

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 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. 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

Our corporate headquarters are located in Roanoke, Virginia, and are centrally located to our research, development and manufacturing facilities in Blacksburg, Charlottesville, and Danville, Virginia. These properties are summarized below:

- we lease approximately 24,000 square feet of space in Roanoke, Virginia, which is used for our corporate headquarters, general administrative functions, and certain research and development activities. Our administrative and technology and development segments primarily use this facility;
- we lease approximately 32,000 square feet of space in Blacksburg, Virginia, near Virginia Tech, which is used primarily for technology development activities and for the development and manufacturing of our medical device products and our test & measurement, sensing, and instrumentation products. Our technology development and product and license segments primarily use this facility;
- we lease approximately 16,000 square feet of space in Charlottesville, Virginia, near the University of Virginia, which is used for various technology development activities and for advanced materials research. Our technology development segment primarily uses this facility;
- we lease a 24,000 square foot facility in Danville, Virginia for nanomaterials manufacturing and for new drug research and development. Our technology development segment and product development segments primarily use this facility;

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.

ITEM 3. LEGAL PROCEEDINGS

On June 22, 2007, Hansen Medical Inc., or Hansen, a company for which we had performed certain services, filed a complaint against us in the Superior Court of the State of California, County of Santa Clara. On March 18, 2008, the complaint was amended and alleged misappropriation of trade secrets, aiding and abetting breach of fiduciary duty, unfair competition, breach of contract, conversion, intentional interference with contract, breach of implied covenant of good faith and fair dealing, and fraud. In addition to money damages in an unspecified amount, Hansen sought, among other things, equitable relief, including an injunction against our using the allegedly misappropriated Hansen trade secrets in connection with our work with Intuitive or otherwise.

The matter proceeded to jury trial in March 2009. Prior to and during the course of the trial, Hansen's claims for conversion, unfair competition, aiding and abetting breach of fiduciary duty and intentional interference with contract were all dismissed. Hansen's remaining claims for misappropriation of trade secrets, breach of contract, breach of implied covenant of good faith and fair dealing and fraud were submitted to a jury following a trial on the merits that concluded in April 2009. On April 21, 2009, a jury found in favor of Hansen on its breach of contract, breach of the covenant of good faith and fair dealing and misappropriation of trade secrets claims, and it awarded a verdict for \$36.3 million against us. The jury did not find in favor of Hansen on its fraud claims against us, but it did find that our misappropriation was willful or malicious. As a result of the jury verdict, we filed for Chapter 11 reorganization in July 2009. For additional information, see Item 1 of this report under the heading "Business—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. On January 12, 2010, we entered into a series of agreements with Hansen and Intuitive that were contemplated by the settlement agreement. For a summary of the material terms of these agreements, see Item 1 of this report under the heading "Business—Litigation and Agreements with Hansen".

[Table of Contents](#)

On May 30, 2006, we were served with a complaint filed by a former employee in the Circuit Court for the City of Roanoke, Virginia, alleging that we breached a consulting agreement with the former employee, and that we are indebted to the former employee in an unspecified amount of at least \$100,000. In December 2009 we agreed to settle this matter in exchange for the payment of \$13,000 in cash and the issuance of 25,000 shares of our common upon our emergence from bankruptcy. We have included the settlement of cash and the value of the common stock at \$3.66, which represented the closing price the day before we emerged from bankruptcy in January 2010, in accrued liabilities on the accompanying consolidated balance sheet at December 31, 2009.

From time to time, we may become involved in other litigation in relation to claims arising out of our operations in the normal course of business. While 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, the ultimate outcome of any litigation is uncertain. Were an unfavorable outcome to occur, or if protracted litigation were to ensue, the impact could be material to us.

ITEM 4. RESERVED

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 traded on The NASDAQ Global Market under the symbol "LUNA" since our initial public offering on June 2, 2006 until September 8, 2009. Since that date we have traded on The NASDAQ Capital Market. The following table sets forth the high and low closing prices of our common stock for each period indicated and are as reported by NASDAQ.

Fiscal Period	2009		2008	
	High	Low	High	Low
First Quarter	\$2.36	\$1.01	\$8.33	\$4.78
Second Quarter	\$1.85	\$0.43	\$8.49	\$3.86
Third Quarter	\$2.59	\$0.30	\$6.28	\$3.47
Fourth Quarter	\$2.38	\$1.15	\$4.07	\$1.91

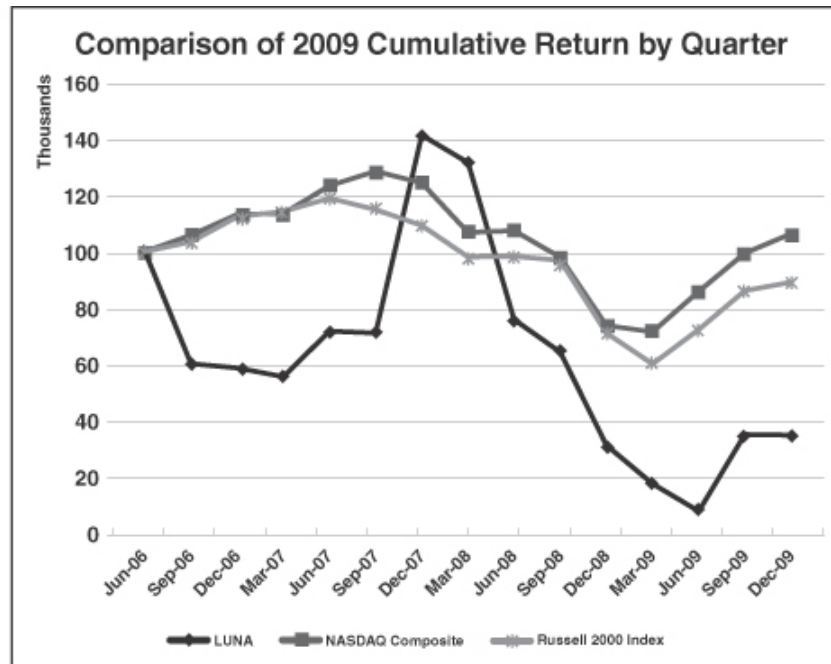
As of December 31, 2009, there were approximately 2,594 stockholders of record of our common stock. We derived the number of stockholders of record by reviewing the listing of outstanding common stock recorded by our transfer agent as of December 31, 2009.

STOCK PERFORMANCE GRAPH

The graph set forth below compares the cumulative total stockholder return on our common stock between June 2, 2006 (the date our common stock commenced trading on The NASDAQ Global Market) and December 31, 2009, versus the cumulative total return of the NASDAQ Composite Index and Russell 2000 Index over the same period. This graph assumes the investment of \$100,000 at the closing price of the market on June 2, 2006 in our common stock, the NASDAQ Composite Index and the Russell 2000 Index, 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 the performance the Company, nor do we believe we can reasonably identify a peer group, we measure our performance with issuers of similar market capitalization. We selected the Russell 2000 Index because it measures the performance of a broad range of companies with lower market capitalization than those companies included in the S&P 500 Index.

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.



	June 2006	September 2006	December 2006	March 2007	June 2007	September 2007	December 2007	March 2008	June 2008	September 2008	December 2008	March 2009	June 2009	September 2009	December 2009
Luna	100,000	60,362	58,882	55,757	71,875	71,217	141,118	131,414	75,987	64,474	31,579	17,928	8,224	35,362	35,120
NASDAQ Composite	100,000	105,778	113,125	113,452	123,289	128,380	124,225	106,746	107,397	97,978	73,863	71,595	85,948	99,408	106,280
Russell 2000 Index	100,000	103,450	112,300	114,160	118,864	114,836	109,216	98,087	98,328	96,890	71,209	60,273	72,468	86,155	89,164

[Table of Contents](#)

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.

UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Use of Proceeds from Sale of Registered Equity Securities

In 2006, we completed the initial public offering of 3,500,000 shares of our common stock at a price to the public of \$6.00 per share and received net proceeds of approximately \$17.9 million, after deducting underwriters' discounts and commissions and additional offering-related expenses.

We are using, or expect to use, the net proceeds of the offering principally to fund further development and expansion of our products and product candidates, and for general working capital purposes. We may also use a portion of the net proceeds for the acquisition of, or investment in, companies, technologies, products or assets that complement our business. We have no present commitments or binding agreements to enter into any acquisitions or investments. Pending these uses, we intend to continue to invest the net proceeds of our initial public offering in short-term, investment-grade interest-bearing securities or guaranteed obligations of the U.S. government.

[Table of Contents](#)

ITEM 6. SELECTED FINANCIAL DATA

The consolidated statement of operations data for each of the three years in the period ended December 31, 2009 and the consolidated balance sheet data as of December 31, 2008 and 2009 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, 2005 and 2006 and the consolidated balance sheet data as of December 31, 2005, 2006 and 2007 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.

Please see “Critical Accounting Policies and Estimates” included as part of Part II, Item 7 of this Annual Report on Form 10-K for further discussion of key accounting changes which occurred during the years covered in the table below.

In thousands, except share and per share data	Years ended December 31,				
	2005 (a)	2006	2007	2008	2009 (b)
Consolidated Statement of Operations Data:					
Revenues :					
Technology Division revenues	\$ 15,380	\$ 18,788	\$ 23,356	\$ 26,839	\$ 25,323
Products sales and licensing revenues	1,074	4,758	10,326	10,059	9,249
Total revenues	16,454	23,546	33,682	36,898	34,572
Cost of revenues:					
Technology development division costs	12,552	14,141	16,546	17,626	17,239
Product sales and licensing costs	410	2,221	4,820	5,231	4,577
Total cost of revenues	12,962	16,362	21,366	22,857	21,815
Gross profit	3,492	7,184	12,316	14,041	12,757
Operating expense	6,004	17,150	20,570	21,473	30,200
Operating loss	(2,512)	(9,966)	(8,254)	(7,432)	(17,444)
Other income, net	2	26	33	1,336	1
Interest income (expense), net	(41)	516	372	(190)	(504)
Loss before reorganization items and income tax	(2,551)	(9,424)	(7,850)	(6,286)	(17,947)
Reorganization Costs	—	—	—	—	1,898
Loss before income tax	(2,551)	(9,424)	(7,850)	(6,286)	(19,845)
Income tax (benefit) expense	(557)	13	—	—	600
Net loss	\$ (1,994)	\$ (9,437)	\$ (7,850)	\$ (6,286)	\$ (20,445)
Net loss per common share:					
Basic	\$ (0.53)	\$ (1.14)	\$ (0.77)	\$ (0.57)	\$ (1.82)
Diluted	\$ (0.53)	\$ (1.14)	\$ (0.77)	\$ (0.57)	\$ (1.82)
Weighted-average number of shares used in per share calculations:					
Basic	3,735,811	8,283,074	10,219,711	10,974,010	11,232,716
Diluted	3,735,811	8,283,074	10,219,711	10,974,010	11,232,716
Consolidated Balance Sheet Data:					
	2005	2006	December 31, 2007	2008	2009
Cash and cash equivalents	\$ 12,515	\$ 17,867	\$ 12,047	\$ 15,519	\$ 5,229
Working capital	11,843	19,283	14,115	14,992	16,529
Total assets	24,134	35,217	32,549	34,017	21,758
Total current liabilities	6,993	7,560	10,053	11,129	5,556
Total debt	5,431	5,328	5,000	10,000	5,000
Stockholder’s equity (deficit)	10,854	22,075	17,137	14,316	(2,860)

[Table of Contents](#)

-
- (a) We reacquired our Luna Technologies division in September 2005, having previously established Luna Technologies, Inc. in July 1998 and funding its growth by raising venture capital. Such financing activities diluted our equity ownership in Luna Technologies, Inc. to as little as approximately 7% during our holding period and to approximately 10% prior to September 2005. We purchased all of the stock of Luna Technologies, Inc. that we did not own in exchange for shares of our common stock in September 2005.
- (b) As further discussed in management's discussion and analysis, in April 2009, a jury found in favor of Hansen Medical Inc. ("Hansen") at the conclusion of a trial between us and Hansen in the amount of \$36.3 million. In January 2010, Luna and Hansen concluded a settlement that reduced our liability to \$9.7 million. This amount has been 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, the Company recognized an impairment of \$1.3 million for the quarter ended March 31, 2009. We also determined that the realizability of the Company's deferred tax asset was not more likely than not, and as such, we placed a valuation allowance of \$0.6 million against the remaining deferred tax asset. On July 17, the Company 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, the Company incurred significant legal expenses that are included in reorganization expenses for the year ended December 31, 2009 in the selected financial data.

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.

Chapter 11 Reorganization and Settlement with Hansen

On July 17, 2009, we and our wholly owned subsidiary Luna Technologies filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code (Bankruptcy Code"). During the period from the filing date until January 12, 2010, the date we emerged from Chapter 11, we and Luna Technologies 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 Chapter 11 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 and approximately 1.3 million shares of our common stock. We also entered into a supply and development agreement with Hansen as well as certain license agreements, and we entered into an amendment to our supply and development agreement with Intuitive Surgical which, among other things, amended the license agreement with Intuitive to conform the license to the agreement with Hansen.

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.

Overview

We research, develop and commercialize innovative technologies in two primary areas of focus: test & measurement, sensing, and instrumentation products and health care products. We have a disciplined and integrated business model that is designed to accelerate the process of bringing new and innovative products to market. We identify technologies that can fulfill large and unmet market needs and then take these technologies from the applied research stage through commercialization. Although revenues from product sales currently represent less than half of our total revenues, we continue to invest in product development and commercialization, which we anticipate will lead to increased product sales growth. In the future, we expect that revenues from product sales will represent a larger proportion of our total revenues. In addition, we anticipate that these revenues will reflect a broader and more diversified mix of products as we develop and commercialize new products.

Our business model employs a market-driven approach and provides the infrastructure, resources and know-how throughout the process of developing and commercializing new products. To manage a diverse set of

[Table of Contents](#)

products effectively across a range of development stages, we are organized into two main groups: our Technology Development Division and our Products Division. These groups work together through all product development stages, including:

- Searching for emerging technologies based on market needs;
- Conducting applied research;
- Developing and commercializing innovative products; and
- Applying proven technologies and products to new market opportunities.

Our annual revenues were \$33.7 million in 2007, and \$36.9 million in 2008 and \$34.6 million in 2009. We generate revenues through technology development services provided under contractual arrangements, product sales, product development under contractual relationships, and license fees. Historically, our technology development revenues have accounted for a large proportion 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 revenues grew from \$23.4 million in 2007 to \$26.8 million in 2008 and decreased to \$25.3 million in 2009. 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 (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 (firm orders for which funding has not been appropriated). Indefinite delivery and quantity contracts and unexercised options are not reported in total backlog. The approximate value of our backlog was \$20.5 million at December 31, 2009.

Revenues from product sales currently represent a smaller proportion 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. 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; however, over time 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 and test and measurement platforms. In the long term, we expect that revenues from product sales will represent a larger proportion 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 of approximately \$7.8 million, \$6.3 million and \$20.4 million for the years ended December 31, 2007, 2008, and 2009, respectively. The significant increase in the net loss in 2009 is attributable to the costs incurred with respect to our litigation with Hansen and subsequent Chapter 11 reorganization, as described below. We emerged from Chapter 11 in January 2010 and, accordingly we do not anticipate incurring such costs beyond the first quarter of 2010. We do expect to continue to incur significant expenses as we expand our business, including increased expenses for research and development, sales and marketing, and manufacturing capability. 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 that we may likely continue to incur losses for the foreseeable future, and these losses could be substantial.

There was a rapid softening of the economy and tightening of the financial markets in the second half of 2008 that continued throughout 2009. 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 2010 remains uncertain.

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 product and license revenues reflect amounts that we receive from sales of our products or development of products for third parties and represented approximately 27% of our total revenues for the year ended December 31, 2009. Our license revenues are comprised of fees paid to us in connection with licenses or sublicenses of certain patents and other intellectual property.

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 warranty; and inventory obsolescence, as well as overhead allocated to these activities.

Operating Expense

Operating expense consists of selling, general and administrative expenses, as well as expenses related to research and development, 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 Division; product development activities not provided under contracts with third parties; and overhead costs related to these activities.

Litigation Reserve

As described elsewhere in this report, in April 2009, as part of our litigation with Hansen, a jury found in favor of Hansen on certain of its claims against us and awarded a verdict for \$36.3 million against us. We established a litigation reserve for this amount on our financial statements pending final resolution of the matter, which was recorded as other expense during the first quarter of 2009.

In January 2010, we concluded the settlement of our litigation with Hansen and issued to Hansen a secured promissory note in the principal amount of \$5.0 million as well as 1,247,330 shares of our common stock, with a fair value of approximately \$4.7 million, based on the closing price of our common stock on January 11, 2010. Therefore, in the fourth quarter of 2009, we adjusted the prior litigation reserve downward to \$9.7 million. This adjustment was recorded on our statement of operations as a reduction of operating expenses during the fourth quarter of 2009.

[Table of Contents](#)

Interest Income/Expense

On May 21, 2008, we canceled our senior secured revolving credit facility with First National Bank, and entered into a new \$10 million debt facility with Silicon Valley Bank. At December 31, 2008, a \$5.0 million term loan was outstanding under this facility. On July 15, 2009, we repaid the outstanding balance of our term loan with Silicon Valley Bank and terminated the credit facility. Interest expense includes interest accrued on our outstanding bank credit facilities, interest costs associated with our 6% senior convertible notes with outstanding principal of \$5.0 million as of December 31, 2009, and interest incurred with respect to our capital lease obligations.

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

Reorganization Costs

As described elsewhere in this report, in July 2009, we filed a voluntary petition for relief under Chapter 11 of the United States Bankruptcy Code, including a proposed Joint Plan of Reorganization, which we refer to in this report as the Reorganization Plan, in the United States Bankruptcy Court for the Western District of Virginia. We amended the Reorganization Plan in December 2009 following our settlement with Hansen. In January 2010, the bankruptcy court approved the Reorganization Plan, as amended.

Reorganization costs of approximately \$1.9 million in our statement of operations for the year ended December 31, 2009 consists of legal fees and claims processing and other costs directly associated with our Chapter 11 proceedings. As we emerged from bankruptcy in January 2010, we do not anticipate any further significant reorganization costs beyond the first quarter of 2010.

Critical Accounting Policies and Estimates

Technology Development Revenues

We recognize revenue 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 probable 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. Revenues on cost reimbursable contracts are 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 on time and materials contracts are recognized based on direct labor hours expended at contract billing rates and adding 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, revenues are recognized based upon the percentage of completion method. Our contracts with agencies of the 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 deemed probable.

[Table of Contents](#)

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, the cost data of which is 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. Accordingly, 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.

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 be significant.

Product 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. We evaluate product sales that are a part of multiple-element revenue arrangements to determine whether separate units of accounting exist, and follow appropriate revenue recognition policies for each separate unit. Elements are considered separate units of accounting provided that (i) the delivered item has stand-alone value to the customer; (ii) there is objective and reliable evidence of the fair value of the undelivered item; (iii) if a general right of return exists relative to the delivered item, delivery or performance of the undelivered item is considered probable and substantially within our control. In certain product sales arrangements, we offer products bundled together at a discount. We allocate the overall contract consideration among the separate units of accounting based upon their fair values, with the amount allocated to the delivered item being limited to the amount that is not contingent upon the delivery of additional items or meeting other specified performance conditions. We base the fair value of the undelivered items upon the normal pricing practice for those items, which is generally the price when sold separately.

We have concluded that our product sales do not include multiple deliverable elements, as we do not offer post contract customer support, technical services or upgrades and enhancements, or other related services, which would require deferring recognition of revenue relating to the product, absent the existence of fair value for any undelivered elements.

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 difference, 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.

[Table of Contents](#)

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 such 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 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 or 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 these 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 compensation expense based upon the fair value of the underlying equity award on the date of the 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 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 for options granted after November 2008, we use the lifetime volatility of our common stock, because the stock has been publicly traded for over two years and thus provides sufficient data to determine volatility. To compute the volatility used in this model for options granted prior to November 2008, we used data from comparable companies.

As of December 31, 2009, total compensation expense not yet recognized related to unvested options is approximately \$5.6 million.

Goodwill and Other Intangible Assets

Goodwill and intangible assets acquired in a purchase business combination and determined to have an indefinite useful life are not amortized, but are instead reviewed annually (or more frequently if necessary) for impairment. Intangible assets with estimable useful lives are required to be amortized over their respective estimated useful lives and are also required to be reviewed for impairment if events or circumstances warrant such a review.

We have elected to perform the annual goodwill impairment review during the fourth quarter of each year. We employ income-based methods of determining fair value of the reporting unit consisting of a discounted cash flow analysis. As a result of the jury verdict against us during April 2009, the Company performed an interim goodwill impairment analysis. The impairment indicated an impairment of the full carrying value of goodwill which we recognized during the quarter ended March 31, 2009.

[Table of Contents](#)

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. As a result of the jury verdict discussed above, we performed an impairment analysis related to our patents in our products and licensing segment, noting an impairment of the full carrying amounts of the patents, which we recognized during the quarter ended March 31, 2009.

Results of Operations

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

	Year ended December 31,		
	2007	2008	2009
Revenues:			
Technology development revenues	69.3%	72.7%	73.2%
Product revenues	30.7%	27.3%	26.8%
Total revenues	100%	100%	100.0%
Cost of Revenues:			
Technology development costs	49.1%	47.8%	49.9%
Product costs	14.3%	14.2%	13.2%
Total cost of revenues	63.4%	61.9%	63.1%
Gross Profit	36.6%	38.1%	36.9%
Operating Expense	61.1%	57.8%	87.4%
Operating Loss	(24.5)%	(19.8)%	(50.5)%
Total Other Income, net	1.2%	2.7%	(1.5)%
Loss before reorganization items and income tax	0%	0%	-51.9%
Reorganization Costs	0%	0%	5.5%
Loss Before Income Taxes	(23.3)%	(17.0)%	(57.4)%
Income Tax Expense	0%	0%	1.7%

Year Ended December 31, 2009 Compared to Year Ended December 31, 2008

Revenues

Total revenues for the year ended December 31, 2009 were \$34.6 million, representing a decrease of \$2.3 million, or 6.3%, versus revenues of \$36.9 million for the year ended December 31, 2008. The decrease was comprised of a \$1.5 million, or 6%, decrease in technology development revenue and a \$0.8 million, or 8%, decrease in product and license revenue.

Technology development revenue decreased in 2009 by \$1.5 million. We believe that the activities in this segment were adversely impacted by our Chapter 11 reorganization filed in July 2009, which resulted in numerous expected awards for new development contracts being delayed until after our emergence from bankruptcy in 2010.

Product sales, product development, and licensing revenues for the years ended December 31, 2009 and 2008 were \$9.2 million and \$10.1 million, respectively, representing a decrease of \$0.8 million, or 8.1%. Product development activities included product development work for our arrangement with Intuitive Surgical, Inc., and various arrangements with governmental entities.

[Table of Contents](#)

Revenues relating to product development activities were unchanged at \$3.3 million during the years ended December 31, 2009 and December 31, 2008.

Product sales revenue decreased to \$5.9 million during the year ended December 31, 2009, or 12%, from \$6.8 million for the year ended December 31, 2008. The general deterioration of the global economy, which began to impact our product sales during the fourth quarter of 2008, continued to have an adverse effect on product sales throughout most of 2009.

Cost of Revenues

Cost of revenues decreased 5% to \$21.8 million for the year ended December 31, 2009 from \$22.9 million for the year ended December 31, 2008. Cost of revenues for technology development decreased \$0.4 million, or 2%, to \$17.2 million for the year ended December 31, 2009 from \$17.6 million for the year ended December 31, 2008. This decrease primarily resulted from reduced overhead expenses attributable to this business segment as a result of the company's initiatives during 2009 to improve efficiency and reduce its costs of operations.

Product and license cost of revenues decreased \$0.7 million, or 13%, largely attributable to the decrease in product sales during 2009 compared to 2008.

Operating Expense

Operating expense increased to \$30.2 million for the year ended December 31, 2009 from \$21.3 million for the year ended December 31, 2008, an increase of \$8.9 million, or 42%, over 2008. The increase in operating expense was driven by approximately \$9.7 million associated with the cost of settlement of our litigation with Hansen.

Expenses relating to professional fees and other costs associated with our litigation during the year ended December 31, 2009 were \$3.7 million compared to approximately \$2.4 million for the year ended December 31, 2008, representing an increase of \$1.3 million, or 54%, in addition to the cost of the Hansen settlement described above.

Expenses relating to share-based compensation were \$3.2 million for the year ended December 31, 2009, an increase of \$0.3 million, or 10%, over share-based compensation expenses of \$2.9 million for the year ended December 31, 2008. The increase in share-based compensation was driven by an increase in the expense relating to options issued to employees during 2009, which we account for at fair value.

Other Income (Expense)

For the year ended December 31, 2009, the company recognized other expense of \$0.5 million compared to other income of \$1.0 million for the year ended December 31, 2008, a decrease of \$1.5 million in other income items. This decrease was due primarily to an increase of \$0.4 million in interest expense, in addition to the benefits recognized in 2008 associated with \$0.7 million in net proceeds of a legal settlement and the recognition of \$0.7 million of income related to the partial satisfaction of the terms of a grant related to our nanomaterials facility.

In March 2004, we received a \$900,000 grant from the City of Danville, Virginia to be used for the expansion of economic and commercial growth within the City. Specifically, \$450,000 of the grant was to offset certain capital expenditures for leasehold improvements being made at our Danville facility, and the remaining \$450,000 for our creation of new jobs. Accordingly, we deferred the full \$900,000 amount of the grant as a liability on our balance sheet until we were able to satisfy the grant conditions. In December 2008 we received a determination letter from the City of Danville indicating that we had met 100% of the conditions of the grant relating to job creation and 29% of the conditions of the grant relating to capital expenditures. As a result, we

[Table of Contents](#)

recognized \$668,000 of the grant proceeds as other income for the year ended December 31, 2008 and correspondingly reduced the deferred liability of \$900,000 on our balance sheet. We received further notification in 2009 that we had earned an additional approximately \$35,000 and recorded this in other income. On July 14, 2009, we were asked to repay \$107,965 under the Grant Agreement based on a computation of the pro rata amount of capital expenditures falling below required levels. We have classified this amount and the remaining unearned revenue of \$88,750 as a current liability subject to compromise on our balance sheet as of December 31, 2009. In January 2010, we agreed to pay back the \$107,965 in quarterly installments over the next five years, ending in November 2014.

Reorganization Expense

We filed for reorganization on July 17, 2009 and we had no reorganization expenses for the year ended December 31, 2008. Expenses relating to professional fees and other costs associated with our reorganization during the year ended December 31, 2009 were \$1.9 million.

Year Ended December 31, 2008 Compared to Year Ended December 31, 2007

Revenues

Total revenues for the year ended December 31, 2008 were \$36.9 million, representing an increase of \$3.2 million, or 9.6%, over revenues of \$33.7 million for the year ended December 31, 2007. The increase was comprised of a \$3.5 million, or 15%, increase in technology development revenue and a \$0.3 million, or 2.6%, decrease in product and license revenue.

Technology development revenue grew in 2008 due to additional contract awards. A greater proportion of our labor costs were spent generating revenue in 2008 than in 2007, which translated to increased revenue. Direct labor applied to billable contract activity increased from 72% of total technology development labor dollars for the year ended December 31, 2007 to 76% for the year ended December 31, 2008. We believe that we improved the efficiency of our technology development labor during the year ended December 31, 2008.

Product sales, product development, and licensing revenues for the years ended December 31, 2008 and 2007 were \$10.1 million and \$10.3 million, respectively, representing a 2.6% decrease, or \$0.2 million, between these two years. Product development activities included product development work for our arrangement with Intuitive Surgical, Inc., and various arrangements with governmental entities.

Revenues relating to product development activities decreased to \$3.3 million during the year ended December 31, 2008, or 21% from \$4.2 million during the year ended December 31, 2007. We attribute this decrease predominantly to changes in our estimates for the level of effort required to attain milestones in certain product development contracts. When estimated costs to complete a contract increase, we reduce our revenues previously recognized. We reduced revenues on a cumulative basis by approximately \$0.3 million for the three months ended March 31, 2008 and by approximately \$0.6 million for the three months ended December 31, 2008 due to such changes in estimates.

The decline in product development revenue was offset by an increase in the revenue realized from product sales for the year ended December 31, 2008. Product sales revenue increased to \$6.8 million during the year ended December 31, 2008, or 10%, from \$6.1 million for the year ended December 31, 2007. However, the general deterioration of the global economy began to impact our product sales during the three month period ended December 31, 2008.

Revenue from product sales for the nine months ended September 30, 2008 was \$5.4 million, an increase of \$1.7 million, or 46%, compared to product revenue for the nine months ended September 30, 2007 of \$3.7 million. However, revenue from the sale of our products for the three months ended December 31, 2008 decreased \$1.0 million, or 83%, to \$1.2 million for the three months ended December 31, 2008, as compared to

Table of Contents

\$2.2 million for the three months ended December 31, 2007. The number of units sold on which we recognized revenue declined by 33% to 13 during the three months ended December 31, 2008 from 21 during the three months ended December 31, 2007.

Cost of Revenues

Cost of revenues increased 7% to \$22.9 million for the year ended December 31, 2008 from \$21.4 million for the year ended December 31, 2007. Cost of revenues for technology development increased \$1.1 million, or 7%, to \$17.6 million for the year ended December 31, 2008 from \$16.5 million for the year ended December 31, 2007. This increase primarily resulted from the addition of personnel during 2008 to fulfill our awarded research contracts, a higher proportion of time expended on direct labor, and other direct costs associated with these contracts.

Product and license cost of revenues increased \$0.4 million, or 9%, largely attributable to the increases of cost of goods relating to the sale of products.

Operating Expense

Operating expense increased to \$21.3 million for the year ended December 31, 2008 from \$20.6 million for the year ended December 31, 2007, an increase of \$0.7 million, or 3%, over 2007. The increase in operating expense was driven primarily by two factors in 2008: an increase in litigation expenses, and an increase in share-based compensation expenses.

Expenses relating to litigation for the year ended December 31, 2008 were approximately \$2.4 million, an increase of \$1.1 million, or 85%, over litigation expenses for the year ended December 31, 2007 of \$1.3 million. The expense increase is attributable to our dispute with Hansen, which commenced in June 2007.

Expenses relating to share-based compensation were \$2.9 million for the year ended December 31, 2008, an increase of \$0.5 million, or 21%, over share-based compensation expenses of \$2.4 million for the year ended December 31, 2007. The increase in share-based compensation was driven by an increase in the expense relating to options issued to employees, accounted for using the fair value method of accounting. Expenses relating to these options increased due to an increase in the number of options granted during 2008.

Other Income (Expense)

Other income was \$1.0 million for the year ended December 31, 2008 compared to \$0.4 million for the year ended December 31, 2007, an increase of \$0.6 million in other income items, or approximately 150%. This increase was due primarily to the following transactions occurring during the year ended December 31, 2008: receipt of net proceeds of a legal settlement, and recognition of income from partial satisfaction of the terms of a grant from the City of Danville.

Liquidity and Capital Resources

At December 31, 2009, our total cash and cash equivalents were approximately \$5.2 million. We expect the settlement of our litigation with Hansen in December 2009 and our emergence from bankruptcy in January 2010 will improve our cash flows in future years.

On February 18, 2010, we entered into a Loan and Security Agreement (the "Credit Facility") with Silicon Valley Bank ("SVB"). The Credit Facility is a revolving credit facility that provides us with borrowing capacity of up to \$5.0 million 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 matures on February 17, 2011, unless earlier terminated, and any amounts outstanding under the Credit Facility will be secured by substantially all of our assets, including our intellectual property, personal property and bank accounts. The Credit Facility includes a fee of one-half of one percent (0.50%) per annum based on the average unused portion of the Credit Facility.

[Table of Contents](#)

We have not yet drawn on the Credit Facility. Conditions to the initial extension of credit under the Credit Facility include, among others, the completion of an audit by SVB with results satisfactory to SVB in its sole discretion. The Credit Facility 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. If we draw on the Credit Facility, we may use the proceeds of the loans for any variety of purposes, including working capital and general corporate purposes. In addition, the Credit Facility contains 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. If any event of default occurs SVB may declare due immediately all borrowings under the Credit Facility and foreclose on the collateral. Furthermore, an event of default under the Credit Facility would result in an increase in the interest rate on any amounts outstanding. Hansen has agreed to subordinate its right to payment under the Hansen Note in favor of SVB's right to payment under the Credit Facility, subject to certain terms and conditions. We believe that our current cash balance in addition to the funds available to us under the Credit Facility provide adequate liquidity for us to meet our working capital needs during 2010.

Discussion of Cash Flows

Recent Activity

During the year ended December 31, 2009, we used approximately \$4.6 million of net cash from operations. This was an increase of \$3.9 million compared to 2008, when we used \$0.8 million of net cash from operations. This change was due to increased cash expenditures for professional fees related to our litigation with Hansen and our Chapter 11 reorganization activities.

Cash used in investing activities for the year ended December 31, 2009 related to the purchase of the intellectual property assets of Tego Biosciences, and the capitalized legal fees and costs associated with securing patent rights to certain technology. Our overall cash used in investing activities was \$0.7 million in 2009 compared to \$0.9 million in 2008. Cash used in financing activities for the year ended December 31, 2009 was \$5.0 million compared to cash flows provided by financing activities of \$5.2 million in 2008. The change in cash flows reflects the receipt of cash under our term loan with Silicon Valley Bank in 2008 and the repayment of that loan during 2009.

At December 31, 2009, total cash and cash equivalents were approximately \$5.2 million. We expect improved results of operations, resulting from the termination of our litigation with Hansen and our emergence from Chapter 11 reorganization to result in improved cash flow in subsequent years, following the cash payment of prepetition liabilities and the remaining fees incurred with respect to the litigation and reorganization.

Capital Expenditures

Capital expenditures for property and equipment, including purchased assets, assets acquired under capital leases, and capitalized software, totaled \$0.1 million for 2009, a decrease of \$0.3 million from capital expenditures of \$0.4 million in 2008. The decrease from 2008 to 2009 was principally due to decreased growth and upgrades to equipment in 2009.

Summary of Contractual Obligations

We lease our facilities in Blacksburg, Charlottesville, Danville, and Roanoke, Virginia under operating leases that expire between June 2010 and December 2015 or under a month-to-month arrangement. Upon expiration of the leases, we may exercise certain renewal options as specified in the leases.

[Table of Contents](#)

In September 2008, our Products Division executed a non-cancelable, non-reschedulable \$2.0 million purchase order for multiple shipments of tunable lasers to be delivered over an 18-month period beginning in September 2008. As of December 31, 2009, approximately \$1.0 million of this commitment remained. The delivery of the remaining lasers has been extended to 21 months through June 2010.

Set forth below is information concerning our known contractual obligations as of December 31, 2009 that are fixed and determinable.

	<u>Total</u>	<u>Less than 1 year</u>	<u>1 – 3 years</u>	<u>3 – 5 years</u>	<u>More than 5 years</u>
Debt obligations*	\$ 6,201,644	\$ 6,201,644	\$ —	\$ —	—
Hansen promissory note	5,000,000	814,026	3,821,805	364,169	—
Operating facility leases	3,162,970	1,375,689	1,787,281	—	—
Other operating leases	82,484	28,140	54,344	—	—
Purchase order obligation	1,038,850	1,038,850	—	—	—
Deferred Credits:					
City of Danville grant**	197,715	111,343	64,779	21,593	—
Other liabilities***	1,963,500	395,500	1,183,500	384,500	—
Total	\$ 17,647,163	\$ 9,965,192	\$ 6,911,709	\$ 770,262	—

* Long-term debt obligations consist of senior convertible promissory notes of aggregate principal amount of \$5.0 million and accrued interest thereon held by Carilion Clinic. The Carilion Clinic senior convertible promissory notes plus interest totaling \$6.2 million were exchanged for convertible preferred stock in January 2010, in full satisfaction of our obligations under the convertible notes.

** In March 2004, we received a \$900,000 grant from the City of Danville, Virginia to be used for the expansion of economic and commercial growth within the City. Specifically, \$450,000 of the grant was to be used to offset certain capital expenditures for leasehold improvements being made at our Danville facility, and the remaining \$450,000 was to be used for our creation of new jobs. In December 2008 we received a determination letter from the City of Danville that we had met 100% of the grant relating to job creation, and 29% relating to capital expenditures. As a result, we recognized \$668,000 of the grant as other income for the year ended December 31, 2008. In 2009 we recognized an additional approximately \$35,000 in revenue. In January 2010 we agreed to repay \$107,965 of the remaining grant in quarterly installments through November 2014. The remainder of the unearned grant of \$89,750 is under review at this time by the City of Danville, and therefore callable anytime, and therefore this amount is included in the table above as an obligation payable in less than one year.

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

Off-Balance Sheet Arrangements

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

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.

[Table of Contents](#)

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. As of December 31, 2009, we had \$5.2 million deposited in cash and cash equivalents bearing a weighted-average interest rate of 0.01%.

We are exposed to interest rate fluctuations, as a result of our Silicon Valley Bank term loan and revolving debt facility both having interest rates subject to market fluctuations. We do not currently use derivative instruments to alter the interest rate characteristics of any of our debt. The interest rate on our new revolving debt facility entered into February 18, 2010 with Silicon Valley Bank is at prime plus 1%. The revolving debt facility has a minimum interest rate of 6.0%.

Foreign Currency Exchange Rate Risk

As of December 31, 2009, 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.

[Table of Contents](#)

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Index to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm	53
Consolidated Balance Sheets at December 31, 2009 and 2008	54
Consolidated Statements of Operations for the years ended December 31, 2009, 2008, and 2007	55
Consolidated Statements of Changes in Stockholder's Equity for the years ended December 31, 2009, 2008, and 2007	56
Consolidated Statements of Cash Flows for the years ended December 31, 2009, 2008, and 2007	57
Notes to Consolidated Financial Statements	58

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 (Debtors-in-Possession) as of December 31, 2009 and 2008, and the related consolidated statements of operations, changes in stockholders' equity (deficit), and cash flows for each of the three years in the period ended December 31, 2009. Our audits of the basic 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 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 (Debtors-in-Possession) as of December 31, 2009 and 2008, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2009 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 statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

McLean, Virginia
March 26, 2010

CONSOLIDATED BALANCE SHEETS
(Debtor in Possession)

	December 31, 2008	December 31, 2009
Assets		
Current assets		
Cash and cash equivalents	\$ 15,518,960	\$ 5,228,802
Accounts receivable, net	7,332,034	7,203,203
Refundable income taxes	98,092	—
Inventory, net	2,828,991	2,890,364
Prepaid expenses	249,908	560,964
Other current assets	92,690	729,532
Total current assets	26,120,675	16,612,865
Property and equipment, net	5,363,957	4,129,015
Goodwill and intangible assets, net	1,813,643	580,785
Deferred tax asset	600,000	—
Other assets	118,292	435,259
Total assets	\$ 34,016,567	\$ 21,757,924
Liabilities and stockholders' equity (deficit)		
Liabilities not subject to compromise:		
Current Liabilities not subject to compromise;		
Current portion of long term debt obligation	1,428,572	—
Current portion of capital lease obligation	17,396	7,510
Accounts payable	2,667,192	1,142,267
Accrued liabilities	5,161,308	3,379,339
Deferred credits	1,854,282	1,027,016
Liabilities not subject to compromise	11,128,750	5,556,132
Long-term debt obligation	8,571,428	—
Liabilities subject to compromise	—	19,062,000
Total liabilities	19,700,178	24,618,132
Commitments and contingencies		
Stockholders' equity (deficit):		
Common stock, par value \$0.001, 100,000,000 shares authorized, 11,137,882 and 11,351,967 shares issued and outstanding at December 31, 2008 and 2009, respectively	11,138	11,352
Additional paid-in capital	37,960,928	41,228,698
Accumulated deficit	(23,655,677)	(44,100,258)
Total stockholders' equity (deficit)	14,316,389	(2,860,208)
Total liabilities and stockholders' equity (deficit)	\$ 34,016,567	\$ 21,757,924

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

CONSOLIDATED STATEMENTS OF OPERATIONS
(Debtor in Possession)

	Year ended December 31,		
	2007	2008	2009
Revenues:			
Technology development revenues	\$ 23,356,456	\$ 26,838,592	\$ 25,322,889
Product and license revenues	10,325,659	10,059,728	9,248,998
Total revenues	<u>33,682,115</u>	<u>36,898,320</u>	<u>34,571,887</u>
Cost of revenues:			
Technology development costs	16,546,140	17,626,495	17,238,571
Product and license costs	4,819,825	5,231,067	4,576,783
Total cost of revenues	<u>21,365,965</u>	<u>22,857,562</u>	<u>21,815,354</u>
Gross profit	12,316,150	14,040,758	12,756,533
Operating expense:			
Selling, general & administrative	16,082,582	17,688,065	16,345,578
Research, development, and engineering	4,487,897	3,646,590	2,874,666
Litigation settlement	—	—	9,669,728
Impairment of intangible assets	—	—	1,310,598
Total operating expense	<u>20,570,479</u>	<u>21,334,655</u>	<u>30,200,570</u>
Operating loss	<u>(8,254,329)</u>	<u>(7,293,897)</u>	<u>(17,444,037)</u>
Other income (expense):			
Other income, net	32,722	1,197,755	735
Interest income (expense), net	371,991	(189,501)	(503,699)
Total other income (expense)	<u>404,713</u>	<u>1,008,254</u>	<u>(502,964)</u>
Loss before reorganization costs and income tax expense	<u>(7,849,616)</u>	<u>(6,285,643)</u>	<u>(17,947,001)</u>
Reorganization costs	—	—	1,897,580
Loss before income tax expense	<u>(7,849,616)</u>	<u>(6,285,643)</u>	<u>(19,844,581)</u>
Income tax expense	—	—	600,000
Net loss	<u>\$ (7,849,616)</u>	<u>\$ (6,285,643)</u>	<u>\$ (20,444,581)</u>
Net loss per share:			
Basic	<u>\$ (0.77)</u>	<u>\$ (0.57)</u>	<u>\$ (1.82)</u>
Diluted	<u>\$ (0.77)</u>	<u>\$ (0.57)</u>	<u>\$ (1.82)</u>
Weighted average shares:			
Basic and diluted	<u>10,219,711</u>	<u>10,974,010</u>	<u>11,232,716</u>

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

CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT)
(Debtor in Possession)

	Common Stock		Additional Paid in Capital	Accumulated Deficit	Total
	Shares	\$			
Balance—January 1, 2007	9,911,546	\$ 9,912	\$ 31,585,762	\$ (9,520,418)	\$ 22,075,256
Share-based payments	29,296	29	2,425,114	—	2,425,143
Exercise of options and warrants	763,614	763	485,187	—	485,950
Net loss	—	—	—	(7,849,616)	(7,849,616)
Balance—December 31, 2007	10,704,456	10,704	34,496,063	(17,370,034)	17,136,733
Share-based payments	1,525	2	2,867,485	—	2,867,487
Shares issued in lieu of Senior Management bonus	62,922	63	309,153	—	309,216
Exercise of options and warrants	368,979	369	168,606	—	168,975
Warrants issued in connection with debt amendment	—	—	119,621	—	119,621
Net loss	—	—	—	(6,285,643)	(6,285,643)
Balance—December 31, 2008	11,137,882	11,138	37,960,928	(23,655,677)	14,316,389
Share-based payments	69,220	69	3,216,711	—	3,216,780
Exercise of options and warrants	144,865	145	51,060	—	51,204
Net loss	—	—	—	(20,444,581)	(20,444,581)
Balance—December 31, 2009	<u>11,351,967</u>	<u>\$ 11,352</u>	<u>\$ 41,228,698</u>	<u>\$ (44,100,258)</u>	<u>\$ (2,860,208)</u>

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

CONSOLIDATED STATEMENTS OF CASH FLOWS
(Debtor in Possession)

	Year ended December 31,		
	2007	2008	2009
Cash flows used in operating activities:			
Net loss	\$ (7,849,616)	\$ (6,285,643)	\$ (20,444,581)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	1,780,877	1,933,566	1,853,188
Share-based compensation	2,425,143	2,867,487	3,216,780
Deferred tax expense	—	—	600,000
Bad debt expense	10,524	(7,161)	135,162
Reorganization costs	—	—	826,234
Impairment of intangible assets	—	—	1,310,598
Changes in operating assets and liabilities:			
Accounts receivable	(2,493,728)	2,391,737	(6,332)
Inventory	(831,945)	(1,566,809)	(61,373)
Refundable income taxes	—	297,970	98,092
Other assets	172,740	(59,322)	(1,264,865)
Accounts payable and accrued expenses	1,972,111	(157,628)	259,145
Accrued litigation settlement	—	—	9,669,728
Deferred credits	597,724	(172,536)	(827,266)
Net cash used in operating activities	<u>(4,216,170)</u>	<u>(758,339)</u>	<u>(4,635,490)</u>
Cash flows used in investing activities:			
Acquisition of property and equipment	(1,375,612)	(391,210)	(53,111)
Intangible property costs	(414,328)	(536,251)	(642,875)
Net cash used in investing activities	<u>(1,789,940)</u>	<u>(927,461)</u>	<u>(695,986)</u>
Cash flows from financing activities:			
Proceeds from term loan	—	5,000,000	—
Payments on debt obligations	(214,953)	—	(5,000,000)
Payments on capital lease obligation	(84,695)	(11,160)	(9,886)
Proceeds from the exercise of options and warrants	485,950	168,975	51,204
Net cash from financing activities	<u>186,302</u>	<u>5,157,815</u>	<u>(4,958,682)</u>
Net change in cash	<u>(5,819,808)</u>	<u>3,472,015</u>	<u>(10,290,158)</u>
Cash and cash equivalents—beginning of period	17,866,753	12,046,945	15,518,960
Cash and cash equivalents—end of period	<u>\$ 12,046,945</u>	<u>\$ 15,518,960</u>	<u>\$ 5,228,802</u>
Supplemental disclosure of cash flow information			
Cash paid for interest	\$ 15,340	\$ 193,125	\$ 177,973
Cash received for income taxes	\$ —	\$ 297,970	\$ 107,581
<i>Supplemental schedule of non-cash activities</i>			
Warrants issued in connection with debt modification	\$ —	\$ 58,194	\$ —
Share issued in lieu of senior management bonus	\$ —	\$ 309,216	\$ —

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Summary of Significant Accounting Policies

Luna Innovations Incorporated (“Luna Innovations”, “we”, or “the Company”), headquartered in Roanoke, VA was incorporated in the Commonwealth of Virginia in 1990 and subsequently reincorporated in the State of Delaware in April 2003. We are engaged in the research, development and commercialization of innovative technologies in the areas of test & measurement, sensing, and instrumentation products and health care products. We are organized into two main groups, which work closely together to turn ideas into products: our Technology Development Group and our Products Group. We have a disciplined and integrated business model that is designed to accelerate the process of bringing new and innovative technologies to market. We identify technologies that can fulfill identified market needs. We then take these solutions from the applied research stage through commercialization.

Consolidation Policy

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States (“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.

Basis of Presentation

On July 17, 2009, Luna Innovations, along with Luna Technologies, Inc., which comprise substantially all of the operations of the consolidated Company, 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 Chapter 11.

Due to our status as a Debtor-In-Possession as of December 31, 2009, the accompanying financial statements are presented in accordance with Accounting Standards Codification (“ASC”) 852-10-45, “Reorganizations- Overall- Other Presentation Matters.” Accordingly, liabilities subject to compromise as of December 31, 2009, which include the expected allowed claims for liabilities incurred prior to our Chapter 11 filing, are presented separately from those liabilities not subject to compromise on our Consolidated Balance Sheet. Liabilities not subject to compromise include all liabilities incurred after the Chapter 11 petition date. All liabilities incurred prior to the petition date are considered liabilities subject to compromise. These amounts represent the Company’s estimates of known or potential pre-petition date claims that are likely to be resolved in connection with the Chapter 11 filings. In addition, those expenses directly attributable to our Chapter 11 activities, including, but not limited to, professional fees, mailings to creditors, and fees payable to the United States Trustee, are presented separately from other operating expenses on our Consolidated Statement of Operations as reorganization expense.

In connection with our litigation settlement, upon our emergence from Chapter 11 in January 2010, we issued approximately 1.2 million shares of common stock to Hansen Medical, Inc. Other outstanding shares of common stock were not impacted as a result of our reorganization activities. Because the shareholders immediately prior to our emergence from Chapter 11 continue to own more than 50% of the total outstanding common stock immediately following our emergence from Chapter 11, we will not be required to adopt the fresh-start reporting principles of ASC 852-10-45.

[Table of Contents](#)

Going Concern

As noted above, on July 17, 2009, we filed a voluntary petition for relief in order to reorganize under the Bankruptcy Code. On January 12, 2010 the Company successfully emerged from Chapter 11. On February 18, 2010 the Company entered into a \$5 million revolving credit facility as further described in Note 16. The Company believes that following its emergence from Chapter 11 and execution of its new credit facility it has adequate liquidity and resources to meet its ongoing operating needs in the ordinary course of business, and, therefore, the accompanying consolidated financial statements have been prepared assuming that we will continue as a going concern.

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. Federal government agencies, educational institutions and commercial organizations. We recognize revenues under research contracts when a contract has been executed, the contract price is fixed and determinable, delivery of services or products has occurred and collection of the contract price is considered probable. Revenues are 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. Revenues on cost reimbursable contracts are recognized as costs are incurred plus a portion of the fee earned. Revenues on time and materials contracts are recognized based on direct labor hours expended at contract billing rates plus other billable direct costs.

Revenue for fixed price research contracts that involve the delivery of services and a prototype model are 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 probable. 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

[Table of Contents](#)

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. We evaluate product sales that are a part of multiple-element revenue arrangements to determine whether separate units of accounting exist, and follow appropriate revenue recognition policies for each separate unit. Elements are considered separate units of accounting provided that (i) the delivered item has stand-alone value to the customer; (ii) there is objective and reliable evidence of the fair value of the undelivered item; (iii) if a general right of return exists relative to the delivered item, delivery or performance of the undelivered item is considered probable and substantially within our control. We allocate the overall contract consideration among the separate units of accounting based upon their fair values, with the amount allocated to the delivered item being limited to the amount that is not contingent upon the delivery of additional items or meeting other specified performance conditions. We base the fair value of the undelivered items upon the normal pricing practice for those items, which is generally the price when sold separately. We have concluded that our product sales do not include multiple deliverable elements, as we do not offer post contract customer support, technical services or upgrades and enhancements, or other related services, which would require deferring recognition of revenue relating to the product, absent the existence of fair value for any undelivered elements.

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 where 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.

Cash Equivalents

We consider all highly liquid investments purchased with maturities of three months or less to be cash equivalents. To date, the Company has 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.

Table of Contents

- 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, contract receivables 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 equal to the interest rate on our new credit facility with Silicon Valley Bank, established in February 2010.

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

Goodwill and Intangible Assets

Intangible assets consist of goodwill and patents related to certain intellectual property that we have developed or acquired. Goodwill represents the excess of the cost of an acquired entity over the net amounts assigned to tangible and intangible assets acquired and liabilities assumed. We allocate goodwill to the appropriate reporting unit and test for impairment using a two-step approach. 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.

We perform a goodwill impairment test annually, on December 31st, or whenever an event has occurred that would more likely than not reduce the fair value of a reporting unit below its carrying amounts. Following the verdict in the Hansen litigation, which resulted in the Company recording a reserve of \$36.3 million in the first quarter of 2009, we determined that the expected future cash flows for our product and license reporting unit were less than the carrying amount of the reporting unit and, accordingly, we recorded an impairment charge of \$1.3 million to fully write off the goodwill and other intangible assets related to that reporting unit.

Research and Development

Research and development costs not related to contract performance are expensed as incurred. We expensed \$4.5 million, \$3.5 million and \$2.9 million of non-contract related research and development expenses for the years ended December 31, 2007, December 31, 2008, and December 31, 2009, respectively.

Capitalized Software Costs

We did not capitalize any software development costs during the three years ended December 31, 2009. Costs related to the development of new software products and significant enhancements to existing software products are expensed as incurred until technological feasibility has been established and are amortized over three years.

[Table of Contents](#)

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, 2008 and 2009 were \$43,427 and \$47,757, respectively.

Net Loss Per Share

Basic per share data is computed by dividing loss available to common stockholders by the weighted average number of shares outstanding during the period. Diluted per share data is computed by dividing loss available 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 5,021,242, 4,871,514 and 4,613,006 common stock equivalents (which include outstanding warrants and stock options) are not included for the years ended December 31, 2007, 2008 and 2009 respectively, as they are antidilutive to earnings per share. In addition, the conversion of the \$5.0 million in convertible promissory notes would have been antidilutive.

Stock-Based Compensation

We have a stock-based compensation plan, which is described further in Note 9. 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.

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:

	<u>2007</u>	<u>2008</u>	<u>2009</u>
Risk-free interest rate range	4.27% – 4.77%	2.18% – 4.02%	2.80% – 3.17%
Expected life of option-years	7.5	7.5	7.5
Expected stock price volatility	56.80%	63% – 83%	83% – 117%
Expected dividend yield	—	—	—

[Table of Contents](#)

The risk-free interest rate is based on US Treasury interest rates, the terms of which are consistent with the expected life of the stock options. For the year ended December 31, 2007, expected volatility is based upon an average volatility of comparable public companies, since our common stock has only been trading since June 2006. For the years ended December 31, 2008 and 2009, 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.

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 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

Effective July 1, 2009, the Company adopted *The "FASB Accounting Standards Codification" and the Hierarchy of Generally Accepted Accounting Principles* (ASC 105). This standard establishes only two levels of GAAP, authoritative and nonauthoritative. The FASB Accounting Standards Codification (the "Codification") became the source of authoritative, nongovernmental GAAP, except for rules and interpretive releases of the SEC, which are sources of authoritative GAAP for SEC registrants. All other non-grandfathered, non-SEC accounting literature not included in the Codification became nonauthoritative. The Company began using the new guidelines and numbering system prescribed by the Codification when referring to GAAP in the third quarter of fiscal 2009. As the Codification was not intended to change or alter existing GAAP, it did not have any impact on the Company's Consolidated Financial Statements.

In September 2009, the FASB issued Accounting Standard Update No. 2009-13, "Multiple-Deliverable Revenue Arrangements—a consensus of the FASB Emerging Issues Task Force" (ASU 2009-13). It updates the existing multiple-element revenue arrangements guidance currently included under ASC 605-25. The revised guidance primarily provides two significant changes: 1) requires an entity to allocate revenue in an arrangement using estimated selling prices (ESP) of deliverables if a vendor does not have vendor-specific objective evidence of selling price (VSOE) or third-party evidence of selling price (TPE); and 2) eliminates the residual method and requires an entity to allocate revenue using the relative selling price method. The Company adopted this new accounting guidance starting January 2010 on a prospective basis for applicable transactions originating or materially modified after December 31, 2009. This guidance does not generally change the units of accounting for the Company's revenue transactions. The company does not expect the adoption of ASU 2009-13 to have a significant impact on its financial results.

Effective April 1, 2009, the Company adopted two accounting standard updates which were intended to provide additional application guidance and enhanced disclosures regarding fair value measurements and impairments of securities. They also provide additional guidelines for estimating fair value in accordance with fair value accounting. The first update, as codified in ASC 820-10-65, provides additional guidelines for estimating fair value in accordance with fair value accounting. The second accounting update, as codified in ASC 825-10-65, requires fair value disclosures in the interim periods as well as in the annual financial statements.

[Table of Contents](#)

These updates were effective for fiscal years and interim periods ended after June 15, 2009. The adoption of these accounting updates did not have any impact on the Company's Consolidated Financial Statements.

Effective April 1, 2009, the Company adopted a new accounting standard for subsequent events, as codified in ASC 855-10. The update modifies the names of the two types of subsequent events either as recognized subsequent events (previously referred to in practice as Type I subsequent events) or non-recognized subsequent events (previously referred to in practice as Type II subsequent events). In addition, the standard modifies the definition of subsequent events to refer to events or transactions that occur after the balance sheet date, but before the financial statements are issued (for public entities) or available to be issued (for nonpublic entities). The update did not result in significant changes in the practice of subsequent event disclosures, and therefore the adoption did not have any impact on the Company's Consolidated Financial Statements.

Reclassifications

Certain reclassifications have been made to the 2007 financial statements to conform to the 2008 and 2009 presentation. Specifically, operating expenses have segregated between selling, general & administrative and research, development and engineering within the Consolidated Statement of Operations.

2. Litigation and Agreements with Hansen Medical, Inc.

On June 22, 2007, Hansen Medical Inc. ("Hansen"), a company for which we had conducted certain research and performed certain services, filed a complaint against us in the Superior Court of the State of California, County of Santa Clara. On March 18, 2008, the complaint was amended and alleged misappropriation of trade secrets, aiding and abetting breach of fiduciary duty, unfair competition, breach of contract, conversion, intentional interference with contract, breach of implied covenant of good faith and fair dealing, and fraud. In addition to money damages in an unspecified amount, Hansen sought, among other things, equitable relief, including an injunction against our using the allegedly misappropriated Hansen trade secrets in connection with our work with Intuitive Surgical, Inc., ("Intuitive") or otherwise.

We also filed a counterclaim against Hansen and an amended counterclaim on March 18, 2008 asserting claims for declaratory judgment, misappropriation of trade secrets, breach of contract, unfair competition under the California Business and Professional Code, breach of implied covenant of good faith and fair dealing and unjust enrichment. However, we subsequently withdrew all of our counterclaims prior to the matter proceeding to trial on the merits in March 2009.

Prior to and during the course of the trial, Hansen's claims for conversion, unfair competition, aiding and abetting breach of fiduciary duty and intentional interference with contract were all dismissed. Hansen's remaining claims for misappropriation of trade secrets, breach of contract, breach of implied covenant of good faith and fair dealing and fraud were submitted to a jury following a trial on the merits that concluded in April 2009. On April 21, 2009, a jury found in favor of Hansen on its breach of contract, breach of the covenant of good faith and fair dealing and misappropriation of trade secrets claims, and it awarded a verdict for \$36.3 million against us. The jury did not find in favor of Hansen on its fraud claims against us, but it did find that our misappropriation was willful or malicious. We recorded a reserve for the full amount of the jury award in the quarter ended March 31, 2009.

On December 11, 2009, Luna Innovations and its wholly-owned subsidiary, Luna Technologies, Inc. (together with Luna Innovations, the "Companies") entered into a Confidential Settlement Agreement (the "Settlement Agreement") to settle all claims arising out of the litigation with Hansen. 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. On January 12, 2010, the Companies entered into a series of agreements with Hansen and Intuitive that were contemplated by the Settlement Agreement. The material terms of these agreements are summarized below.

Table of Contents

License Agreement between the Companies and Hansen (the “Hansen License”)

Under the Hansen License, the Companies granted Hansen (i) a co-exclusive (with Intuitive), royalty-free, fully paid, perpetual and irrevocable license to the Companies’ 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 the Companies’ fiber optic shape sensing/localization technology for non-robotic medical devices within the orthopedics, vascular, and endoluminal fields; and (iii) a co-exclusive (with the Companies) royalty-free, fully paid, perpetual and irrevocable license to the Companies’ 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). After five years, the exclusive license in the non-robotic endoluminal field may be converted to a co-exclusive (with the Companies) license in certain circumstances in connection with certain supply provisions applicable to that field under the Development and Supply Agreement (as defined below).

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

In addition, Hansen granted the Companies 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, the Companies confirmed Hansen’s ownership of certain intellectual property developed in whole or in part by the Companies under a prior agreement between the Companies and Hansen.

Note Payable from Luna Innovations to Hansen

In connection with the Settlement Agreement, the Company issued a promissory note (the “Hansen Note”) in the principal amount of \$5.0 million payable in 16 quarterly installments beginning April 2010. The note bears interest at a fixed rate of 8.5% and is secured by substantially all of the assets of the Company. The Hansen Note is subordinated to the Company’s primary bank credit facility, with Silicon Valley Bank, that was entered into February 2010.

Common Stock Issued to Hansen

In connection with the Settlement Agreement, on January 12, 2010, the Company issued 1,247,330 shares of common stock to Hansen, representing 9.9% of the then outstanding common stock of the Company. In addition, the Company 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 the Company’s common stock, at an exercise price of \$0.01 per share.

Development and Supply Agreement

In connection with the Settlement Agreement, the Company also entered into a development and supply agreement with Hansen. Under the terms of this agreement, the Company will perform product development services with respect to fiber optic shape sensing at Hansen’s request and provide Luna shape sensing products to

[Table of Contents](#)

Hansen. Revenues earned for product development will be determined in a manner consistent with the Company's contract development services in its Technology Development business segment and will be payable monthly to Luna. To the extent such revenues exceed the quarterly installment payment owed by the Company to Hansen under the Hansen Note, then such excess will not be payable in cash and instead will be credited against the outstanding principal balance of the Hansen Note.

As of December 31, 2009, the Company has reflected the \$5.0 million principal amount of the Hansen Note issued in January 2010 and approximately \$4.7 million for the common stock issued to Hansen in January 2010, based on the closing price of the Company's common stock on the date of issuance, as the remaining "Litigation Reserve" in the accompanying consolidated financial statements. There was no value assigned to the development and supply agreement.

3. Accounts Receivable—Trade

Accounts receivable consist of the following at:

	December 31,	
	2008	2009
Billed	\$ 5,158,101	\$ 5,455,419
Unbilled	2,162,830	1,894,455
Other	33,476	10,864
	<u>\$ 7,354,407</u>	<u>\$ 7,360,738</u>
Less: allowance for doubtful accounts	(22,373)	(157,535)
	<u>\$ 7,332,034</u>	<u>\$ 7,203,203</u>

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

Advance payments on uncompleted contracts were \$1.2 million and less than \$0.1 million for the years ended December 31, 2008 and 2009, respectively, and are recorded as deferred revenue until earned. Contract retainage amounts were \$0.5 million and \$0.2 million for the years ended December 31, 2008 and 2009, respectively, and are recorded as unbilled accounts receivable until final settlement of the underlying contracts.

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

4. Property and Equipment

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

	December 31,	
	2008	2009
Equipment	\$ 6,188,850	\$ 6,177,166
Furniture and fixtures	621,776	621,776
Software	1,170,767	1,170,767
Leasehold improvements	3,255,589	3,257,303
	<u>11,236,982</u>	<u>11,227,012</u>
Less—accumulated depreciation	(5,873,025)	(7,097,996)
	<u>\$ 5,363,957</u>	<u>\$ 4,129,015</u>

Depreciation for the years ended December 31, 2007, 2008, and 2009 was approximately \$1.3 million, \$1.3 million, and \$1.2 million, respectively.

[Table of Contents](#)

5. Intangible Assets

The following is a summary of intangible assets:

	December 31,	
	2008	2009
Goodwill	\$ 418,075	\$ —
Patent costs	2,002,975	1,774,871
Other capitalized intellectual property rights	742,667	—
Accumulated amortization	(1,350,074)	(1,194,086)
	<u>\$ 1,813,643</u>	<u>\$ 580,785</u>

Amortization for the periods ended December 31, 2007, 2008, and 2009 was approximately \$0.5 million, \$0.6 million, and \$0.6 million, respectively. In 2009 we recorded an impairment charge against our goodwill of \$0.4 million, and an impairment charge of \$0.9 million related to intellectual property assets in our product and license business unit, as the carrying values exceeded the fair value as determined through a discounted cash flow analysis for goodwill and an undiscounted cash flow analysis for our intellectual property.

Estimated aggregate amortization for each of the next five years is as follows:

Year Ended December 31,	
2010	\$ 162,106
2011	134,968
2012	106,877
2013	92,697
2014	84,137
	<u>\$ 580,785</u>

6. Liabilities Subject to Compromise

Liabilities Subject to Compromise consist of the following at:

	December 31,	
	2008	2009
Accounts payable	\$ —	\$ 1,074,188
Accrued liabilities	—	3,318,084
Notes payable	—	5,000,000
Litigation settlement	—	9,669,728
Liabilities subject to compromise	<u>—</u>	<u>\$ 19,062,000</u>

7. Debt Agreements

Silicon Valley Bank Facility

On May 21, 2008, we entered into a \$10.0 million maximum debt facility with Silicon Valley Bank. Included in this facility was a four-year term loan of \$5.0 million and a revolving line of credit facility available for the remaining unused balance. As part of the facility, Silicon Valley Bank issued a letter of credit on our behalf to the Industrial Development Authority of Montgomery County, Virginia, as required under an office lease. At December 31, 2008, the full principal amount of \$5.0 million was outstanding under the term loan, and there was no outstanding balance under the revolving line of credit facility.

[Table of Contents](#)

As a result of the jury verdict awarded against us in connection with the Hansen litigation in April 2009, we were not in compliance with certain of the financial covenants associated with the term loan and the revolving line of credit. In June 2009, Silicon Valley Bank agreed to forebear on the declaration of a default through July 17, 2009. On July 15, 2009, we repaid the outstanding balance of the term loan in full and terminated the credit facility.

Carilion Promissory Note

In 2005, we issued \$5.0 million in principal amount of convertible promissory notes to Carilion Clinic (Carilion) that were convertible into shares of our Common Stock at a fixed price of \$4.69 per share. The notes accrued simple interest at a rate of 6.0% per year and were originally scheduled to mature on December 30, 2009.

In May 2008, we amended the terms of the notes to extend their due date to December 31, 2012 and to subordinate them to our credit facility with Silicon Valley Bank. We also issued warrants to purchase 10,000 shares of Common Stock at a price of \$7.98 per share in connection with the amended terms. We valued the warrants using the Black-Scholes option pricing model, and we were amortizing the value as a deferred financing cost over the life of the promissory notes.

Long-term debt obligations at December 31, 2008, and liabilities subject to compromise at December 31, 2009, include the full \$5.0 million principal amount payable to Carilion. Our bankruptcy filing on July 17, 2009 constituted an event of default under Section 4(b) of the Carilion notes, which accelerated the maturity date; as such, the Carilion notes are included in current liabilities at December 31, 2009.

On January 12, 2010, we exchanged the convertible notes for 1,321,514 shares of convertible preferred stock in full satisfaction of the \$5.0 million principal amount due under the convertible notes and \$1.2 million in accrued but unpaid interest under the notes. In addition, the warrants issued in May 2008 to purchase 10,000 shares of Common Stock were amended to reduce their strike price to \$2.50 per share. As part of the exchange, the company also issued additional warrants to Carilion to purchase an aggregate of 356,000 shares of Common Stock with a strike price of \$2.50. The warrants are exercisable beginning December 31, 2012 and February 1, 2013, respectively, and continuing until December 31, 2020.

The following table presents a summary of debt.

	December 31,	
	2008	2009
Carilion Clinic convertible promissory note	\$ 5,000,000	\$ 5,000,000
Silicon Valley Bank Term Loan	5,000,000	—
	<u>\$ 10,000,000</u>	<u>\$ 5,000,000</u>
Less: currently payable	1,428,572	—
Less: Amounts subject to compromise	—	5,000,000
Total long-term debt	<u>\$ 8,571,428</u>	<u>\$ —</u>

Costs associated with loans outstanding were as follows:

	Years Ended December 31,		
	2007	2008	2009
Interest expense	\$ 318,480	\$ 500,311	\$ 439,233
Amortization of transaction costs	\$ —	\$ 10,478	\$ 78,248
Total interest expense	<u>\$ 318,480</u>	<u>\$ 510,789</u>	<u>\$ 517,482</u>

[Table of Contents](#)

8. Income Taxes

Deferred tax assets and liabilities consist of the following components:

	December 31,	
	2008	2009
Research and development credits	\$ 386,161	\$ 386,161
Net operating loss carryforwards	7,745,382	12,360,030
Accrued liabilities	491,277	821,360
Stock-based compensation	615,902	847,282
Depreciation and amortization	438,121	290,262
Bad debt and inventory reserve	20,828	77,929
	<u>9,697,671</u>	<u>14,783,024</u>
Valuation allowance	(9,097,671)	(14,783,024)
Net deferred tax asset	<u>\$ 600,000</u>	<u>\$ 0</u>

The reconciliation of expected income tax expense (benefit) to actual income tax expense (benefit) was as follows:

	2007	2008	2009
Statutory federal rate	34.0%	34.0%	34.0%
State tax net of federal benefit	3.96%	3.96%	3.96%
Research and development credit and carryforwards	1.69%	1.48%	0%
Change in valuation allowance	(7.78%)	(20.24%)	(31.12%)
Permanent differences and other	(31.87%)	(19.20%)	(9.85%)
Income tax (expense)	<u>0.00%</u>	<u>0.00%</u>	<u>(3.01%)</u>

The income tax expense consists of the following for:

	2007	2008	2009
Current:			
Federal	\$ —	\$ —	\$ —
State	—	—	—
Deferred Federal	—	—	600,000
Deferred State	—	—	—
Income tax expense	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 600,000</u>

The realization of our deferred income tax assets is dependent upon sufficient taxable income in future periods. In assessing whether deferred tax assets may be realized, we consider whether it is more likely than not that some portion, or all, of the deferred tax asset will be realized. We consider scheduled reversals of deferred tax liabilities, projected future taxable income, and tax planning strategies that we can implement in making our assessment. We have net operating loss carry forwards at December 31, 2009 of approximately \$32.3 million expiring at varying dates through 2027. We have research & development tax credit carry forwards at December 31, 2009 of approximately \$0.4 million, which expire at varying dates through 2026.

A tax benefit asset \$600,000 was recorded at December 31, 2008, based upon management's assessment that as of that date it was more likely than not that this portion of the entire deferred tax benefit would be realized in future periods. Our assessment was based on a projection of the amount of federal taxable income that we estimated would be generated in future years, as well as an analysis of certain other evidentiary indicators, notably, that operating expenses had declined as a proportion of revenue for each year that we have been public,

[Table of Contents](#)

and our annual net loss had regularly declined. In the first quarter of 2009 the company determined that the tax benefit was no longer more-likely-than-not to be realized considering the impact of the accrued costs associated with the Hansen litigation among other things, and accordingly provided a full valuation allowance for the balance of the deferred tax asset.

We are regularly examined by federal and various state tax authorities. The U.S. federal statute of limitations remains open for the year 2003 and onward. We currently have no federal income tax returns under examination. U.S. state jurisdictions have statutes of limitation generally ranging from three to seven years. We currently have no state income or franchise tax returns under examination. We currently do not file tax returns in any foreign tax jurisdiction.

We currently have no positions for which we expect that the amount of unrecognized tax benefit will increase or decrease significantly within twelve months of the reporting date. We have no tax interest or penalties reported in either our statement of operations or statement of financial position for any year reported herein.

9. Stockholders' Equity

Warrants

In May 2008, we issued 10,000 warrants for the purchase of Luna Common Stock at an exercise price of \$7.98 per share to Carilion Clinic, in exchange for Carilion agreeing to subordinate their convertible debt to the Silicon Valley Bank debt facility, and to extend the payment of their convertible debt from December 31, 2009 to December 31, 2012. The warrants were valued using the Black-Scholes option pricing model with the following assumptions: risk free rate of 3.81%, expected volatility of 63%, and an expected life of 9.63 years, which equaled the contractual term. The aggregate fair value of the warrant was \$58,194, and this amount was capitalized as a prepaid financing charge and was being amortized over the life of the debt. As discussed in Note 2, subsequent to December 31, 2009 and in connection with the conversion of the notes, the strike price of these warrants was reduced to \$2.50 per share, and an additional warrant to purchase 356,000 shares of our common stock at an exercise price of \$2.50 per share was also issued to Carilion. The Company recorded a charge to interest expense in 2010 for the difference between the fair value of the warrant immediately before modification and the fair value of the warrant immediately after modification.

Stock Option Plans

In April 2003, we adopted the Luna Innovations Incorporated 2003 Stock Plan (the 2003 Plan). Under the 2003 Plan, our Board of Directors was authorized to grant both incentive and non-statutory stock options to employees, directors and consultants of our Company to purchase Class B shares of Common Stock. Options generally had a life of 10 years and exercise price equal to or greater than the fair market value of the Class B Common Stock as determined by the Board of Directors. On February 4, 2006, our Board of Directors increased the number of shares reserved under the 2003 Plan to 9,715,000. There were options outstanding under the 2003 Plan to purchase an aggregate of 2,243,455 shares as of December 31, 2009. Following the adoption of the 2006 Equity Incentive Plan in January 2006, no shares or options are available for future grant under the 2003 Plan, except to satisfy grants outstanding as of June 5, 2006.

In January 2006, we adopted our 2006 Equity Incentive Plan (the 2006 Plan). Under the 2006 Plan, our Board of Directors was authorized to grant both incentive and non-statutory stock options and restricted stock awards to employees, directors, and consultants of our Company to purchase common stock. Awards generally have a life of 10 years and exercise prices equal to the closing price of our common stock on the date of the option grant. On January 1 of each year, the number of shares available for issuance increases by the lesser of (a) 10% of the outstanding shares of our common stock on the last day of the preceding fiscal year; (b) 1,695,690 shares; or (c) such other amount as our board of directors may determine. A total of 6,777,640 and 6,966,886 shares were available for future grant under the 2006 Plan as of December 31, 2008 and 2009, respectively.

[Table of Contents](#)

Vesting typically occurs over a five-year period.

Total non-cash stock option expense for the years ended December 31, 2007, 2008 and 2009 was \$2.4 million, \$2.9 million and \$3.2 million, respectively.

The following table sets forth the activity of the options to purchase common stock under the 2003 Plan and the 2006 Plan:

	Options Outstanding			Options Exercisable			
	Number of Shares	Price per Share Range	Weighted Average Exercise Price	Aggregate Intrinsic Value (1)	Number of Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value (1)
Balance at January 1, 2007	4,982,594	\$0.35–7.08	\$ 1.26	\$ 12,215,503	2,322,665	\$ 2.99	\$ 6,935,997
Forfeited	(478,320)	0.35–6.00	2.04				
Exercised	(743,359)	0.35–1.77	0.68				
Granted	986,900	3.16–8.20	4.55				
Balance at December 31, 2007	4,747,815	0.35–8.20	1.95	\$ 31,477,522	2,543,218	\$ 0.96	\$ 19,366,620
Forfeited	(468,839)	0.35–8.20	5.45				
Exercised	(365,430)	0.35–6.00	0.46				
Granted	886,900	2.11–8.04	6.14				
Balance at December 31, 2008	4,800,446	0.35–8.20	2.53	\$ 2,853,667	2,967,610	\$ 1.28	\$ 2,665,403
Forfeited	(733,519)	0.35–8.20	5.45				
Exercised	(144,717)	0.35	1.36				
Granted	805,150	2.11–8.04	6.14				
Balance at December 31, 2009	4,727,360	0.35–8.20	2.43	\$ 3,545,705	2,987,955	\$ 1.72	\$ 2,734,841

- (1) The intrinsic value of an option represents the amount by which the market value of the stock exceeds the exercise price of the option of in-the-money options only. The prices represent the closing price of our Common Stock on the NASDAQ Global Market or NASDAQ Capital Market, as applicable, on the respective dates.

	Options Outstanding			Options Exercisable		
	Range of Exercise Prices	Options Outstanding	Weighted Average Remaining Life in Years	Weighted Average Exercise Price	Options Exercisable	Weighted Average Exercise Price of Options Exercisable
Year ended December 31, 2007	\$ 0.35–\$8.20	4,747,815	7.8	\$ 1.95	2,543,218	\$ 0.96
Year ended December 31, 2008	\$ 0.35–\$8.20	4,800,446	7.2	\$ 2.53	2,967,610	\$ 1.28
Year ended December 31, 2009	\$ 0.35–\$8.20	4,727,360	6.8	\$ 2.43	2,987,955	\$ 1.72

The following table sets forth information regarding the weighted average grant-date fair value, for non-stock option equity instruments we issued during 2009:

	Number of Shares	Weighted-average grant date fair value
Non-vested at January 1, 2009	10,000	\$ 5.82
Non-vested at December 31, 2009	10,000	5.82
Granted during 2009	100,655	0.81
Vested during 2009	100,655	0.81
Forfeited during 2009	—	—

[Table of Contents](#)

The following table sets forth information regarding the total intrinsic value of options exercised, and the total fair value of options vesting:

	<u>Total intrinsic value of options exercised</u>	<u>Total fair value of options vested</u>
Year ended December 31, 2007	3,550,911	—
Year ended December 31, 2008	1,910,675	1,573,725
Year ended December 31, 2009	145,119	2,550,070

For the years ended December 31, 2007, 2008, and 2009, the weighted average grant date fair value of options granted was \$3.01, \$4.13, and \$0.74, respectively. We estimate the fair value of options at the grant date using the Black-Scholes model.

We recognized \$3.2 million in share-based payment expense which is recorded in selling, general and administrative expenses on the Statement of Operations for the year ended December 31, 2009, and we will recognize \$5.6 million over the remaining requisite service period. For all options granted through December 31, 2009, the weighted average remaining service period is 2.0 years.

10. Commitments and Contingencies

Obligation Under Operating Leases

We lease facilities in Blacksburg, Charlottesville, Danville, McLean, and Roanoke, Virginia under operating leases that expire between June 2011 and December 2015. Certain of the leases are subject to fixed escalations and provide for possible termination prior to their expiration dates. We recognize rent expense on such leases on a straight-line basis over the lease term. Rent expense under these leases was approximately \$1.4 million, \$1.3 million and \$1.2 million for the years ended December 31, 2007, 2008, and 2009 respectively.

In March 2009 we cancelled our lease in Hampton, Virginia.

We are obligated under operating leases covering certain equipment that expire at various dates during the next two years.

Minimum future rentals, as of December 31, 2009, under the aforementioned operating leases for each of the next five periods ending are:

2010	1,403,829
2011	1,451,559
2012	381,417
2013	8,649
	<u>\$ 3,245,454</u>

We subleased our McLean facility during 2008. We will receive future payments of \$112,885 during the remaining life of the sublease.

New Facility Lease

We amended the lease for our Charlottesville facility, which now expires in December 2015. This lease is cancellable at the end of 2010 without penalty. Since we include only minimum payments in the table above, we do not include any amounts after 2010 for the Charlottesville facility lease.

[Table of Contents](#)

Governor's Opportunity Fund

In March 2004, we received a \$900,000 grant (the "Grant") from the City of Danville, Virginia (the "City") to be used for the expansion of economic and commercial growth within the City. Specifically, \$450,000 of the grant was to be used to offset certain capital expenditures for leasehold improvements being made at our Danville facility. The remaining \$450,000 was granted for the creation of new jobs upon satisfaction of the conditions described below.

The Grant stipulated that we must make estimated capital expenditures of at least \$6,409,000 and create 54 new full time jobs at our Danville facility, at an average wage of at least \$39,000 plus benefits within 30 months of the award, and then maintain such employment levels for an additional 30 months.

In December 2008 we received a determination letter from the City of Danville indicating that we had met 100% of the conditions of the Grant relating to job creation and 29% of the conditions of the grant relating to capital expenditures. As a result, we recognized \$668,000 of the Grant proceeds as other income for the year ended December 31, 2008 and correspondingly reduced the deferred liability of \$900,000 on our balance sheet.

During 2009 we earned an additional approximately \$35,000 under the Grant. In January 2010, we agreed to pay back approximately \$108,000 of the Grant in quarterly installments over the next five years, ending in November 2014. We currently have up to approximately \$89,000 available to earn under the Grant in future periods, although this amount may be reduced in whole or in part by the City of Danville.

Purchase Commitment

In September 2008, our Luna Technologies Division executed a non-cancelable, non-reschedulable \$2.0 million purchase order for multiple shipments of tunable lasers to be delivered over an 18-month period beginning in September 2008. As of December 31, 2009, approximately \$1.0 million of this commitment remained. The delivery of the remaining lasers has been agreed to be extended to 21 months through June 2010.

Royalty Agreement

We have licensed certain third-party technologies from vendors for which we owe minimum royalties aggregating \$2.0 million payable over the remaining patent terms of the underlying technology.

11. Employee Profit Sharing Plan

We maintain a salary reduction/profit-sharing plan under provisions of Section 401(k) of the Internal Revenue Code. The plan is offered to employees who have completed three months of service with us. In 2008, we contributed 50% of the salary deferral elected by each employee up to a maximum deferral of 10% of annual salary. In 2009, we contributed 25% of the salary deferral elected by each employee up to a maximum deferral of 10% of annual salary.

We contributed approximately \$0.5 million, \$0.5 million and \$0.25 million to the plan for the years ended December 31, 2007, 2008, and 2009 respectively.

12. Litigation and Other Contingencies

From time to time, we may become involved in litigation in relation to claims arising out of our operations in the normal course of business. While 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, the ultimate outcome of any litigation is uncertain.

[Table of Contents](#)

A description of our litigation with Hansen that we settled in December 2009 is included in Note 2 above.

On May 30, 2006, we were served with a complaint filed by a former employee in the Circuit Court for the City of Roanoke, Virginia, alleging that we breached a consulting agreement with the former employee, and that we are indebted to the former employee in an unspecified amount of at least \$100,000. In December 2009 we agreed to settle this matter in exchange for the payment of \$13,000 in cash and the issuance of 25,000 shares of our common upon our emergence from bankruptcy. We have included the settlement of cash and the value of the common stock at \$3.66, which represented the closing price the day before we emerged from bankruptcy in January 2010, in accrued liabilities on the accompanying consolidated balance sheet at December 31, 2009.

We have made, and will continue to make, efforts to comply with current and future environmental laws. We anticipate that we could incur additional capital and operating costs in the future to comply with existing environmental 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 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.

13. Relationship with Major Customers

During the years ended December 31, 2007, 2008 and 2009, approximately 68%, 73% and 76%, respectively, of our consolidated revenues were attributable to contracts with the U.S. government.

At December 31, 2008 and 2009, receivables with respect to contracts with the U.S. government represented 75% and 71% of total trade receivables, respectively.

14. Financial Information About Segments

Our operations are divided into two operating segments: Technology Development and Product and Licensing. The Technology Development segment provides applied research to customers in our areas of focus.

Our engineers and scientists collaborate with our network of government, academic and industry experts to identify technologies and ideas with promising market potential. We then compete to win fee-for-service contracts from government agencies and industrial customers who seek innovative solutions to practical problems that require new technology. The Technology Development segment derives its revenue primarily from services.

The Product and Licensing segment develops and sells products or licenses technologies based on commercially viable concepts developed by the Technology Development segment. The Product and Licensing segment derives its revenue from product sales, funded product development and technology licenses.

The Chief Executive Officer and his direct reports collectively represent our chief operating decision makers, and they evaluate segment performance based primarily on revenue and operating income or loss.

Table of Contents

There were no significant inter-segment sales during the three years ended December 31, 2009. There was an insignificant amount of product sales made outside the United States during these three years.

	Twelve Months Ended Dec 31,		
	2007	2008	2009
Technology Development revenue	\$ 23,356,456	\$ 26,838,592	\$ 25,322,889
Product and License revenue	10,325,659	10,059,728	9,248,998
Total revenue	<u>33,682,115</u>	<u>36,898,320</u>	<u>34,571,887</u>
Technology Development operating loss	(3,898,626)	(1,322,542)	(4,317,229)
Product and License operating loss	(4,355,703)	(5,971,355)	(15,024,388)
Total operating loss	<u>\$ (8,254,329)</u>	<u>\$ (7,293,897)</u>	<u>\$ (19,341,617)</u>
Depreciation, Technology Development	\$ 864,156	\$ 945,450	\$ 943,460
Depreciation, Product and License	382,035	354,376	344,592
Amortization, Technology Development	370,772	460,961	413,946
Amortization, Product and License	<u>163,914</u>	<u>172,779</u>	<u>151,191</u>

Additional segment information is as follows:

	December 31,	
	2008	2009
Total segment assets:		
Technology Development	\$ 26,559,928	\$ 15,937,039
Product and License	7,456,639	5,820,885
Total	<u>\$ 34,016,567</u>	<u>\$ 21,757,924</u>
Property plant and equipment, goodwill, and intangible assets, Technology Development	\$ 5,220,744	\$ 3,449,790
Property plant and equipment, goodwill, and intangible assets, Product and License	<u>\$ 1,956,856</u>	<u>\$ 1,260,010</u>

15. Quarterly Results (unaudited)

The following table sets forth our unaudited historical revenues, operating (loss) income and net (loss) income by quarter during 2008 and 2009:

(Dollars in thousands, except per share amounts)	Quarter Ended							
	Mar. 31, 2008	Jun. 30, 2008	Sep. 30, 2008	Dec. 31, 2008	Mar. 31, 2009	Jun. 30, 2009	Sep. 30, 2009	Dec. 31, 2009
Revenues:								
Technology	\$ 6,602	\$ 6,947	\$ 7,247	\$ 6,043	\$ 6,882	\$ 6,447	\$ 6,538	\$ 5,456
Product and license	2,318	2,931	3,457	1,354	1,611	2,215	2,337	3,086
Total revenues	8,920	9,878	10,704	7,397	8,494	8,662	8,875	8,542
Gross Margin	3,382	4,069	4,267	14,029	2,717	3,342	3,507	12,747
Operating income (loss)	(1,876)	(1,765)	(1,105)	(2,544)	(40,128)	(2,250)	(1,046)	25,981
Net (loss) Income	<u>\$ (1,852)</u>	<u>\$ (1,798)</u>	<u>\$ (473)</u>	<u>\$ (2,161)</u>	<u>\$ (40,888)</u>	<u>\$ (2,407)</u>	<u>\$ (2,043)</u>	<u>\$ 24,894</u>
Net (loss) Income per share:								
Basic	\$ (0.17)	\$ (0.16)	\$ (0.04)	\$ (0.19)	\$ (3.66)	\$ (0.21)	\$ (0.18)	\$ 2.20
Diluted	\$ (0.17)	\$ (0.16)	\$ (0.04)	\$ (0.19)	\$ (3.66)	\$ (0.21)	\$ (0.18)	\$ 2.01
Weighted average shares:								
Basic	10,781,363	10,935,370	11,055,613	11,118,249	11,161,423	11,207,021	11,247,749	11,313,255
Diluted	10,781,363	10,935,370	11,055,613	11,118,249	11,161,423	11,207,021	11,247,749	12,395,468

16. Subsequent Events

On January 12, 2010, we emerged from bankruptcy in accordance with our plan of reorganization. Under the reorganization plan as approved by the Bankruptcy Court, we expect to pay 100% of all valid pre-petition claims, and we did not reject any of our then-existing executory contracts. Additionally, we and Hansen settled our litigation and entered into a number of agreements, as described in Note 2.

On January 12, 2010, we issued 1,321,514 shares of convertible preferred stock to Carilion in full satisfaction of our obligations to Carilion under of the outstanding convertible promissory notes in principal amount of \$5.0 million, plus accrued but unpaid interest of approximately \$1.2 million. The newly designated convertible preferred stock carries a 6% dividend, which is payable in additional shares of preferred stock, and may be converted at any time into shares of our common stock at a price of approximately \$4.67 per share.

On February 18, 2010, we entered into a Loan and Security Agreement (the "Credit Facility") with Silicon Valley Bank ("SVB"). The Credit Facility is a revolving credit facility that provides us with borrowing capacity of up to \$5.0 million 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 matures on February 17, 2011, unless earlier terminated, and any amounts outstanding under the Credit Facility will be secured by substantially all of our assets, including our intellectual property, personal property and bank accounts. The Credit Facility includes a fee of one-half of one percent (0.50%) per annum based on the average unused portion of the Credit Facility.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

We maintain "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), which are controls and other procedures that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. In addition, the design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a control system, misstatements due to error or fraud may occur and not be detected.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this report. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2009, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the quarter ended December 31, 2009 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control over financial reporting is designed, under the supervision of our chief executive and chief financial officers, and effected by our board of directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America (GAAP). Our internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

There are inherent limitations in the effectiveness of any internal control over financial reporting, including the possibility of human error and the circumvention or overriding of controls. Accordingly, even effective internal control over financial reporting can provide only reasonable assurance with respect to financial statement preparation and may not prevent or detect all misstatements. Further, because of changes in conditions, effectiveness of internal control over financial reporting may vary over time. Our internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2009. This evaluation was based on the framework in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Based on our evaluation under the framework in *Internal Control—Integrated Framework*, our Chief Executive Officer and Chief Financial Officer concluded that our internal control over financial reporting was effective as of December 31, 2009 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

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

ITEM 9B. OTHER INFORMATION.

None.

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

The information required by Item 10 of Form 10-K is incorporated into this report by reference to our Proxy Statement for the 2010 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2009.

ITEM 11. EXECUTIVE COMPENSATION.

The information required by Item 11 of Form 10-K is incorporated into this report by reference to our Proxy Statement for the 2010 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2009.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Other than the information below relating to securities authorized for issuance under our equity compensation plans, the information required by Item 12 of Form 10-K is incorporated into this report by reference to our Proxy Statement for the 2010 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2009.

EQUITY COMPENSATION PLANS

The following table summarizes our equity compensation plans as of December 31, 2009:

<u>Plan category</u>	<u>Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)</u>	<u>Weighted-average exercise price of outstanding options, warrants and rights (b)</u>	<u>Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)</u>
Equity compensation plans approved by security holders	4,727,360	\$ 2.43	6,966,866
Equity compensation plans not approved by security holders	—	—	—
Total	4,727,360	\$ 2.43	6,966,886

Our 2006 Equity Incentive Plan provides for annual increases in the number of shares available for issuance on the first day of each fiscal year equal to the least of: (i) 10% of the outstanding shares of our common stock on the last day of the immediately preceding fiscal year; (ii) 1,695,690 shares; or (iii) such other amount as our board of directors may determine.

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

The information required by Item 13 of Form 10-K is incorporated into this report by reference to our Proxy Statement for the 2010 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2009.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by Item 14 of Form 10-K is incorporated into this report by reference to our Proxy Statement for the 2010 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2009.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULE

- (a) The following documents are filed as part of this Annual Report on Form 10-K:
- (1) Financial Statements. See Index to Consolidated Financial Statements at Item 8 of this Report on Form 10-K.
 - (2) Schedules.

Luna Innovations Incorporated
Valuation and Qualifying Accounts

<u>Column A</u>	<u>Column B</u>	<u>Column C</u>	<u>Column D</u>	<u>Column E</u>	<u>Column F</u>
	Balance at beginning of Period	Charged to costs and expenses	Deductions	Valuation allowance against deferred tax asset	Balance at end of period
Year Ended December 31, 2009					
Reserves deducted from assets to which they apply:					
Allowances for doubtful Accounts	\$ 22,373	\$ 135,162	\$ —	\$ —	\$ 157,535
Inventory	43,427	4,330	—	—	47,757
Valuation allowance against deferred tax asset	9,097,671	—	—	5,085,353	14,783,024
	<u>\$ 9,163,471</u>	<u>\$ 139,492</u>	<u>\$ —</u>	<u>\$ 5,085,353</u>	<u>\$ 14,988,316</u>
Year Ended December 31, 2008					
Reserves deducted from assets to which they apply:					
Allowances for doubtful accounts	\$ 29,534	\$ —	\$ (7,161)	\$ —	\$ 22,373
Inventory	41,108	2,319	—	—	43,427
Valuation allowance against deferred tax asset	7,825,407	—	—	1,272,264	9,097,671
	<u>\$ 7,896,049</u>	<u>\$ 2,319</u>	<u>\$ (7,161)</u>	<u>\$ 1,272,264</u>	<u>\$ 9,163,471</u>
Year Ended December 31, 2007					
Reserves deducted from assets to which they apply:					
Allowances for doubtful accounts	\$ 19,010	\$ 12,472	\$ (1,948)	\$ —	\$ 29,534
Inventory	40,943	165	—	—	41,108
Valuation allowance against deferred tax asset	7,214,667	—	—	610,740	7,825,407
	<u>\$ 7,274,620</u>	<u>\$ 12,637</u>	<u>\$ (1,948)</u>	<u>\$ 610,740</u>	<u>\$ 7,896,049</u>

All other schedules are omitted as the required information is inapplicable or the information is presented in the Consolidated Financial Statements and notes thereto in Item 8 of Part II of this Annual Report on Form 10-K.

(3) Exhibits. The exhibits filed as part of this report are listed under “Exhibits” at subsection (b) of this Item 15.

(b) Exhibits

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Exhibit Document</u>
2.1(1)	Findings of Fact, Conclusions of Law, and Order under 11 U.S.C. §§ 1129(a) and (b) and Fed. R. Bankr. P. 3020 Confirming First Amended Joint Plan of Reorganization of Luna Innovations Incorporated and Luna Innovations, Inc, debtors and debtors-in-possession, dated January 12, 2010 (Exhibit 2.1)
2.2(1)	First Amended Joint Plan of Reorganization of Luna Innovations Incorporated and Luna Technologies, Inc., dated December 18, 2009 (Exhibit 2.2)
2.3(1)	First Amended Disclosure Statement in support of First Amended Joint Plan of Reorganization of Luna Innovations Incorporated, et al., under Chapter 11 of the Bankruptcy Code, dated December 18, 2009 (Exhibit 2.3)
3.1(2)	Amended and Restated Certificate of Incorporation of the Registrant (Exhibit 3.2)
3.2(3)	Certificate of Designations of the Series A Convertible Preferred Stock (Exhibit 3.1)
3.2(4)	Amended and Restated Bylaws of the Registrant (Exhibit 3.4)
4.1(5)	Specimen Common Stock certificate of the Registrant (Exhibit 4.1)
4.2(4)	2003 Stock Plan (Exhibit 10.7)
4.3(6)	2006 Equity Incentive Plan (Exhibit 10.9)
4.4(4)	Form of Stock Option Agreement (Exhibit 4.7)
10.1(7)	Form of Indemnification Agreement for directors and executive officers (Exhibit 10.1)
10.2(8)	Employment Agreement, dated July 14, 2006, by and between Luna Innovations, Inc. and Kent A. Murphy (Exhibit 10.1)
10.3(9)	Employment Agreement , dated August 29,2006, by and between Luna Innovations, Inc. and Dale E. Messick (Exhibit 10.1)
10.4(10)	Amended and Restated Employment Agreement, effective January 1, 2007, by and between Luna Innovations, Inc. and Scott A. Graeff (Exhibit 10.1)
10.5(11)	Amendment to Employment Agreement by and between the Company and Kent A. Murphy (Exhibit 10.1)
10.6(11)	Amendment to Employment Agreement, dated March 31, 2009 by and between Luna Innovations, Inc. and Dale E. Messick (Exhibit 10.2)
10.7(11)	Amendment to Employment Agreement, dated March 31, 2009, by and between Luna Innovations, Inc. and Scott A. Graeff (Exhibit 10.3)
10.8(4)	Lease, dated December 30, 2005, by and between Carilion Medical Center and Luna Innovations Inc. (Exhibit 10.19)
10.9(7)	Employment Agreement, dated July 16, 2009, by and between Luna Innovations, Inc. and Mark Froggatt (Exhibit 10.2)
10.10(12)	Amended Lease, dated July 20, 2006, by and between Carilion Medical Center and Luna Innovations Incorporated. (Riverside Center, Roanoke, Virginia) (Exhibit 10.1)
10.11(13)	Industrial Lease Agreement, dated March 21, 2006, by and between Luna Innovations Incorporated and the Industrial Development Authority of Montgomery County, Virginia (3157 State Street, Blacksburg, Virginia) (Exhibit 10.27)

Table of Contents

<u>Exhibit No.</u>	<u>Exhibit Document</u>
10.12(5)	First Amendment to Industrial Lease Agreement, dated May 11, 2006, by and between Luna Innovations Incorporated and the Industrial Development Authority of Montgomery County, Virginia (3150 State Street, Blacksburg, Virginia) (Exhibit 10.34)
10.13(14)	Commercial Lease, dated March 15, 2007, between Canvasback Real Estate & Investments LLC and Luna Innovations Incorporated (705 Dale Avenue, Charlottesville, Virginia) (Exhibit 10.1)
10.14(4)	Lease, effective as of January 1, 2005, between the Industrial Development Authority of Danville and Luna Innovations Incorporated (521 Bridge Street, Danville, Virginia) (Exhibit 10.17)
10.15(4)	Grant Agreement, dated March 25, 2004, by and between the City of Danville, Virginia, and Luna Innovations Incorporated (Exhibit 10.21)
10.16(5)†	License Agreement No. DN-982, dated June 10, 2002, by and between the National Aeronautics and Space Administration (NASA) and Luna Innovations Incorporated; Modification No. 1 to License Agreement No. DN-982, dated January 23, 2006, by and between NASA and Luna Innovations Incorporated (Exhibit 10.22)
10.17(5)†	License Agreement No. DN-951, dated December 20, 2000, by and between NASA and Luna Technologies, Inc. (Exhibit 10.23)
10.18(5)†	License Agreement No. DE-384, dated October 28, 2004, by and between NASA and Luna Technologies, Inc. (Exhibit 10.24)
10.19(5)†	Amended and Restated License Agreement, dated March 19, 2004, by and between Virginia Tech Intellectual Properties, Inc. and Luna Innovations Incorporated (Exhibit 10.26)
10.20(15)	Asset Transfer and License Agreement by and between Luna Innovations Incorporated and Coherent, Inc. (Exhibit 10.21)
10.21(16)†	Development and Supply Agreement, dated December 12, 2006, by and between Luna Innovations Incorporated and Intuitive Surgical, Inc. dated June 11, 2007 (Exhibit 10.1)
10.22(17)	Second Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Kent A. Murphy, dated as of February 27, 2008 (Exhibit 10.1)
10.23(17)	Second Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Dale E. Messick, dated as of February 27, 2008 (Exhibit 10.2)
10.24(17)	Second Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Scott A. Graeff, dated as of February 27, 2008 (Exhibit 10.3)
10.25(18)	Amendment to Commercial Lease, by and between Luna Innovations Incorporated and Canvasback Real Estate & Investments LLC dated March 18, 2008 (Exhibit 10.5)
10.26	Confidential Settlement Agreement, dated as of December 11, 2009, by and between Luna Innovations, Inc. and Luna Technologies, Inc. and Hansen Medical, Inc.
10.27(3)	Securities Purchase and Exchange Agreement, dated January 12, 2010, by and between Luna Innovations Incorporated and Carilion Clinic (Exhibit 10.1)
10.28(3)	Warrant No. 1 to Purchase Common Stock, dated January 13, 2010, issued to Carilion Clinic (Exhibit 10.2)
10.29(3)	Warrant No. 2 to Purchase Common Stock, dated January 13, 2010, issued to Carilion Clinic (Exhibit 10.3)

Table of Contents

<u>Exhibit No.</u>	<u>Exhibit Document</u>
10.30(3)	Amended and Restated Investor Rights Agreement, dated January 13, 2010, by and among Luna Innovations Incorporated, Carilion Clinic, and certain stockholders of Luna Innovations Incorporated (Exhibit 10.4)
10.31(19)	Non-Employee Directors' Deferred Compensation Plan (Exhibit 10.37)
10.32(19)†	2009 Senior Management Incentive Compensation Plan (Exhibit 10.38)
21.1	List of Subsidiaries
23.1	Consent of Grant Thornton LLP, Independent Registered Public Accounting Firm
24.1	Power of Attorney (see signature page)
31.1	Certification of the Chief Executive Officer pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Chief Financial Officer pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

-
- (1) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on January 15, 2010 (reporting under Items 1.03, 5.02 and 9.01). The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (2) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on June 8, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (3) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on January 15, 2010 (reporting under Items 1.01, 3.02, 3.03, 5.03 and 9.01). The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (4) Incorporated by reference to the exhibit to the Registrant's Registration Statement on Form S-1, Commission File No. 333-131764, filed on February 10, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form S-1.
 - (5) Incorporated by reference to the exhibit to Amendment No. 5 of the Registrant's Registration Statement on Form S-1, Commission File No. 333-131764, filed on April 19, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form S-1.
 - (6) Incorporated by reference to the exhibit to Amendment No. 3 of the Registrant's Registration Statement on Form S-1, Commission File No. 333-131764, filed on April 28, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form S-1.
 - (7) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on July 17, 2009 (reporting under Items 1.01, 5.02 and 9.01). The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (8) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on July 20, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (9) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on September 1, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.

Table of Contents

- (10) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on December 22, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (11) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on April 2, 2009. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (12) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on July 26, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (13) Incorporated by reference to the exhibit to Amendment No. 2 of the Registrant's Registration Statement on Form S-1, Commission File No. 333-131764, filed on April 10, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form S-1.
 - (14) Incorporated by reference to the exhibit to Registrant's Quarterly Report on Form 10-Q, Commission File No. 000-52008, filed on May 15, 2007. The number given in parentheses indicates the corresponding exhibit number in such Form 10-Q.
 - (15) Incorporated by reference to the exhibit to Amendment No. 1 to Registrant's Annual Report on Form 10-K, Commission File No. 000-52008, filed on April 6, 2007. The number given in parentheses indicates the corresponding exhibit number in such Form 10-K/A.
 - (16) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on June 14, 2007. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (17) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, filed on March 3, 2008. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
 - (18) Incorporated by reference to the exhibit to Registrant's Quarterly Report on Form 10-Q, Commission File No. 000-52008, filed on May 9, 2008. The number given in parentheses indicates the corresponding exhibit number in such Form 10-Q.
 - (19) Incorporated by reference to the exhibit to Registrant's Annual Report on Form 10-K, Commission File No. 000-52008, filed on March 16, 2009. The number given in parentheses indicates the corresponding exhibit number in such Form 10-K.
- † Confidential treatment is has been granted with respect to portions of this exhibit, indicated by asterisks, which have been filed separately with the Securities and Exchange Commission.

CONFIDENTIAL SETTLEMENT AGREEMENT

This Confidential Settlement Agreement (“**Agreement**”) is entered into as of December 11, 2009, by and between Luna Innovations, Inc. (“**Luna**”) and Luna Technologies, Inc. (“**Luna Technologies**”) (collectively, the “**Debtors**”), and Hansen Medical, Inc. (“**Hansen**”) (together with the Debtors, the “**Parties**”).

This Agreement is made with respect to the following recitals:

A. Hansen and Luna are parties to the California Action, and Hansen and the Debtors are parties to the Bankruptcy Case, as respectively defined below.

B. The Parties deem it to be in their best interests and to their mutual advantage to settle their disputes on the terms and conditions set forth in this Agreement, and nothing in this Agreement shall be construed as an admission of fault or liability by either such Party.

C. This Agreement is one of the “Settlement Documents” for purposes of the Amended Joint Plan of Reorganization (the “**Amended Plan**”), a substantially complete form of which is attached hereto, as described in the Amended Disclosure Statement in Support of Amended Joint Plan of Reorganization of Luna Innovations Incorporated, et al. under Chapter 11 of the Bankruptcy Code (the “**Disclosure Statement**”) and the Confirmation Order entered by the U.S. Bankruptcy Court for the Western District of Virginia (the “**Bankruptcy Court**”) in the Bankruptcy Case.

NOW, THEREFORE, in consideration of all of the terms and conditions of this Agreement, the Parties agree as follows:

1. **Definitions.** The following words and phrases shall have the meanings set forth below for purposes of this Agreement.

1.1 “**Affiliates**” shall mean any corporation or other entity that is directly or indirectly controlling, controlled by, or under common control with a party. For purposes of this definition, “control” of an entity means the direct or indirect ownership of securities representing fifty percent (50%) or more of the total voting power entitled to vote in elections of such entity’s board of directors or other governing authority, or equivalent interests conferring the power to direct or cause the direction of the governance or policies of such entity.

1.2 “**Bankruptcy Case**” means the Chapter 11 case titled *In re Luna Innovations, et al.*, Case No. 09-71811 (WFS), United States Bankruptcy Court for the Western District of Virginia, Roanoke Division.

1.3 “**California Action**” means the civil action entitled *Hansen Medical Inc. v. Luna Innovations Inc.*, Case No. 07-088551, Superior Court of the State of California, County of Santa Clara.

1.4 “**Claims**” means any and all claims, actions, causes of action, demands, costs, and charges of whatever nature. This definition of “claims” applies only to this Agreement and is not intended to change the definition of “claims” as used in the Amended Plan for bankruptcy purposes.

1.5 “**Defendant Released Parties**” means Luna and Luna Technologies and each of its Affiliates, and each of their respective current and former officers, directors, employees, agents, attorneys, and representatives in their capacity as such. “Defendant Released Parties” does not include third parties such as business partners and parties with contractual relationships with Luna other than those listed in the preceding sentence.

1.6 “**Effective Date**” means the Effective Date of the Amended Plan after entry of the Confirmation Order by the Bankruptcy Court; subject, however, to the conditions precedent set forth in Section 2.

1.7 “**Legal Proceeding**” means any lawsuit or any other civil or administrative proceeding of any kind in any court, tribunal, agency or governmental entity.

1.8 “**License Agreement**” means that certain license agreement between the Parties entered into as of the Effective Date.

1.9 “**Party**” means Luna, Luna Technologies or Hansen, and when used in the plural shall mean all of them.

1.10 “**Person**” means an individual, trust, corporation, partnership, joint venture, limited liability company, association, unincorporated organization or other legal or governmental entity, including those defined as “persons” in 11 U.S.C. § 101.

1.11 “**Plaintiff Released Parties**” means Hansen and its Affiliates, and each of their respective current and former officers, directors, employees, agents, attorneys, and representatives in their capacity as such. “Plaintiff Released Parties” does not include third parties such as business partners and parties with contractual relationships with Hansen other than those listed in the preceding sentence.

1.12 “**Release**” means the Confidential Mutual Release Agreement attached as Exhibit C-6 of the Amended Plan.

1.13 “**Settlement Documents**” means each of (i) this Agreement; (ii) the Cross License Agreement Between Intuitive and Hansen; (iii) the License Agreement Between Intuitive and Luna; (iv) the License Agreement Between Hansen and Luna; (v) the Development and Supply Agreement; (vi) the Confidential Mutual Release Agreement; (vii) the Hansen Secured Promissory Note; (viii) the Patent and Trademark Security Agreement; (ix) the Security Agreement; and (x) the Warrant to Purchase Common Stock of Luna Innovations Incorporated, as attached as Exhibits C-1 through C-10 of the Amended Plan, respectively.

1.14 “**Third Party**” means a Person, other than a Party to this Agreement or any of such Parties’ Affiliates.

2. Execution of Settlement Documents Upon Approval of Amended Plan. Subject to entry of the Confirmation Order by the Bankruptcy Court and subject to the conditions precedent set forth in sub-sections (a) through (g) below, and effective upon the Effective Date, the Parties shall execute each of the other Settlement Document contracts, namely Exhibits C-2 through C-10 to the Amended Plan. Subject to Section 1125 of the Bankruptcy Code, Hansen hereby agrees to support the Amended Plan and efforts by the Debtors to obtain a Confirmation Order of the Amended Plan. Notwithstanding anything else herein to the contrary, the Parties' obligations under this Agreement are conditioned upon, and this Agreement will terminate upon the occurrence of any of the following prior to the Effective Date, unless waived:

(a) the Bankruptcy Court's denial of the Debtors' request for approval of the Disclosure Statement or, in the alternative, any modification(s) to the Disclosure Statement that would adversely affect, in any material way, (i) any of the terms and conditions contained in the Agreement, any Settlement Document, the Amended Plan, or the Confirmation Order; or (ii) the ability of any Party to perform or comply with the Agreement, any other Settlement Document, the Amended Plan, or the Confirmation Order;

(b) the Bankruptcy Court's denial of the Debtors' request for confirmation of the Amended Plan or for entry of the Confirmation Order, or, in the alternative, the requirement or approval by the Bankruptcy Court of any material modification(s) to the Amended Plan or Confirmation Order that would adversely affect, in any material way, (i) any of the terms and conditions contained in or benefits of the Agreement, any other Settlement Document, the Amended Plan, or the Confirmation Order; or (ii) the ability of any Party to perform or comply with the Agreement, any other Settlement Document, the Amended Plan, or the Confirmation Order;

(c) the Debtors notify Hansen that they intend to cease prosecution of the Amended Plan or, in the absence of such notice, take affirmative action to abandon or cease prosecution of such Amended Plan (provided that such actions shall not include amendments to the Amended Plan that do not adversely affect Hansen's material rights under the Agreement, the other Settlement Documents or the Amended Plan);

(d) the Bankruptcy Court or any appellate court of competent jurisdiction shall enter a judgment or order declaring this Agreement or any material portion hereof to be unenforceable;

(e) if the Debtors shall take any action or fail to take any action or there shall exist any facts or circumstances that result in a material breach of any of the other Settlement Documents, provided that for the purposes of this section (e) each Settlement Document shall be treated as if it had been executed as of the date hereof and if Luna were not subject to the provisions of the Bankruptcy Code;

(f) if Intuitive Surgical, Inc. (“Intuitive”), shall not have executed the License Agreement Between Intuitive and Luna and the Cross License Agreement Between Intuitive and Hansen and shall not have executed an amendment to the Development and Supply Agreement between Debtor and Intuitive dated June 11, 2007, so as to enable the grant of licenses by Luna to Hansen pursuant to the License Agreement Between Hansen and Luna, each before the Effective Date; and

(g) the Effective Date has not occurred by March 31, 2010.

Upon termination of this Agreement in accordance with the foregoing, each Party shall be released from its commitments, undertakings and agreement under or related to this Agreement, and shall have the rights and remedies that it would have had, and shall be entitled to take all actions that it would have been entitled to take, had it not entered into this Agreement, including all rights and remedies available to it under applicable law.

3. **Stock Issuance.** On the Effective Date, Luna shall deliver to Hansen a certificate representing a number of shares of Common Stock, which, as of the Effective Date, shall represent 9.9% of the outstanding capital stock of Luna (the “Shares”), after giving full effect to the issuance of all shares required hereunder. The Shares shall have the following legend; provided that such legend will be removed from such issued Shares when such Shares may be sold without applicable volume limits under Rule 144:

“THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF.”

4. **Confidentiality.**

4.1 **Limitations on Disclosure.** The Parties and their counsel shall take all commercially diligent efforts to ensure that the terms of this Agreement remain strictly confidential and are not disclosed to any Third Party, except as will be necessarily disclosed and made public pursuant to filing with the Bankruptcy Court as a part of the Amended Plan and set forth below.

4.1.1 **Pursuant to Order.** The terms of this Agreement may be disclosed pursuant to any order or subpoena requiring disclosure in any Legal Proceeding, so long as the Party that has the disclosure requirement provides the other Party with written notice of such requirement not later than ten business days after first learning of such order or subpoena.

4.1.2 **As Necessary to Lenders and Certain Third Parties.** The terms of this Agreement may be disclosed to actual or potential lenders and other third parties, including government agencies such as the United States Securities and Exchange Commission, listing agencies such as the NASDAQ, and similar entities, and any entities whose consent is required for the transactions contemplated herein, as the relevant Party reasonably determines to be required.

4.1.3 **Professional Advisors.** The terms of this Agreement may be disclosed to any Party's attorney, accountant, auditor, or insurer, but only under a professional duty of confidentiality.

4.1.4 **Required by Law.** The terms of this Agreement may be disclosed as required by law, including but not limited to any disclosure required to be made pursuant to the reporting obligations required by the United States Securities Exchange Commission or any other United States or foreign regulatory authorities.

4.1.5 **Media Matters.** Notwithstanding the generality of the restrictions imposed by Section 4.1, the Parties acknowledge that as public companies they are required to file publicly any material agreements and disclose publicly the material terms of the settlement. If a Party intends to file a Confidential Treatment Request in order to redact any portion of the Settlement Documents, or otherwise to omit any exhibits to any of the Settlement Documents for filing with the SEC, the other Party shall cooperate with any reasonable request for it to do likewise. The Parties further acknowledge that they may generally discuss and communicate any of this publicly available information. If the Parties agree, the Parties may issue a joint press release, the language of which shall be approved by the Parties. Neither party is required to agree to a joint press release. Without limiting the foregoing, any Party may make additional public disclosures regarding this Agreement as required by the rules and regulations promulgated by the Securities and Exchange Commission, the NASDAQ, or a similar entity, subject to reasonable prior notice to the other Party.

5. **Final and Binding Agreement.** Each Party agrees that it has made such investigation of all matters pertaining to this Agreement that such Party deems necessary. Each Party agrees that it is not relying in any manner on any statement, promise, representation or omission, whether oral or written, express or implied, made by any Person, not specifically set forth in this Agreement, the Settlement Documents, the Disclosure Statement, the Amended Plan, or the Confirmation Order. Each Party acknowledges that, after execution of this Agreement, such Party may discover facts different from or in addition to those which it now knows or believes to be true. Nevertheless, each Party agrees that this Agreement shall be and remain in full force and effect in all respects, notwithstanding such different or additional facts. This Agreement is intended to be, and is, final and binding on all Parties, regardless of any allegation of misrepresentation, fraud, mistake of law or fact, or any other circumstances whatsoever.

6. **No Assignment of Agreement.** Unless expressly stated herein, including the exhibits hereto, neither Plaintiff nor Defendant (nor any Affiliate) may assign any rights conferred by or obligations imposed under this Agreement, in whole or in part, outright or by way of collateral assignment, without the written consent of the other Party (which consent may be withheld for any reason or no reason).

7. **Status Quo.** If at any time either Debtor has any reason to know or expect that it will be unable or unwilling to continue to support, or to be able to perform or comply with, any provision of any Settlement Document or any provision of the Amended Plan or Confirmation Order, then the Debtors shall promptly notify Hansen thereof in writing. The Parties shall use their best efforts to preserve the status quo as to their respective pending disputes pending the

Effective Date or the termination of this Agreement and to facilitate the reservation of their respective rights, defenses, claims, titles and interests, pending that Effective Date or termination, without prejudice in the event of a termination, other than as expressly set forth herein. Without limiting the foregoing, Debtors shall forbear from objecting to the Hansen claim or proof of claim until the first to occur of the termination of this agreement or the Effective Date, and the Debtors shall forbear from recommencing or advancing its estimation motion until the first to occur of the termination of this Agreement or the Effective Date.

8. **Warranties and Representations.** The Parties hereby make the following representations and warranties as of the date hereof and of the Effective Date.

8.1 **No Assignment of Claims.** Each Party warrants and represents that such Party has not sold, assigned, conveyed, pledged, encumbered, or otherwise in any way transferred to any Person any Claim released by such Party pursuant to this Agreement or the Release.

8.2 **Independent Advice.** Each Party warrants and represents that it has received or had the opportunity to obtain independent legal advice from such Party's attorney with respect to the rights and obligations arising from, and the advisability of executing, this Agreement.

8.3 **Valid Issuance.** The Shares to be issued by Luna to Hansen will, upon the Effective Date, be duly authorized and, when issued and delivered in accordance with the terms of this Agreement, will be validly issued, fully paid and non-assessable, and the issuance of such Shares will not be subject to any preemptive or similar rights.

8.4 **Corporate Power.** Hansen warrants and represents that it is a corporation duly organized and validly existing under the laws of the state of Delaware. Luna warrants and represents that Luna is a corporation duly organized and validly existing under the laws of Delaware. Upon the Effective Date of the Amended Plan subject to entry of the Confirmation Order by the Bankruptcy Court, the Parties further warrant and represent that they have full corporate power and authority to enter into this Agreement and carry out the provisions hereof.

8.5 **Survival of Warranties.** All warranties and representations set forth in this Agreement shall survive the execution and delivery of this Agreement.

9. **General Provisions.**

9.1 **Benefit.** This Agreement and the Release shall inure to the benefit of and be binding upon the Parties' respective agents, employees, officers, directors, shareholders, parents, subsidiaries, related entities, Affiliates, attorneys, successors and assigns.

9.2 **Severability.** All provisions contained herein are severable and in the event that any of them shall be held to be to any extent invalid or otherwise unenforceable by any court of competent jurisdiction, such provision shall be construed as if it were written so as to effectuate to the greatest possible extent the Parties' expressed intent; and in every case the remainder of this Agreement shall not be affected thereby and shall remain valid and enforceable, as if such affected provision were not contained herein. If, and to the extent that,

the Bankruptcy Court fails to approve in the Confirmation Order any or all of the agreements of the Parties concerning (i) the treatment of the Settlement Documents under Section 365(n) of the Bankruptcy Code, contained in Section 9.11 hereof, in Section 10.6 of the Development and Supply Agreement, or in Section 6.6 of the License Agreement (or in the corresponding provisions of the Amended Plan incorporating such specified provisions), or (ii) the exoneration provisions that benefit Hansen in Section 8.5 of the Plan, then such non-approval shall not result in a termination or a failure of condition precedent under Section 2 of this Agreement or under the Amended Plan or the Confirmation Order.

9.3 **Choice of Law.** This Agreement shall be governed by and construed in accordance with the United States Bankruptcy Code. Matters not covered by the Bankruptcy Code shall be construed in accordance with the internal substantive laws of the state of Delaware as applied to contracts made and wholly performed within the state of Delaware without regard to its principles of choice of law.

9.4 **Selection of Forum.** The exclusive venue for any action arising out of, related to, or connected with this Agreement shall be the United States Bankruptcy Court for the Western District of Virginia, Roanoke Division, but for any other disputes, the federal or state courts in the State of Delaware.

9.5 **No Oral Modification.** No provision of this Agreement can be waived, modified, amended, or supplemented except in a writing that expressly references this Agreement and is signed by an authorized representative of each Party to be bound.

9.6 **No Construction Against Drafter.** Because all Parties have participated in drafting, reviewing, and editing the language of this Agreement, no presumption for or against any Party arising out of drafting all or any part of this contract shall be applied in any action whatsoever.

9.7 **No Third-Party Beneficiaries.** Except as expressly set forth herein, the Parties agree that there are no third-party beneficiaries of any kind to this Confidential Settlement Agreement or the Release other than those listed as Defendant Released Parties and Plaintiff Released Parties.

9.8 **Integrated Agreement.** Subject to Section 9.11, this Agreement, the Settlement Documents (including the Exhibits hereto), the Disclosure Statement, the Amended Plan, and the Confirmation Order collectively constitute the entire understanding and contract between the Parties with respect to the subject matter referred to herein. Any and all other representations, understandings, or agreements, whether oral, written, or implied, are merged into and superseded by the terms of this Agreement.

9.9 **Headings.** The subject headings used in this Agreement are included for purposes of convenience only, and shall not affect the construction or interpretation of any provisions of this document.

9.10 **Notice.** Any notice required or desired to be given hereunder shall be in writing and shall be served as provided herein either by an air courier service (such as FedEx,

DHL or UPS) or by personal delivery. Notice may be served by email, if a confirming copy of the notice is also served by air courier service or hand-served. Service of any notice shall be deemed complete (i) in the case of notice via personal delivery, actual receipt before 5:00 p.m. at the location of delivery (and shall be deemed complete on the following day if actually received after 5:00 p.m. at the location of delivery); or (ii) in the case of notice via air courier, the third day following delivery of the notice to an air courier service with all costs fully prepaid. In order to be effective, any notice must be served upon and received by both the Party and the persons designated to receive a copy thereof at the addresses set forth below:

If to Hansen:

Hansen Medical, Inc.
800 East Middlefield Road
Mountain View, CA 94043
Attention: Arthur Hsieh and Fred Moll

With a copy to:

Morrison & Foerster LLP
755 Page Mill Road
Palo Alto, CA 94304
Attention: Bryan Wilson

If to Defendant:

Luna Innovations, Inc.
1 Riverside Circle, Suite 400
Roanoke, VA 24016
Attention: Chief Executive Officer

With a copy to:

Pachulski Stang Ziehl & Jones LLP
919 North Market Street, 17th Floor
Wilmington, DE 19899-8705
Attention: Laura Davis Jones

Munger, Tolles & Olson LLP
560 Mission Street
San Francisco, CA 94105
Attention: Kristin Linsley Myles

9.11 **Special Provision Regarding Licenses.** The License Agreement and any licenses contained in the Development and Supply Agreement shall not be deemed to be integrated with the other Settlement Documents in any way that would (i) prevent, prejudice or otherwise adversely affect any setoff or recoupment or other rights or security under such Settlement Document in the event that the License Agreement or such other licenses should be

rejected in the future pursuant to § 365 and Hansen or Luna, as applicable, makes any election to retain rights and licenses under § 365(n)(1)(B); and (ii) require payment of any royalties by Hansen or Luna, as applicable, under § 365(n)(2)(B). For avoidance of any doubt, notwithstanding any other provision of any Settlement Document, the result of the exception to integration of such contracts is that Hansen or Luna, as applicable, shall be entitled to make its § 365(n)(1)(B) election to retain rights under a rejected License Agreement or with respect to licenses in the Development and Supply Agreement without impairing, affecting or prejudicing any of Hansen's or Luna's, as applicable, rights, defenses, claims or interests of any kind, including setoff or recoupment, under or with respect to any other Settlement Document and without Hansen or Luna, as applicable, being required to pay any amount as deemed "royalties" under such retained rights (since there shall be none).

9.12 **Execution in Counterparts.** This Agreement may be executed and delivered in any number of counterparts. When each Party has signed and delivered at least one counterpart to all other Parties, each counterpart shall be deemed an original and all counterparts, taken together, shall constitute one and the same agreement, which shall be binding and effective on the Parties hereto. This Agreement shall not become binding on the Parties hereto unless it has been executed by authorized representatives of all Parties.

[Remainder of page intentionally left blank—signature page follows]

HANSEN MEDICAL, INC.

By: _____ /s/ Fred Moll
Name: Fred Moll
Its: CEO

LUNA INNOVATIONS, INC.

By: _____ /s/ Kent A. Murphy
Name: Kent A. Murphy
Its: Chairman & CEO

LUNA TECHNOLOGIES, INC.

By: _____ /s/ Scott A. Graeff
Name: Scott A. Graeff
Its: President

SUBSIDIARIES

Luna Technologies, Inc.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report dated March 26, 2010 with respect to the consolidated financial statements and schedule of Luna Innovations Incorporated and subsidiaries (Debtors-in-Possession) included in the Annual Report on Form 10-K for the year ended December 31, 2009. We hereby consent to the incorporation by reference of said report in the Registration Statement of Luna Innovations Incorporated on Form S-8 (File No. 333-138745, effective November 16, 2006).

/s/ GRANT THORNTON LLP

McLean, Virginia
March 26, 2010

**Exhibit 31.1—CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Kent A. Murphy, certify that:

1. I have reviewed this annual report on Form 10-K of Luna Innovations Incorporated;

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

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

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

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

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

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

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

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

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

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

Date: March 26, 2010

/s/ KENT A. MURPHY, PH.D.

Kent A. Murphy, Ph.D.
President and Chief Executive Officer

**Exhibit 31.2—CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Dale E. Messick, certify that:

1. I have reviewed this annual report on Form 10-K of Luna Innovations Incorporated;

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

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

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

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

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

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

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

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

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

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

Date: March 26, 2010

/s/ DALE E. MESSICK

Dale E. Messick
Chief Financial Officer

**Exhibit 32.1—CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the annual report of Luna Innovations Incorporated (the “Company”) on Form 10-K for the period ending December 31, 2009 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Kent A. Murphy, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

March 26, 2010

/s/ KENT A. MURPHY, PH.D.

Kent A. Murphy, Ph.D.
President and Chief Executive Officer

**Exhibit 32.2—CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the annual report of Luna Innovations Incorporated (the “Company”) on Form 10-K for the period ending December 31, 2009 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Dale E. Messick, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

March 26, 2010

/s/ DALE E. MESSICK

Dale E. Messick
Chief Financial Officer