LUNA INNOVATIONS INC
Form 10-K
March 16, 2009
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(MARK ONE)

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

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2008

OR

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

FOR THE TRANSITION PERIOD FROM TO

COMMISSION FILE NUMBER 000-52008

LUNA INNOVATIONS INCORPORATED

(Exact name of Registrant as Specified in its Charter)

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

1 Riverside Circle, Suite 400

Roanoke, VA 24016

(Address of Principal Executive Offices)

(540) 769-8400

(Registrant s Telephone Number, Including Area Code)

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

Title of Each Class	Name of Each Exchange on which Registered
Common Stock, par value $0.001 per share	**The NASDAQ Stock Market, LLC**

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

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

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

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

Indicate by check mark 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 x

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant on June 30, 2008, based upon the closing price of Common Stock on such date as reported by the NASDAQ Global Market, was approximately $26.2 million. Shares of voting stock held by each officer and director of the registrant as well as each entity or person that, to the knowledge of the registrant, owned 10% or more of a class of the registrant s securities as of June 30, 2008, have been excluded in that such persons or entities may be deemed to be affiliates. This assumption regarding affiliate status is not necessarily a conclusive determination for other purposes.

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 9, 2009 there were 11,159,491 shares of the registrant s common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Specified portions of the registrant s Proxy Statement with respect to its 2009 Annual Meeting of stockholders, anticipated to be filed within 120 days after the end of its fiscal year ended December 31, 2008, are incorporated by reference into Part III of this annual report on Form 10-K.

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LUNA INNOVATIONS INCORPORATED

ANNUAL REPORT ON FORM 10-K

FOR THE PERIOD ENDED DECEMBER 31, 2008

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CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This Annual Report on Form 10-K, including the Management s Discussion and Analysis of Financial Condition and Results of Operation section in Item 7 of this report, and other materials accompanying this Annual Report on Form 10-K contain forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended. We attempt, whenever possible, to identify these forward- looking statements by words such as intends, will, plans, anticipates, expects, may, estimates, believes, should, projects, or continue, or the negative of those words and other comparable words. Similarly, statements that describe our business strategy, goals, prospects, opportunities, outlook, objectives, plans or intentions are also forward-looking statements. These statements 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 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

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

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new products. To manage a diverse set of 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.

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, 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. 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 services to our government and corporate customers. The Technology Development Division seeks to continuously supply our Products Division with new opportunities. Our primary product lines and technology development services are described in more detail below.

Test & Measurement, Sensing, and Instrumentation Products

Products Division

The cornerstone of our test & measurement, sensing and instrumentation business is Luna Technologies, a part of our Products Division, which we reacquired in September 2005. Our acquisition of Luna Technologies significantly enhanced our development and production of optical fiber test & measurement and instrumentation products, as described more fully below.

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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 award winning 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 knowledge and experience in distributed sensing systems, or DSS, which are products comprised of multiple sensors whose input is 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. Some key applications, markets and technical advantages of our DSS are described below.

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 tests 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 have sold a network of distributed temperature sensors to a major manufacturer of electrical generators, which use 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.

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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 have been aggressively pursuing business opportunities in new markets such as industrial and medical sensing.

Test and Measurement Equipment for Non-Destructive Industrial Testing

In addition to our fiber optic based products described above, we are developing a number of new devices that use high frequency sound, or ultrasonic, waves to evaluate the physical properties of materials. In general, our devices can determine the physical condition of an object by analyzing numerical measurements taken from ultrasonic waves that interact with the object. Our quantitative ultrasonic signal processing technology is designed to be extremely sensitive, detecting changes in the physical properties of the object studied. Our instruments report a numerical signature, not an image that is subject to interpretation and sometimes requires an expert consultant. Our technology thus provides information that cannot be obtained by traditional non-quantitative ultrasonic methodologies. Our quantitative ultrasonic technology has applications in non-destructive industrial testing.

Health Care 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. It is particularly beneficial to aid the navigation of robotic surgical devices in that it can provide real-time feedback of the shape, position, and location of the device. Similarly, it can provide the same benefits to non-robotic devices such as endoscopes.

In June 2007, we announced that we had entered into an intellectual property licensing, development, and supply agreement with Intuitive Surgical, Inc., a technology leader in robotic-assisted minimally invasive surgery. Under the terms of the multi-year agreement, we will 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.

During 2008, we continued to make progress in developing the position tracking system for integration into Intuitive Surgical s products, including achieving significant milestones in our development and supply agreement with Intuitive Surgical.

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.

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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, yet have 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 product. 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 (lipids or blood clots) and can enter the blood circuit during critical and invasive medical procedures such as cardio-pulmonary bypass surgery. Emboli can be dangerous and are believed to be the cause of neurological or neuropsychological post-operative deficits and, in some cases, fatalities. 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 May 2006. We received FDA clearance of our 510(k) application for this product in May 2007.

In September 2007, we entered into a joint marketing alliance agreement with Terumo Cardiovascular Systems Corporation (Terumo CVS). Under the terms of this agreement, Luna and Terumo CVS will market Luna s EDAC® QUANTIFIER for clinical use in the United States. Terumo CVS is the one of world s leading suppliers of products for cardiopulmonary bypass.

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.

Medical Imaging

A 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

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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 anticipate that our Trimetasphere® nanomaterial contrast agents will offer two primary advantages over existing contrast agents: lower risk of toxicity and higher image contrast.

Most of the 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. 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 released a black box warning to the radiology community regarding the dangers of all current gadolinium-based contrast agents to patients with impaired kidney function, noting that there have been at least 90 fatal outcomes 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 provide a stronger contrast effect than the other contrast agents currently on the market. The first compound in this program is currently in preclinical development.

In addition to use as a general blood pooling agent, we are developing various modifications to the Trimetasphere® nanomaterials to target them for specific tissues or physiological conditions. We believe that, using the Trimetasphere® nanomaterials, additional disease-targeting diagnostic agents can be created to enhance the capabilities of MRI and significantly expand its applications.

Other Nanomaterial-based Products

In October 2008, we announced 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.

Medical contrast agents for human use must be approved by the FDA or similar foreign regulatory agencies before they can be marketed, which we do not expect for several years. Please see the section titled Government Regulation below for more information about the regulatory approval process for our medical products.

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 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

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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, 2008, our Technology Development Division was engaged in 115 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, 2008, our Technology Development Division team consisted of 142 full time employees, including 39 with Ph.D.s and 55 with other advanced degrees. 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.

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 Tibbett s

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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.

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.

Executive Officers of the Registrant

The following table sets forth certain summary information concerning our executive officers. Additional information concerning our executive officers and directors may be found in our Proxy Statement for our 2009 Annual Meeting of Stockholders, which is incorporated by reference in Item 10 of Part II in this Annual Report on Form 10-K.

Name	Age	Position
Kent A. Murphy, Ph.D.	50	President, Chief Executive Officer and Director
Dale E. Messick	45	Chief Financial Officer
Mark E. Froggatt, Ph.D.	39	Chief Technology Officer
Scott A. Graeff	42	Chief Operating Officer
Talfourd H. Kemper, Jr.	40	Vice President and General Counsel and Secretary
Robert P. Lenk, Ph.D.	60	President, Luna nanoWorks Division

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Kent A. Murphy, Ph.D., our founder, has served as our President, Chief Executive Officer and Chairman of the Board since 1992. Dr. Murphy received his Ph.D. in Electrical Engineering from Virginia Polytechnic Institute and State University and is formerly a tenured professor in Virginia Tech s Bradley Department of Engineering, where he filed for over 35 patents. In 2001, he was named SBIR Entrepreneur of the Year and in 2004 was named Outstanding Industrialist of the Year by Virginia s Governor Warner. Dr. Murphy is not related to Edward G. Murphy, M.D., a member of our board of directors.

Dale E. Messick has served as our Chief Financial Officer since August 2006. Prior to joining us, Mr. Messick served in various capacities, including Chief Financial Officer from 1997 to 2004 and Senior Vice President - Finance from 2004 to 2005 at Worldspan, a provider of transaction processing and information technology services to the global travel industry. At Worldspan, Mr. Messick managed a staff of 160 throughout the United States, Mexico, and Europe and was responsible for accounting, financial reporting, budgeting, financial planning and analysis, and internal audit operations. Mr. Messick received a B.B.A. in Accounting from The College of William and Mary and is a certified public accountant.

Mark E. Froggatt, Ph. D. has been our Chief Technology Officer since September 2005. Prior to joining us, Dr. Froggatt co-founded Luna Technologies in the Fall of 2000 to develop instrumentation for fiber optic devices and served as its president until our acquisition of Luna Technologies in September 2005. Dr. Froggatt is the primary inventor of the technology used in the OVA and a leading expert in the field of interferometric measurement. Before joining Luna Technologies, Dr. Froggatt worked at the NASA Langley Research Center developing ultrasonic and optical instrumentation for which he received eight patents. He received his B.S. and M.S. degrees in Electrical Engineering from Virginia Tech and a Ph.D. from the University of Rochester Institute of Optics.

Scott A. Graeff has served as our Chief Operating Officer since March 2009 and previously as our Chief Commercialization Officer from August 2006 to March 2009 and as our Chief Financial Officer from July 2005 to August 2006. Mr. Graeff was also a member of our Board of Directors from August 2005 until March 2006. From December 1999 to June 2001, Mr. Graeff served as Chief Financial Officer of Liquidity Link, a software development company. From June 2001 to August 2002, Mr. Graeff served as President and Chief Financial Officer of Autumn Investments. From August 2002 until July 2005, Mr. Graeff served as a Managing Director for Gryphon Capital Partners, a venture capital investment group. From August 2003 until July 2005, Mr. Graeff also served as the Acting Chief Financial Officer of Luna Technologies, Inc. Mr. Graeff holds a B.S. in Commerce from the University of Virginia.

Talfourd H. Kemper, Jr., has served as our Vice President and General Counsel and Secretary since November 2008. Prior to joining us, Mr. Kemper was a Principal with the law firm of Woods Rogers PLC in Roanoke, Virginia from 2003 until 2008. Mr. Kemper received his A.B. in Economics from Duke University and his J.D. from the University of Virginia School of Law.

Robert P. Lenk, Ph.D. has served as President of our Luna nanoWorks Division since August 2005. Prior to joining Luna Innovations, Dr. Lenk served as President of Oncovector Inc., a biopharmaceutical company since December 2003 and a member of its board of directors since May 2003. From July 1999 to September 2003, Dr. Lenk was President and Chief Executive Officer of Therapeutics 2000, an inhalation pharmaceutical research company. Lenk holds a Ph.D. in Cell Biology from the Massachusetts Institute of Technology.

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Competition

Our Technology Development Division competes 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 a significant portion 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, 2008, 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, 2008, we, including all of our

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divisions, had 211 full and part-time employees. In determining whether we have 500 or fewer employees, the SBA may count the number of employees of entities that are large stockholders who are affiliated , or have the power to control us. In determining whether two or more firms are affiliated, the SBA will look at factors such as stock ownership or common management, but ultimately will make its determination based on the totality of the circumstances. The SBA presumes 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. We believe the relative beneficial ownership of our individual stockholders rebuts the presumption of control by Carilion Clinic because the shares held by our officers and directors constitute the controlling voting interest in us. 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 and our ultrasound diagnostic devices for measuring certain medical conditions will be considered a drug and medical devices, respectively, 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.

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, or we convince the FDA. 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 Federal Food, Drug, and Cosmetic 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.

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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, involve fewer than 100 subjects and may take from six months to over one year. Phase II trials typically involve a few hundred patients 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 larger numbers of patients which 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. The process of clinical trials generally takes two to five years to complete, but may take longer. 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, approval can take more than five years. Even with the submissions of relevant data, the FDA may ultimately decide that the NDA does not satisfy its regulatory criteria for approval and 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 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

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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, 2008, we had 196 full time employees, 51 of which hold Ph.D.s and 83 of which hold other advanced 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 $29.4 million at December 31, 2008, compared to $25.2 million at December 31, 2007.

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

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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.

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

We make our periodic and current reports available, free of charge, on our website as soon as practicable after such material is electronically filed with the Securities and Exchange Commission. Our website address is *www.lunainnovations.com* and such reports are filed under SEC Filings on the Investor Relations portion of our website. Further, a copy of this annual report as well as our other periodic and current reports may be obtained from the SEC, located at the SEC s 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 in these forward-looking statements as a result of certain factors, including the risks we face described below.

RISKS RELATING TO OUR BUSINESS

The results of our operations could be adversely affected by economic and political conditions and the effects of these conditions on our customers businesses and 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. 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 in 2009 remains uncertain.

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We rely and will continue to 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 (or SBIR) revenues, 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% and 69% of our consolidated total revenues for the years ended December 31, 2008 and 2007, respectively. As a result, we are vulnerable to adverse changes in our revenues and cash flows if a significant number of our research contracts and subcontracts are 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.

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.

We also derive a significant portion of our technology development revenues from SBIR contracts. SBIR revenues accounted for approximately 44% and 47% of our consolidated total revenues for the years ended December 31, 2008 and 2007, respectively. Contract research, including SBIR, will remain a significant portion of our consolidated total revenues for the foreseeable future. Our strategy for developing innovative technologies and products depends in large part on our ability to continue to enter into and generate revenues from non-SBIR contract research.

Our contract research customer base includes government agencies, corporations and academic institutions. Our customers are not obligated to extend their agreements with us. 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.

If we are unsuccessful in our litigation with Hansen Medical, Inc., our business may be materially harmed.

On June 22, 2007, Hansen Medical Inc., or 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 alleges 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, declaratory judgment, and fraud. In addition to money damages in an unspecified amount, the plaintiff company seeks, 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., or otherwise. We have answered the complaint and intend to defend ourselves vigorously in this matter. Hansen s claim of conversion has since been dismissed. We also filed a counterclaim against Hansen and an amended counterclaim on March 18, 2008.

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Our counterclaim asserts 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. We seek money damages from Hansen in an amount to be proven at trial and equitable, including declaratory, relief. In April 2008, the parties participated in a non-binding arbitration. In May 2008, the arbitrator rendered a non-binding award. In June 2008, we rejected the non-binding award, and the case is proceeding to trial on the merits, currently scheduled to begin in March 2009. While we cannot currently determine the ultimate liability pursuant to these actions, if we are unsuccessful in our litigation with Hansen, our business may be materially harmed. Not only may we not recover any damages, if Hansen is successful, we may be required to pay substantial damages, and we could lose the ability to freely use or license others to use certain intellectual property, any or all of which could materially harm our business.

If we are unable to manage our 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 by developing and commercializing multiple products concurrently across many industries, technologies and markets. Our ability to grow 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 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. During 2008, the labor market, particularly for highly-specialized scientists and engineers remained tight. If we are unable to recruit a sufficient number of qualified personnel, we may be unable to staff and manage projects adequately, which may slow the rate of growth of our contract research revenue or our product development efforts.

We have incurred recent losses, and because our strategy for expansion may be costly to implement, we may experience continuing losses which may be significant.

We incurred consolidated net losses of approximately $6.3 million for the year ended December 31, 2008 and $7.8 million for the year ended December 31, 2007. We expect to continue to incur significant additional expenses as we expand our business, 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 and our expansion strategy, we are unable to predict when or if we will be able to achieve profitability again. If our revenues do not increase,

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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 business growth, and this capital might not be available.

We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges, including the need to develop new products or enhance our existing products, obtain important regulatory approvals, enhance our operating infrastructure, complete our development activities, build our commercial scale manufacturing facilities and acquire complementary businesses and technologies. In addition, we have a history of net losses and are not currently profitable. In the future we may need to engage in equity or debt financings to secure additional funds to support our operations and investments in new products, if we are unable to finance such activities from the proceeds of our continuing operations.

If we raise additional funds through issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our common stock, including shares of common stock sold in our initial public offering. 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. In addition, we may not be able to obtain continued SBIR funding, or other additional financing on terms favorable to us, if at all. In order to retain SBIR eligibility, we may be restricted in our ability to raise certain forms of equity capital from institutional investors. For example, in connection with the closing of our financing with Carilion Clinic on December 30, 2005, we were not able to raise all proceeds through the issuance of equity without potentially jeopardizing our SBIR eligibility, and we accordingly raised part of the capital through the issuance of senior convertible promissory notes. Under the terms of these notes, as amended, we agreed that we will would not draw down any amount under our then-existing senior secured credit facility with First National Bank or our existing line of credit with Silicon Valley Bank, or incur additional indebtedness other than under certain limited conditions. In addition, if we lose eligibility or elect to no longer compete for SBIR contracts prior to December 30, 2012, the holder of our $5.0 million senior convertible promissory note has the right, at its discretion, to convert some or all of the principal and interest amounts into shares of our common stock, which would result in further dilution to our existing stockholders.

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.

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.

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

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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, which are nanomaterials in the form of a carbon sphere with three metal atoms enclosed inside are technologically innovative and require significant and lengthy product development efforts. These efforts include planning, designing, developing and testing at the technological, product and manufacturing-process levels. These activities require us to make significant investments. Although there are many potential applications for our technologies, our resource constraints require us to focus on specific products and to forgo other opportunities. We expect that one or more of the potential products we choose to develop will not be technologically feasible or will not achieve commercial acceptance, and we cannot predict which, if any, of our products we will successfully develop or commercialize. The technologies we research and develop are new and steadily changing and advancing. The products that are derived from these technologies 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. We have recently experienced difficulties in recruiting and hiring these personnel as a result of the tight labor market in certain fields. This fact, combined with our growth strategy and future needs for additional experienced personnel, particularly in highly specialized areas such as nanomaterial manufacturing and innovative ultrasound 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. In particular, our Chairman, CEO and founder, Kent A. Murphy, Ph.D., is essential to our overall management as well as the development of our technologies, our culture and our strategic direction. All of our executive officers and key employees are at-will employees, and, except with respect to Kent A. Murphy, Ph.D., we do not maintain any key-person life insurance policies. The loss of any of our management or key personnel could seriously harm our business.

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

We may not qualify to participate in the Small Business Administration s, or SBA s, SBIR program or receive new SBIR awards from federal agencies in the future. In order to qualify for SBIR contracts and grants, at least 51% of our equity must be owned and controlled by U.S. citizens or permanent resident aliens, or by

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another entity that is at least 51% owned or controlled by U.S. citizens or permanent resident aliens, and we must have 500 or fewer employees. These eligibility criteria are applied as of the time of the award of a contract or grant. 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 securities 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, and our convertible debt may be excluded from, outstanding equity for purposes of meeting the 51% equity ownership requirement.

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. We believe that over 60% of our equity is owned or controlled by U.S. citizens, and that we currently have fewer than 500 employees. We must be able to certify that we meet the SBIR ownership and size requirements as of the time we enter into each SBIR contract or grant, and SBA may review our size status in connection with each SBIR contract or grant. As we grow our business, it is foreseeable that we will eventually exceed the SBIR eligibility limitations and we may need to find other sources to fund our research and development efforts. If we are unsuccessful in obtaining additional contracts or funding grants because we cannot meet the eligibility requirements or if our customers decide to reduce or discontinue support of our products, we may be required to seek alternative sources of revenues or capital.

The SBA could determine that, as a result of Carilion Clinic s equity ownership, the number of our employees exceeds the size limitation placed on SBA contract and SBIR grant recipients, and therefore we will not be eligible to receive future SBA contracts and SBIR grants.

In addition to the U.S. ownership eligibility criteria discussed above, to be eligible for SBA contracts and SBIR grants, the number of our employees including those of any entities that are considered to be affiliated with us, cannot exceed 500. As of December 31, 2008, we, including all of our divisions, had approximately 211 full and part time employees. However, in determining whether we are affiliated with any other entity, the SBA analyzes whether another entity controls or has the power to control us. If the SBA determines that another entity controls or has the power to control us, it will aggregate that entity s employees (and the employees of its subsidiaries and affiliates) with our own for purposes of applying the 500 employee test.

The SBA may make an affiliation determination based on stock ownership. For example, the SBA may presume that two or more entities have the power to control a company if the entities each own, control or has the power to control, less than 50 percent of the company s stock, such minority holdings are equal or approximately equal in size, and the aggregate of the minority holdings is large as compared to any other stock holding. However, this presumption may be rebutted by showing that such control or power to control does not in fact exist. As of December 31, 2008, Carilion Clinic held approximately 20% of our outstanding common stock, and Dr. Kent Murphy held approximately 24% of our outstanding common stock. Thus, applying the criteria stated above, the SBA could find that both Carilion Clinic and Dr. Murphy own less than 50% of the stock, their percentages are roughly equal, and their respective percentages are large compared to any other stock holding. We believe that the relative beneficial ownership of our individual stockholders rebuts the presumption of control by Carilion Clinic because the shares held by our executive officers and directors constitute the controlling interest in us. However, if the SBA were to make a determination that we are affiliated with Carilion Clinic, we would exceed the size limitations as Carilion Clinic has over 500 employees, and we therefore would lose eligibility for new SBA contracts, public contracts, grants and other awards that are set aside for small businesses, including SBIR grants.

If we are unable to secure third-party reimbursement for our health care products, including our EDAC® QUANTIFIER, 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 payors such as the government and health insurance companies are generally responsible for hospital and doctor

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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 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®QUANTIFIER product typically bill the services performed with our products to various third-party payors, 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.

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We have a debt facility with Silicon Valley Bank that requires us to meet certain restrictive covenants.

In May 2008, we entered into a $10.0 million credit facility with Silicon Valley Bank, which includes a four year term debt of $5.0 million and a four-year revolving line of credit facility available for the remaining $5.0 million, based on the balance of our term loan at December 31, 2008. As part of this agreement, we provided blanket collateral of substantially all of the company s assets, and agreed to be subject to certain loan covenants, including but not limited to, financial covenants requiring the on-going attainment of certain financial ratios, and the attainment of a minimum adjusted EBITDA that increases through-out the first year of the term loan period. The agreement also provided a $1.0 million sub-limit for letters of credit.

From May 2008 until December 2008, the interest rate on borrowings under the secured revolving facility was a floating per annum rate of 0.5% above the prime interest rate, and the interest on the term loan was a floating per annum rate of 1.0% above the prime interest rate. In December 2008, we entered into a First Amendment to Loan and Security Agreement with Silicon Valley Bank. The amendment adjusted interest rates under the $10 million debt facility, revised certain minimum EBITDA covenants under the facility, and added intellectual property to the assets securing the facility. The amended interest rate on the revolving line of credit is a floating rate of the prime interest rate plus 1.0%, with a minimum rate of 5.0%, and the amended interest rate on the term loan is a floating rate of the prime interest rate plus 1.5%, with a minimum rate of 5.5%.

Beginning in January 2009, we will begin to pay interest and principal ratably over 42 months. If we fail to maintain the required ratios, attain the required EBITDA, or fail to comply with any other covenant, we could be deemed to have an Event of Default. In the case of an event of default, as defined in the amended agreement, we could be required to immediately remit all outstanding funds then due under the debt facility or prepare our collateral for sale to satisfy the amount of outstanding funds owed to Silicon Valley Bank. If there is an event of default and we continue in the borrowing relationship with Silicon Valley Bank, the default interest rate would increase by five percentage points over the applicable rate for the term and revolving debt facilities, which could adversely affect our cash flows.

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 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.

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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.

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. Although we do not have any sole source suppliers of materials, 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. Moreover, none of these third-party vendors is obligated to continue to supply us with components. Our reliance on these vendors subjects us to a number of risks that could impact 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.

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.

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;

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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;

collecting payment from customers in jurisdictions where laws are unfavorable, unfamiliar or unknown to us;

the imposition of restrictive trade policies;

the imposition of inconsistent laws or regulations;

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

uncertainties relating to foreign laws and legal proceedings;

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

having to comply with licensing requirements.

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

We may be obligated to repay part of the proceeds received in connection with a grant from the City of Danville, Virginia, for failing to make certain agreed upon expenditures and failing to meet certain employment obligations.

In March 2004, we received a grant of $900,000 from the City of Danville, Virginia under a Grant Agreement to support the expansion of economic and commercial growth within the City. Under the Grant Agreement, we agreed to locate a nanomaterials manufacturing and research facility and maintain its operations in Danville until March 25, 2009. Our obligations under this Grant Agreement require us to incur significant expenditures in order to retain such proceeds from the grant. Specifically, we agreed under the Grant Agreement to invest at least $5.2 million in capital equipment expenditures and $1.2 million in certain facilities by September 25, 2006 and to maintain such investments in our Danville facility until March 25, 2009. We also agreed to create by September 25, 2006 at least 54 new full-time jobs at the Danville facility at an average annual wage of at least $39,000 plus benefits, and to maintain these jobs at such facility until March 25, 2009. These contractual requirements obligate us to an annual payroll obligation exceeding $2.0 million until March 25, 2009. To the extent such hiring results in salaries in excess of the required minimum wages, our annual payroll obligation could be substantially greater than $2.0 million.

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 of December 31, 2008, we had not fully met capital expenditure milestones, and, as a result, we may be asked to repay the City of Danville $232,000 based on a computation of the prorata amount of capital expenditures falling below required levels. Because of the failure to meet these milestones, we currently have classified $232,000 of the grant as a current liability on our balance sheet in recognition that we may be required to return some or all of that amount in March 2009.

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RISKS RELATING TO OUR REGULATORY ENVIRONMENT

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

We must comply with and are affected by laws and regulations relating to the award, administration and performance of U.S. government contracts. Government contract laws and regulations affect how we do business with our government customers and, in some instances, impose added costs on our business. A violation of 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.

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, failure to comply with which carries civil and criminal penalties ranging from 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.

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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 and our EDAC® ultrasound diagnostic devices for measuring certain medical conditions will be considered a drug and medical devices, respectively, under the Federal Food, Drug & Cosmetic Act, or FDC Act. Drugs and some medical devices are subject to rigorous preclinical testing and other approval requirements by the 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 these products. 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 our EDAC® or other products for clinical use in the United States, we generally must first obtain clearance from the FDA pursuant to Section 510(k) of the Food, Drug, and Cosmetic Act, which has occurred in the case of the EDAC®. Clearance under Section 510(k) requires demonstration that a new device is substantially equivalent to another device with 510(k) clearance or 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 U.S. 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 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.

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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 FFDCA 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.

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 FDA s Quality System Regulations, or QSR. 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

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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 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.

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

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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;
- 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;
- 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. As in our litigation with Hansen Medical, Inc. described in Part I, Item 3 below, we could incur substantial costs to bring suits in which we may assert our patent rights against others or defend ourselves in suits

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brought against us. An unfavorable outcome of any such litigation could have a material adverse effect on our business and results of operations.

We also rely on trade secrets to protect our technology, especially where we believe patent protection is not appropriate or obtainable. However, trade secrets are difficult to protect. We regularly attempt to obtain confidentiality agreements and contractual provisions with our collaborators, employees, and consultants to protect our trade secrets and proprietary know-how. These agreements may be breached 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 Luna and Luna 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

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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 could incur substantial expenses to enforce our rights against them. We also may not fully control the ability to assert or defend those patents or other intellectual property which we have licensed from other entities, or which we have licensed to other entities.

In addition, some of our licenses with academic institutions give us the right to use certain technology previously developed by researchers at these institutions. In certain cases we also have the right to practice improvements on the licensed technology to the extent they are encompassed by the licensed patents and 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.

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RISKS RELATING TO OUR COMMON STOCK

Our common stock price has been volatile and we expect that the price of our common stock will fluctuate substantially in the future.

Before our initial public offering, there was no public market for our common stock, and in the future, an active public trading market may not be sustained. The public trading price for our common stock will continue to be affected by a number of factors, including:

- 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;
- commencement of, or involvement in, litigation;
- 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 and to litigation;
- a lack of, limited or negative industry or security analyst coverage; and
- 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, our stock price could decline.

If our existing stockholders sell a large number of shares of our common stock or the public market perceives that these sales may occur, the market price of our common stock could decline.

As of the date of our initial public offering, employees and former employees holding approximately 1.8 million shares of our common stock or options exercisable for our common stock had entered into an agreement to not sell more than 20.0% of such shares in any year during the five

years following the effective date of our initial public offering, provided that if any shares subject to such annual limit are not sold in a given year then such shares may be sold in subsequent years. In addition, certain members of our management holding options exercisable for approximately 2.2 million shares of our common stock had entered into an agreement not to sell more than 15.0% of such shares in any year during the five years following the effective date of such initial public offering. On January 23, 2007, certain members of our management team entered into amended and restated stock sale restriction agreements whereby such officers agreed not to sell more than a fixed number of beneficially held shares of our common stock for a two year period ending December 31, 2008. On February 27, 2008, certain members of our management team entered into a second amended and restated stock sale restriction agreement whereby such officers agreed not to sell more than a fixed number of beneficially held shares of our common stock for a two year period ending December 31, 2010. As of December 31, 2008, such officers beneficially owned an aggregate of 3,485,746 shares of our common stock, including vested and unvested options to purchase common stock, which are subject to the sale restriction agreements. We have the right to

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waive any of these resale restrictions for employees and management at our discretion, and in such instance, the shares would become freely tradable.

Our financial results may vary significantly from period to period, which may reduce our stock price.

Historically, our financial results have exhibited significant seasonality. For example, in prior years we typically had lower product and license revenue in the first half of the year and higher product revenue in the second half of the year. We expect such seasonality to continue although the recent economic uncertainty has made it difficult to predict such seasonality. In addition, our financial results may fluctuate as a result of a number of factors, many of which are outside of our control, which may cause the market price of our common stock to fall. For these reasons, comparing our operating results on a period-to-period basis may not be meaningful, and you should not rely on our past results as an indication of our future performance. Our financial results may be negatively affected by any of the risk factors listed in this Risk Factors section and, in particular, the following risks:

- a reduction of contract research funding;
- decisions by government agencies, academic institutions or corporations not to exercise contract options or to modify, curtail or terminate our major contracts;
- failure to estimate or control contract costs;
- adverse judgments or settlements in legal disputes;
- expenses related to acquisitions, mergers or joint ventures; and
- other one-time financial charges.

If we fail to continue to meet all applicable continued listing requirements of the NASDAQ Global Market and NASDAQ determines to delist our common stock, the market liquidity and market price of our common stock could decline.

Our common stock is listed on the NASDAQ Global Market. In order to maintain that listing, we must satisfy minimum financial and other continued listing requirements. For example, the NASDAQ Marketplace Rules require that, among other things, the market capitalization of our common stock is at least $50 million or, in the alternative, the carrying value of our stockholders equity is at least $10 million. At present, we do not satisfy the market capitalization standard, but we do currently satisfy the alternative stockholder s equity standard. If we experience continued losses from our operations, are unable to raise additional funds, or our market capitalization does not meet minimum standards, we may not be able to maintain the standards for continued listing on the NASDAQ Global Market. In such event, our common stock could be delisted from the NASDAQ Global Market if we are unable to cure the events of noncompliance in a timely or effective manner.

If our common stock were threatened with delisting from The NASDAQ Global Market, we may, depending on the circumstances, seek to extend the period for regaining compliance with NASDAQ listing standards by moving our common stock to the NASDAQ Capital Market, if at that time we are able to comply with the initial listing requirements of the NASDAQ Capital Market. 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.

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.

Beginning with our Annual Report for the year ending December 31, 2007, 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

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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 management s assessment of our internal control over financial reporting and 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, 2009.

We continue to evaluate our existing internal control over financial reporting against the standards adopted by the Public Company Accounting Oversight Board, or PCAOB. 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.

As of December 31, 2008, our directors and executive officers collectively controlled approximately 50% of our outstanding common stock.

As of December 31, 2008, our directors and executive officers and their affiliates collectively controlled approximately 50% of our outstanding common stock. As a result, these stockholders, if they act together, will be able to influence our management and affairs and all matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions. You and other stockholders will have minimal influence over these actions. This concentration of ownership may 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 a takeover.

Our amended and restated certificate of incorporation and bylaws and Delaware law contain provisions that might enable our management to resist a takeover. These provisions include:

- a classified board of directors;
- 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.

These provisions might discourage, delay or prevent a change in control of our company or a change in our management. 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.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

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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, Danville and Hampton, 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 lease approximately 10,000 square feet of space in Hampton, Virginia, near the NASA Langley Research Center, for research and development of non-destructive evaluation and certain ultrasound products. Our technology development segment primarily uses this facility. This lease agreement expires in March 2009, and we do not intend to renew it.

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

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. Were an unfavorable outcome to occur, or if protracted litigation were to ensue, the impact could be material to us.

On June 22, 2007, Hansen Medical Inc., or 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 alleges 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, declaratory judgment, and fraud. In addition to money damages in an unspecified amount, the plaintiff company seeks, 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., or otherwise. We have answered the complaint and intend to defend ourselves vigorously in this matter. Hansen s claim of conversion has since been dismissed. We also filed a counterclaim against Hansen and an amended counterclaim on March 18, 2008. Our counterclaim asserts 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. We seek money damages from Hansen in an amount to be proven at trial and equitable, including declaratory, relief. In April 2008, the parties participated in a non-binding arbitration. In May 2008, the arbitrator rendered a non-binding award. In June 2008, we rejected the non-binding award, and the case is proceeding to trial on the merits, currently scheduled to begin in March 2009. While we

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cannot currently determine the ultimate liability pursuant to these actions, if we are unsuccessful in our litigation with Hansen, our business may be materially harmed. Not only may we not recover any damages, if Hansen is successful, we may be required to pay substantial damages, and we could lose the ability to freely use or license others to use certain intellectual property, any or all of which could materially harm our business.

On September 10, 2007, we filed a complaint against our former auditing and accounting firm in connection with the firm s auditing and opining on the accuracy of several years of our consolidated financial statements in preparation for our registration with the Securities and Exchange Commission and our initial public offering of securities. On July 23, 2008, the parties settled the litigation at mediation without any admission of liability, or adjudication of fact or law. The material terms of settlement include a cash payment to Luna in exchange for mutual releases of all claims and counterclaims and dismissal with prejudice of all claims and counterclaims. In 2008, we recorded $0.5 million in other income related to this settlement, which reflects the settlement amount less our expenses incurred in pursuing the claim.

On May 30, 2006, a former employee in the Circuit Court for the City of Roanoke, Virginia served us with a complaint, 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. We have answered the complaint and intend to defend ourselves vigorously in this matter. While we believe the former employee s claims are without merit, counsel for such former employee has indicated that he may file additional claims against us. To date, no such additional claims have been filed. However, we cannot predict whether such former employee will file additional litigation against us or our subsidiaries or the ultimate outcome of any such litigation.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

No matters were submitted to a vote of security holders during the quarter ended December 31, 2008.

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PART II

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

PRICE RANGE OF COMMON STOCK

Our common stock has been traded on The NASDAQ Global Market under the symbol LUNA since our initial public offering on June 2, 2006. 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.

	2008		2007	
Fiscal Period	**High**	**Low**	**High**	**Low**
First Quarter	$ 8.33	$ 4.78	$ 4.72	$ 2.95
Second Quarter	$ 8.49	$ 3.86	$ 5.08	$ 2.91
Third Quarter	$ 6.28	$ 3.47	$ 5.18	$ 3.40
Fourth Quarter	$ 4.04	$ 1.91	$ 9.53	$ 4.18

As of December 31, 2008, there were approximately 2,200 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, 2008.

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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, 2008, versus the cumulative total return of the NASDAQ Composite Index and Russell Microcap 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 Microcap 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 Microcap 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, we have a low market capitalization, and our common stock was first selected for inclusion in this index in June 2008.

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.

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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. We currently expect to retain earnings for use in the operation and expansion of our business, and therefore do not anticipate paying any cash dividends in the foreseeable future.

EQUITY COMPENSATION PLANS

The information required by this item regarding equity compensation plans is set forth in Part III, Item 12 Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters of this Annual Report on Form 10-K.

UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Unregistered Sales of Equity Securities during the Three Months Ended December 31, 2008

There were no unregistered sales of equity securities during the three months ended December 31, 2008.

Use of Proceeds from Sale of Registered Equity Securities

On June 2, 2006, our Registration Statement on Form S-1, as amended (Reg. Nos. 333-131764) was declared effective in connection with the initial public offering of our common stock, pursuant to which we registered and directly sold an aggregate of 3,500,000 shares of our common stock at a price to the public of $6.00 per share. The offering closed on June 6, 2006, and, as a result, we received net proceeds of approximately $17.87 million (after underwriters discounts and commissions of approximately $1.47 million and additional offering-related costs of approximately $1.66 million). The managing underwriter of the offering was ThinkEquity Partners LLC. No payments for such expenses were made directly or indirectly to (i) any of our officers or directors or their associates, (ii) any persons owning 10% or more of any class of our equity securities, or (iii) any of our affiliates.

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, in particular our nanomaterial and ultrasound-related medical 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.

PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

None during the fourth quarter of 2008.

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ITEM 6. SELECTED FINANCIAL DATA

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.

	Years Ended December 31,				
(In thousands, except share and per share data)	2004	2005	2006	2007	2008
Consolidated Statements of Operations Data:					
Revenues:					
Technology Division Revenues	$ 13,835	$ 15,380	$ 18,788	$ 23,356	$ 26,839
Products sales and licensing revenues	8,752	1,074	4,758	10,326	10,059
Total revenues	22,587	16,454	23,546	33,682	36,898
Cost of revenues					
Technology development division costs	10,985	12,552	14,141	16,546	17,626
Product sales and licensing costs	2,881	410	2,221	4,820	5,231
Total cost of revenues	13,866	12,962	16,362	21,366	22,857
Gross profit	8,721	3,492	7,184	12,316	14,041
Operating expense	4,190	6,004	17,150	20,570	21,473
Operating income (loss)	4,531	(2,512)	(9,966)	(8,254)	(7,432)
Other income (expense)	(257)	2	26	33	1,336
Interest income (expense), net	(90)	(41)	516	372	(190)
Income (loss) before income taxes	4,184	(2,551)	(9,424)	(7,850)	(6,286)
Income tax expense (benefit)	128	(557)	13		
Net income (loss)	$ 4,056	$ (1,994)	$ (9,437)	$ (7,850)	(6,286)
Net income (loss) per common share:					
Basic	$ 1.40	$ (0.53)	$ (1.14)	$ (0.77)	$ (0.57)
Diluted	$ 1.14	$ (0.53)	$ (1.14)	$ (0.77)	$ (0.57)
Weighted-average number of shares used in per share calculations:					
Basic	2,903,022	3,735,811	8,283,074	10,219,711	10,974,010
Diluted	3,561,788	3,735,811	8,283,074	10,219,711	10,974,010

	As of December 31,				
	2004	2005	2006	2007	2008
Consolidated Balance Sheet Data:					
Cash and cash equivalents	$ 610	$ 12,515	$ 17,867	$ 12,047	$ 15,519
Working capital (deficit)	257	11,843	19,283	14,115	14,992
Total assets	7,747	24,134	35,217	32,549	34,017
Total current liabilities	4,474	6,993	7,560	10,053	11,129
Total debt	303	5,431	5,328	5,000	10,000
Stockholder s equity	2,167	10,854	22,075	17,137	14,316

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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.

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 above table. Additional information regarding business combinations and dispositions for the relevant periods above may be found in the notes accompanying our consolidated financial statements at Part II, Item 8 of this Annual Report on Form 10-K.

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

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

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.

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. To manage a diverse set of 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 $23.5 million in 2006, $33.7 million in 2007, and $36.9 million in 2008. We generate revenues through technology development services provided under contractual arrangements, product sales 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 $18.8 million in 2006, to $23.4 million in 2007 and $26.8 million in 2008. 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 $29.4 million at December 31, 2008.

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 to be primarily in areas associated with our fiber optic instrumentation and test and measurement platforms. We also expect to increase our investments in product development and commercialization, which we anticipate

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will lead to increased product sales growth. 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 consolidated net losses of approximately $9.4 million, $7.9 million, and $6.3 million for the years ended December 31, 2006, 2007, and 2008, respectively. We 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.

In June 2007, we entered into an intellectual property licensing, development, and supply agreement with Intuitive Surgical Inc., or Intuitive. Under the terms of the multi-year agreement, we will develop and supply our fiber optic-based shape sensing and position tracking system for integration into Intuitive s products, including the da Vinci® Surgical System. Pursuant to the agreement, Intuitive agreed to pay us certain fees including an up-front license fee, development fees payable in quarterly installments over the initial year-and-a half period following the date of the agreement, and certain other fees, subject to certain termination rights by Intuitive and other rights of repayment or reduction. Such fees do not include the minimum purchase requirements of Intuitive, which are subject to the successful completion of the development criteria and certain other terms and conditions.

During the three months ended December 31, 2008, we began to experience the impact of the general downtown affecting the United States and global economies. Specifically, revenue from the sale of our products during the fourth quarter of 2008 declined substantially as compared to both the immediately preceding quarter and the same quarter in 2007. We experienced declines in both the number of units sold as well as a in the average price per unit sold, and we cannot be certain that such declines will not continue or worsen as the state of the U.S. and global economy remains uncertain.

Description of Our Revenues, Costs and Expenses

Revenues

We generate revenues from technology development, product sales and license payments. 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 revenues reflect amounts that we receive from sales of our products or development of products for third parties and currently represent approximately 27% of our total revenues. Our license revenues are comprised of up-front license fees paid to us in connection with licenses or sublicenses of certain patents and other intellectual property as well as royalties, which currently represent an immaterial proportion of our license revenues.

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.

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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.

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 new facility. Interest expense includes interest accrued on the outstanding aggregate principal of the senior convertible promissory notes issued to Carilion Clinic on December 30, 2005 and interest payable on the Silicon Valley Bank debt term loan.

Interest income includes amounts earned on our cash deposits with financial institutions. During 2007 and 2008, we invested the proceeds of the Carilion financing transactions and the net proceeds from our initial public offering in a money market account, and we draw from that account as needed to fund ongoing operations. We also invested the proceeds from the Silicon Valley Bank debt facility in a money market account beginning with our initial draw in May 2008.

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 collectibility 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 allowable costs and paid a fixed fee. 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 proportionate 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. For fixed price contracts that provide for the development and delivery of a specific prototype or product, revenues are recognized on under the percentage of completion method in accordance with Statement of Position (SOP) 81-1 *Accounting for Performance of Construction-Type and Certain Production-Type Contracts*.

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

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contract as the services are provided. In evaluating the probability of funding for purposes of assessing collectibility 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.

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 products when pervasive evidence of an arrangement exists, delivery has occurred, the selling price is fixed or determinable, and collectibility of the resulting receivable is reasonably assured. Pursuant to the adoption of Emerging Issues Task Force (EITF) Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables,* 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 items 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.

For products containing software that is considered more than an incidental component, we consider the requirements of SOP 97-2, *Software Revenue Recognition.* 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

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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.

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.

Financial Accounting Standards Board (FASB) Interpretation No. 48, *Accounting for Uncertainty in Income Taxes* (FIN 48) clarifies the accounting for uncertainty in income taxes recognized in an enterprise s financial statements in accordance with Statement of Financial Accounting Standards (SFAS) No. 109, *Accounting for Income Taxes*. FIN 48 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FIN 48 also provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosure and transition. FIN 48 has not had a material impact on our results of operation since our adoption of this guidance in 2007.

While it is often difficult to predict the final outcome or 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 the line item 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. A substantial portion of our net deferred tax asset has been reserved until such time that we generate substantial taxable income from operations or other tax planning strategies that will enable us to fully benefit from this asset.

Stock-Based Compensation

Effective January 1, 2006, we adopted SFAS No. 123R, *Share Based Payment* (SFAS No. 123R) using the modified prospective transition method. Under this transition method, our financial statements for periods prior to January 1, 2006 were not restated. However, we incur compensation expense for new awards and awards modified, repurchased or cancelled after January 1, 2006. This compensation expense is computed using the fair value of the stock option as determined by an option pricing model, the Black-Scholes valuation model. 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. 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

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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.

Under the modified prospective method, we recognize compensation cost in our financial statements for all awards granted after January 1, 2006 and for all awards outstanding as of January 1, 2006 for which the requisite service had not been rendered as of the date of adoption. We measure the amount of compensation cost based on the fair value of the underlying equity award on the date of grant. We recognize compensation cost over the period that an employee provides service in exchange for the award. As of December 31, 2008, total compensation expense not yet recognized related to unvested options is approximately $6.2 million.

Goodwill and Other Intangible Assets

At December 31, 2008, we had $418,000 in goodwill relating to our acquisition of Luna Technologies in September 2005. We account for goodwill in accordance with SFAS No. 142, *Goodwill and Other Intangible Assets*. SFAS No. 142 requires goodwill and certain intangible assets to no longer be amortized. In addition, goodwill is tested for impairment at the reporting unit level and intangible assets deemed to have an indefinite life and other intangibles are tested for impairment at least annually, or more frequently if impairment indicators arise. We test for impairment of goodwill by preparing a discounted future net cash flow analysis.

Discounted net future cash flows are an estimate of the fair value of the reporting unit. In preparing this projection, we make a number of assumptions, which include, without limitation, future sales volume levels, price levels, rates of increase in operating expenses, as well as assumptions concerning the timely completion of certain product development activities. If our projection of discounted future cash flows is in excess of the carrying value of the recorded asset, no impairment is reported. If the carrying value of the asset exceeds the projected discounted net cash flows, an impairment charge is recorded. The amount of the impairment charge is the excess of the carrying value of the asset over discounted net cash flows.

We account for patents in accordance with SFAS No. 144, *Accounting for Disposal or Impairment of Long-Lived Assets*. We amortize our patents over their estimated useful life of five years, and analyze them periodically to determine whether their carrying value has been impaired. At the end of December 31, 2008 and 2007, respectively, no patents were written down due to any impairment in value.

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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,		
	2006	2007	2008
Revenues;			
Technology development revenues	79.8%	69.3%	72.7%
Product revenues	20.2%	30.7%	27.3%
Total revenues	100.0%	100.0%	100.0%
Cost of Revenues:			
Technology development costs	60.1%	49.1%	47.8%
Product costs	9.4%	14.3%	14.2%
Total cost of revenues	69.4%	63.4%	61.9%
Gross Profit	30.5%	36.6%	38.1%
Operating Expense	72.8%	61.1%	57.8%
Operating Loss	(42.3%)	(24.5%)	(19.8%)
Total Other Income, net	2.3%	1.2%	2.7%
Loss Before Income Taxes	(40.0%)	(23.3%)	(17.0%)
Income Tax Expense	0.1%	0.0%	0.0%
Net Loss	(40.1%)	(23.3%)	(17.0%)

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, pursuant to the provisions of SOP 81-1, *Accounting for the Performance of Construction-Type and Certain Production-Type Contracts*. 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.

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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 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 $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 on-going corporate litigation almost entirely with respect to our dispute with Hansen Medical.

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 under the provisions of SFAS 123R. 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.

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On July 23, 2008, we settled litigation at mediation with our former auditing and accounting firm in connection with the firm s auditing and opining on the accuracy of several years of our consolidated financial statements in preparation for our registration with the Securities and Exchange Commission and our initial public offering of securities. The settlement of this matter at mediation was without any admission of liability, or adjudication of fact or law, and the material terms included payment to us. We recognized $0.5 million in other income related to this settlement, which is shown net of related legal expenses.

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 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.

Year Ended December 31, 2007 Compared to Year Ended December 31, 2006

Revenues

Total revenues for the year ended December 31, 2007 were $33.7 million, representing an increase of $10.1 million, or 43%, over revenues of $23.5 million for the year ended December 31, 2006. The year over year increase was comprised of a $4.6 million, or 24%, increase in technology development revenue and a $5.6 million, or 117%, increase in product and license revenue.

Technology development revenue grew primarily due to hiring of additional personnel throughout 2007, resulting in increased billable activities performed under our research contracts.

Total product and licensing revenues were $10.3 million for the year ended December 31, 2007, representing a 117% increase over product and licensing revenues of $4.8 million for the year ended December 31, 2006. Approximately $5.9 million of the 2007 product and license revenues related to product sales of our Products division. Product and license revenues for the year ended December 31, 2007 also included $0.2 million in sales of medical products and $4.2 million in contracted product development activities, which included product development work for the arrangement with Intuitive Surgical, Inc. and various arrangements with government entities. Contracted product development activities for the year ended December 31, 2006 were $625,000.

Cost of Revenues

Cost of revenues increased 31% to $21.4 million for the year ended December 31, 2007 from $16.4 million for the year ended December 31, 2006. Cost of revenues for technology development increased $2.4 million, or 17%, to $16.5 million for the year ended December 31, 2007 from $14.1 million for the year ended December 31, 2006. This increase primarily resulted from the addition of personnel during 2007 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 $2.6 million, or 117%, consistent with the product and license revenue growth of 117%, primarily attributable to increased costs associated with an increase in the number of units sold.

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Operating Expense

Operating expense increased to $20.6 million for the year ended December 31, 2007 from $17.2 million for the year ended December 31, 2006. The increase in operating expense was primarily attributable to increased spending in research and development activities, principally related to research concerning carbon nanomaterials and their potential application in diagnostic imaging, development of our medical products, increased recognition of expense for share-based compensation, and increases in personnel, professional fees and other costs. These increased costs were incurred in support of our strategy to achieve long term growth through the commercialization of innovative products utilizing our proprietary and licensed technologies. We expect our operating expenses to continue to increase, at a lesser rate of growth, as we continue to invest in new product development and increase product sales.

Other Income/(Expense)

Other income was $400,000 for the year ended December 31, 2007 compared to $500,000 for the year ended December 31, 2006. The decline is attributable to reduced cash deposits from 2006 to 2007, resulting in lower interest income earned on deposits.

Quarterly Results

The following table sets forth our unaudited historical revenues, operating income and net loss by quarter during 2007 and 2008:

	Fiscal Year 2007				Fiscal Year 2008			
(Dollars in thousands, except loss per share)	**March 31, 2007**	**June 30, 2007**	**September 30, 2007**	**December 31, 2007**	**March 31, 2008**	**June 30, 2008**	**September 30, 2008**	**December 31, 2008**
Revenues:								
Technology development	$ 5,287	$ 5,852	$ 5,952	$ 6,265	$ 6,602	$ 6,947	$ 7,247	$ 6,043
Product and license	1,784	2,003	2,867	3,671	2,318	2,931	3,457	1,354
Total revenues	7,071	7,855	8,820	9,936	8,920	9,878	10,704	7,397
Operating loss	$ (2,795)	$ (2,291)	$ (1,982)	$ (1,186)	$ (1,876)	$ (1,765)	$ (1,105)	$ (2,544)
Net loss	$ (2,682)	$ (2,178)	$ (1,838)	$ (1,151)	$ (1,852)	$ (1,798)	$ (474)	$ (2,161)
Basic and fully diluted loss per share	$ (0.27)	$ (0.21)	$ (0.18)	$ (0.11)	$ (0.17)	$ (0.16)	$ (0.04)	$ (0.19)

Liquidity and Capital Resources

Prior to August 2005, our primary source of liquidity had been cash provided by operations and divestitures of certain assets and businesses. In August 2005, we completed our first outside equity financing and raised $7.0 million through an equity investment by Carilion Clinic (formerly Carilion Health System). Carilion Clinic invested an additional $8.0 million in December 2005 in the form of $5.0 million aggregate principal amount of senior convertible promissory notes and $3.0 million in additional equity.

On June 2, 2006, the effective date of our initial public offering, we sold 3,500,000 shares of common stock at $6.00 per share, resulting in gross proceeds of $21.0 million. In connection with this offering, we paid $1.47 million in underwriting discounts and commissions and incurred other offering expenses of approximately $1.66 million. The net proceeds from the offering were approximately $17.87 million.

Our principal uses of cash have been to fund our development of medical products and carbon nanomaterials, and our overall expansion, including facilities, personnel, working capital and other capital expenditures.

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On May 21, 2008, we canceled our previous line of credit agreement with First National Bank, and entered into a $10 million maximum debt facility with Silicon Valley Bank. Included in this facility is a four year term debt of $5 million and a revolving line of credit facility available for the remaining $5 million. The facility has a total debt capacity of $10 million. At December 31, 2008, there was an outstanding balance of $5 million under the term loan, and no outstanding balance under the revolving facility. The loan terms require us to meet certain covenants relating to minimum adjusted EBITDA, and other specified financial ratios. As of this filing, we are not aware that we are currently in default of any of these covenants, and we do not have reason to believe that we will be unable to comply with these covenants in the coming year based on our projected operations.

As part of the facility, Silicon Valley Bank issued a $479,667 letter of credit on our behalf to the Industrial Development Authority of Montgomery County, Virginia, as required under an office lease. The Silicon Valley Bank letter of credit was issued as a replacement for the previous letter of credit issued on our behalf by First National Bank in the amount of $599,583.

In December 2008, we entered into a First Amendment to Loan and Security Agreement with Silicon Valley Bank. The Amendment adjusted interest rates under the $10 million debt facility, revised certain minimum EBITDA covenants under the facility, and added intellectual property to the assets securing the facility. The new interest rate on the revolving line of credit is now a floating rate of the prime interest rate plus 1.0%, with a minimum rate of 5.0%. The new interest rate on the term loan is now a floating rate of the prime interest rate plus 1.5%, with a minimum rate of 5.5%.

Beginning in January 2009, we will pay interest and principal monthly, so that principal is paid back ratably over 42 months.

During the three months ended December 31, 2008, we began to experience the effects of a weakening overall economy, notably with respect to reduced sales of our test and measurement equipment. We implemented cost-cutting initiatives during this period in order to offset the effect of these reduced sales, including downsizing our workforce by approximately 20 positions; and reducing other expenses relating to employee benefit programs.

Discussion of Cash Flows

Recent Activity

During the year ended December 31, 2008, we used approximately $0.8 million of net cash from operations. This was a decrease of $3.5 million compared to 2007, when we used $4.2 million of net cash from operations. This change was due to the decreased net loss year over year, which contributed an additional $1.6 million to operating cash flow, and other working capital component changes. Specifically, the significant working capital component changes between December 31, 2008 and December 31, 2007 were: an increase in comparative operating cash flow due to increased accounts receivable collections of $4.9 million; and a decrease in comparative operating cash flow due to accounts payable and accrued expenses of $2.1 million.

Cash used in investing activities for the year ended December 31, 2008 related solely to the purchase of property and equipment and legal fees and costs associated with securing patent rights to certain technology. Our overall cash used in investing activities was $0.9 million in 2008 compared to $1.8 million in 2007. The decrease was attributable to decreased capital asset spending, which was higher in 2007 due to the early-stage capital needs of our business, including the purchase of office furniture and leasehold improvements relating to our Roanoke headquarters building. We saw fewer such needs in 2008 as a result of our prior investment.

Cash flows from financing activities for the year ended December 31, 2008 increased significantly compared to 2007. This was due primarily to proceeds received from our $5.0 million term loan as part of our Silicon Valley Bank debt facility.

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At December 31, 2008, total cash and cash equivalents were approximately $15.5 million.

Capital Expenditures

Capital expenditures for property and equipment, including purchased assets, assets acquired under capital leases, and capitalized software, totaled $0.4 million for 2008, a decrease of $1.0 million from capital expenditures of $1.4 million in 2007. The decrease from 2007 to 2008 was principally due to expenditures in 2007 for continuing build-out and furnishing of headquarters and other office space in Roanoke and Blacksburg locations, which we did not incur in 2008. We expect capital expenditures to increase somewhat in 2009, based on our expected requirements for growth in capacity and replacement and upgrades of equipment.

Summary of Contractual Obligations

We lease our facilities in Blacksburg, Charlottesville, Danville, Hampton, and Roanoke, Virginia under operating leases that expire between December 2009 and December 2014 or under a month-to-month arrangement. Upon expiration of the leases, we may exercise certain renewal options as specified in the leases.

We also lease certain computer equipment and software under capital lease agreements that expires between February 2009 and September 2013. The assets subject to these obligations are included in property and equipment on our consolidated balance sheet.

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, 2008, approximately $1.4 remained under this commitment. The purchase order contains a provision permitting Luna Technologies to reduce the remaining commitment to $0.8 million, under certain circumstances that are beyond our control.

Set forth below is information concerning our known contractual obligations as of December 31, 2008 that are fixed and determinable.

	Total	2009	2010	2011	2012	2013	After 2013
Long-term debt obligations*	$ 10,901,644	$ 1,428,571	$ 1,428,571	$ 1,428,571	$ 6,615,931		
Capital equipment and software lease	4,672	4,672					
Operating facility leases	4,858,268	2,107,861	1,178,284	1,208,262	363,861		
Other operating leases	110,624	28,140	28,140	28,140	17,555	8,649	
Purchase order obligation	833,200	555,467	277,733				
Deferred Credits:							
City of Danville grant**	231,750	231,750					
Other liabilities***	5,119,500	355,500	395,500	467,500	367,500	402,500	3,131,000
Total	$ 22,059,658	$ 4,711,961	$ 3,308,228	$ 3,132,473	$ 7,364,847	$ 411,149	$ 3,131,000

* 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, and a term facility with Silicon Valley Bank with an aggregate outstanding principal amount of $5.0 million.

** 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 will be

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used to offset certain capital expenditures for leasehold improvements being made at our Danville facility, and the remaining $450,000 is 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. As of December 31, 2008, we had not fully met the capital expenditure milestone, and as a result, we may be required to repay the City of Danville $231,750 due to the shortfall of capital expenditures. Since we have not yet met the stipulations of the grant, we have recorded the $231,750 in deferred liabilities in the accompanying balance sheet as of December 31, 2008.

*** Other liabilities include remaining amounts payable for minimum royalty payments for certain licensed technologies.

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, particularly because as of December 31, 2008, our cash reserves were maintained in money market investment accounts and were not exposed to material market risks.

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, 2008, we had $15.5 million deposited in cash and cash equivalents bearing a weighted-average interest rate of 0.25%.

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 revolving debt facility with Silicon Valley Bank is at prime plus 1%. The interest rate on our $5.0 million term loan with Silicon Valley Bank is at prime plus 1.5%. The revolving debt facility and term loan have minimum interest rates of 5.0% and 5.5%, respectively. At December 31, 2008, the revolving debt facility and the term loan interest rates were the minimum rates provided by the Silicon Valley Bank loan agreement. Given the principal amount of our outstanding liabilities to Silicon Valley Bank, a change of the prime interest rate by one percentage point for one year would result in a change in our annual interest expense of approximately $50,000.

Foreign Currency Exchange Rate Risk

As of December 31, 2008, all payments made under our research contracts have been denominated in United States dollars. Our product sales to foreign customers are also denominated in U.S. dollars, and we do not receive payments in foreign currency. As such, we are not directly exposed to currency gains or losses resulting from fluctuations in foreign exchange rates.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders

Luna Innovations Incorporated

We have audited the accompanying consolidated balance sheets of Luna Innovations Incorporated (a Delaware corporation) and subsidiaries as of December 31, 2008 and 2007, and the related consolidated statements of operations, stockholders equity, and cash flows for each of the three years in the period ended December 31, 2008. 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 as of December 31, 2008, and 2007, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2008 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.

/s/ GRANT THORNTON LLP

McLean, Virginia

March 13, 2009

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CONSOLIDATED BALANCE SHEETS

	December 31, 2007	December 31, 2008
Assets		
Current assets:		
Cash and cash equivalents	$ 12,046,945	$ 15,518,960
Accounts receivable, net	9,716,610	7,332,034
Refundable income taxes	396,062	98,092
Inventory, net	1,675,239	2,828,991
Other current assets	333,105	342,598
Total current assets	24,167,961	26,120,675
Property and equipment, net	5,859,515	5,363,957
Intangible assets, net	1,911,132	1,813,643
Deferred tax asset, net	600,000	600,000
Other assets	10,270	118,292
Total assets	**$ 32,548,878**	**34,016,567**
Liabilities and stockholders equity		
Current liabilities:		
Current portion of long term debt obligation		1,428,572
Current portion of capital lease obligation and accrued loss on sublease	23,885	17,396
Accounts payable	3,024,973	2,667,192
Accrued liabilities	5,331,798	5,161,308
Deferred credits	1,672,400	1,854,282
Total current liabilities	10,053,056	11,128,750
Long-term capital lease obligation net of current portion	4,671	
Long-term debt obligation	5,000,000	8,571,428
Deferred credits	354,418	
Total liabilities	15,412,145	19,700,178
Commitments and contingencies		
Stockholders equity:		
Common stock, par value $0.001, 100,000,000 shares authorized, 10,704,456 and 11,137,882 shares issued and outstanding at December 31, 2007 and 2008, respectively	10,704	11,138
Additional paid-in capital	34,496,063	37,960,928
Accumulated deficit	(17,370,034)	(23,655,677)
Total stockholders equity	17,136,733	14,316,389
Total liabilities and stockholders equity	**$ 32,548,878**	**34,016,567**

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

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CONSOLIDATED STATEMENTS OF OPERATIONS

	Year ended December 31,		
	2006	2007	2008
Revenues:			
Technology development revenues	$ 18,787,863	$ 23,356,456	$ 26,838,592
Product and license revenues	4,757,779	10,325,659	10,059,728
Total revenues	23,545,642	33,682,115	36,898,320
Cost of revenues:			
Technology development costs	14,140,605	16,546,140	17,626,495
Product and license costs	2,221,396	4,819,825	5,231,067
Total cost of revenues	16,362,001	21,365,965	22,857,562
Gross profit	7,183,641	12,316,150	14,040,758
Operating expense:			
Selling, general & administrative	13,935,381	16,082,582	17,688,065
Research, development, and engineering	3,214,814	4,487,897	3,646,590
Total operating expense	17,150,195	20,570,479	21,334,655
Operating loss	(9,966,554)	(8,254,329)	(7,293,897)
Other income:			
Other income	25,834	32,722	1,197,755
Interest income (expense), net	515,818	371,991	(189,501)
Total other income	541,652	404,713	1,008,254
Loss before income taxes	(9,424,902)	(7,849,616)	(6,285,643)
Income tax expense (benefit)	12,829		
Net loss	$ (9,437,731)	$ (7,849,616)	$ (6,285,643)
Net loss per share:			
Basic	$ (1.14)	$ (0.77)	$ (0.57)
Diluted	$ (1.14)	$ (0.77)	$ (0.57)
Weighted average shares:			
Basic	8,283,074	10,219,711	10,974,010
Diluted	8,283,074	10,219,711	10,974,010

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

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CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS EQUITY (DEFICIT)

	Class A Common Stock		Class B Common Stock		Class C Common Stock		Common Stock		Additional Paid in	Accumulated	
	Shares	$	Shares	$	Shares	$	Shares	$	Capital	Deficit	Total
Balance January 1, 2006	2,834,814	2,835	734,429	734	2,131,474	2,131			10,935,049	(86,872)	10,853,877
Exercise of stock options			139,049	139			132,606	133	96,931		97,203
Issuance of warrants and options in connection with Luna Technologies acquisition									418,073		418,073
Conversion of Class A, Class B, and Class C Common Stock to Common Stock	(2,834,814)	(2,835)	(873,478)	(873)	(2,131,474)	(2,131)	5,839,766	5,839			
Conversion of Redeemable Class B Common Stock to Common Stock							308,216	308	504,676		504,984
Initial Public Offering, net of costs							3,500,000	3,500	17,862,741		17,866,241
Carilion anti-dilution shares							96,724	97	(97)		
Rounding of fractional shares and par value effect of stock split							29	1	(4,184)	4,185	2
Share-based payments							34,205	34	1,772,573		1,772,607
Net loss										(9,437,731)	(9,437,731)
Balance December 31, 2006							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

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

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CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31,		
	2006	2007	2008
Cash flows used in operating activities:			
Net loss	$ (9,437,731)	$ (7,849,616)	$ (6,285,643)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	1,141,115	1,780,877	1,933,566
Share-based compensation	1,772,607	2,425,143	2,867,487
Change in operating assets and liabilities:			
Accounts receivable	(2,103,495)	(2,483,204)	2,384,576
Inventory		(831,945)	(1,566,809)
Refundable income taxes	118,735		297,970
Other assets	(654,563)	172,740	(59,322)
Accounts payable and accrued expenses	527,098	1,972,111	(157,628)
Deferred credits	(479,299)	597,724	(172,536)
Net cash used in operating activities	(9,115,533)	(4,216,170)	(758,339)
Cash flows used in investing activities:			
Acquisition of property and equipment	(2,834,385)	(1,375,612)	(391,210)
Intangible property costs	(558,909)	(414,328)	(536,251)
Net cash used in investing activities	(3,393,294)	(1,789,940)	(927,461)
Cash flows from financing activities:			
Proceeds from term loan			5,000,000
Payments on debt obligations		(214,953)	
Payments on capital lease obligation	(102,703)	(84,695)	(11,160)
Proceeds from the issuance of common stock, net	17,866,241		
Proceeds from the exercise of options and warrants	97,203	485,950	168,975
Net cash from financing activities	17,860,741	186,302	5,157,815
Net change in cash	5,351,914	(5,819,808)	3,472,015
Cash and cash equivalents beginning of period	12,514,839	17,866,753	12,046,945
Cash and cash equivalents end of period	$ 17,866,753	$ 12,046,945	$ 15,518,960
Supplemental disclosure of cash flow information			
Cash paid for interest	$ 45,341	$ 15,340	$ 193,125
Cash paid (received) for income taxes	$ 12,829		$ (297,970)
Supplemental schedule of non-cash activities			
Warrants issued in connection with debt modification			$ 58,194

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

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Summary of Significant Accounting Policies

Luna Innovations Incorporated (Luna Innovations) 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 technology that can fulfill identified market needs. We then take these solutions from the applied research stage through commercialization.

Basis of Presentation and Consolidation

Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP) and include our accounts, our wholly owned subsidiaries and other entities in which we have a controlling financial interest. We consolidate all entities in which we own more than 50% of the outstanding voting stock unless we do not control the entity.

We eliminate all significant intercompany transactions from our financial results.

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 allowable costs and paid a fixed fee. 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 in accordance with Statement of Position (SOP) 81-1, *Accounting for Performance of Construction Type and Certain Production Type Contracts*. 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. Losses on contracts, if any, are recognized in the period in which they become known.

For the years ended December 31, 2006, 2007 and 2008, contract research revenues from agencies of the U.S. government accounted for approximately 87%, 68% and 73%, respectively, of total revenues for the same period. See Note 13 for additional details concerning our relationship with major customers.

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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. We apply the guidance from the Emerging Issues Task Force (EITF) Consensus on Issue 00-21, *Revenue Arrangements with Multiple Deliverables* (EITF 00-21). Accordingly, we allocate our arrangement fees to the various elements based upon objective reliable evidence of fair value, if available. For those arrangements in which evidence of fair value is not available, we defer revenues from any up-front payments and recognize them over the service period in the arrangement. Certain of these arrangements also include the payment of performance bonuses based upon the achievement of specific milestones. Generally, there are no assurances at the onset of these arrangements that the milestones will be achieved. As such, fees related to such milestones are excluded from the initial allocation of the arrangement fee in accordance with EITF 00-21 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 pervasive evidence of an arrangement exists, delivery has occurred, the selling price is fixed or determinable, and collectibility of the resulting receivable is reasonably assured. Pursuant to the adoption of Emerging Issues Task Force (EITF) Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables,* 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 items 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.

For products containing software that is considered more than an incidental component, we consider the requirements of SOP 97-2, *Software Revenue Recognition.* 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. As of December 31, 2006, and 2007, we had not entered into sales transactions where rights of return exist. At December 31, 2008, we had entered into four such sales transactions, and had deferred revenue on our balance

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sheet for the year ended December 31, 2008 of $0.2 million relating to them. We will recognize this revenue once 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.

Fair Value of Financial Instruments

Our financial instruments include cash and cash equivalents, accounts receivables, accounts payable, a line-of-credit and accrued liabilities. The carrying amounts of financial instruments approximate fair value due to their short maturities. Additionally, the line-of-credit is subject to a variable interest rate based upon the prime rate as published by the Wall Street Journal.

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 apply the provisions of Statement of Financial Accounting Standards (SFAS) No. 142 *Goodwill and Other Intangible Assets*, which requires allocating goodwill to each reporting unit and testing for impairment using a two-step approach.

We perform a goodwill impairment test annually or whenever an event has occurred that would more likely than not reduce the fair value of a reporting unit below its carrying amounts. We engaged an outside service provider, who computed the estimated fair value of our reporting unit at December 31, 2008, using a discounted future cash flow method. The service provider computed future projected cash flows using information that we provided, including estimated future results of the reporting unit. We then compared the estimated fair value of the reporting unit to the carrying value of the reporting unit. Because the estimated fair value of the reporting unit exceeded the carrying value, we have not recognized an impairment related to goodwill for the years ended December 31, 2006, 2007, or 2008.

We account for patents in accordance with SFAS No. 144, *Accounting for Disposal or Impairment of Long-Lived Assets*. We amortize our patents over their estimated useful life of five years, and analyze them periodically to determine whether their carrying value has been impaired. At the end of December 31, 2008 and 2007, respectively, no patents were written down due to any impairment in value.

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Research and Development

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

Capitalized Software Costs

We did not capitalize any software development costs during the years ended December 31, 2007 or 2008. 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.

Valuation of Long-Lived Assets

We account for long-lived assets in accordance with the provisions of SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*. SFAS No. 144 requires that long-lived assets and certain identifiable intangibles be reviewed 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 cost of the inventory and the estimated market value based upon assumptions about future demand and market conditions. Inventory reserves at December 31, 2007 and 2008 were $41,108 and $43,427, respectively.

Net Loss Per Share

We compute net loss per share in accordance with SFAS No. 128, *Earnings 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 and 4,871,514 common stock equivalents (which include outstanding warrants and stock options) are not included for the year ended December 31, 2007 and 2008 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 8. Effective January 1, 2006, we adopted SFAS No. 123R, *Share Based Payment* (SFAS No. 123R) using the modified prospective transition method. New awards and awards modified, repurchased or cancelled after January 1, 2006 trigger compensation expense based on the fair value of the stock option as determined by the Black-Scholes option pricing model. We amortize stock-based compensation for such awards on a straight-line method over the related service period of

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the awards taking into account the effects of the employees expected exercise and post-vesting employment termination behavior.

We account for equity instruments issued to non-employees in accordance with the provisions of SFAS 123R and EITF Issue No. 96-18.

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:

	2006	2007	2008
Risk-free interest rate range	4.55%	4.27% 4.77%	2.18% - 4.02%
Expected life of option-years	7	7.5	7.5
Expected stock price volatility	64%	56.8%	63% - 83%
Expected dividend yield			

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 years ended December 31, 2007 and 2006, 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 year ended December 31, 2008, 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.

During the year ended December 31, 2008 we granted 886,900 options to purchase shares of our common stock. We recognized $2.9 million in share-based payment expense, and we will recognize $6.2 million over the remaining requisite service period for all options granted through December 31, 2008.

Advertising

We expense the cost of advertising as incurred. Such amounts have not historically 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 also use the provisions of Financial Accounting Standards Board (FASB) Interpretation (FIN) No. 48, *Accounting for Uncertainty in Income Taxes*, (FIN 48), in determining the recognition threshold and measurement attribute for financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. We adopted FIN 48 beginning January 1, 2007, and the adoption did not have any impact on our consolidated financial statements.

Recent Accounting Pronouncements

In June 2008, the FASB ratified EITF Issue No. 07-5, *Determining Whether an Instrument (or Embedded Feature) is Indexed to an Entity s Own Stock* (EITF 07-5). EITF 07-5 addresses the determination of whether a financial instrument (or an embedded feature) is indexed to an entity s own stock. EITF 07-5 is effective for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years. The adoption of EITF 07-5 is not expected to have a material impact on our consolidated financial statements.

In May 2008, the FASB issued SFAS No. 162, *The Hierarchy of Generally Accepted Accounting Principles*. SFAS 162 identifies a hierarchy for selecting accounting principles to be used in preparing financial statements

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that are presented in conformity with U.S. GAAP for nongovernmental entities. SFAS 162 was effective on November 13, 2008.

In December 2007, the FASB issued SFAS No. 141(R), *Business Combinations*. SFAS No. 141(R) requires entities to recognize assets acquired, liabilities assumed, and any non-controlling interest in an acquiree, measured at the fair market value at the acquisition date. SFAS No. 141(R) is applied prospectively to business combinations for which the acquisition date is on or after the beginning of the first fiscal year beginning after December 15, 2008. Since we have no current acquisition plans, we do not believe that the adoption of SFAS No. 141(R) will have a material impact on our financial statements. However, we expect SFAS No. 141(R) will have an impact if we have make an acquisition in future periods.

In December 2007, the FASB issued SFAS No. 160, *Non-controlling Interests in Consolidated Financial Statements*. SFAS No. 160 establishes accounting and reporting standards for the non-controlling interest in a subsidiary and the deconsolidation of a subsidiary. It requires consolidated net income to be reported at amounts that include the amounts attributable to both the parent and a non-controlling interest. SFAS No. 160 is effective for fiscal years ending on or after December 15, 2008. We expect SFAS No. 160 will only have an impact if we make acquisitions in future periods.

Recently Adopted Standards

In June 2007, the FASB ratified EITF 07-3, *Accounting for Nonrefundable Advance Payments for Goods or Services Received for Use in Future Research and Development Activities* (EITF 07-3). EITF 07-3 requires that nonrefundable advance payments for goods or services that will be used or rendered for future research and development activities be deferred and capitalized and recognized as an expense as the goods are delivered or the related services are performed. EITF 07-3 is effective, on a prospective basis, for fiscal years beginning after December 15, 2007. The adoption of EITF 07-3 did not have a material impact on our consolidated financial statements.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities Including an amendment of FASB Statement No. 115*. SFAS No. 159 permits entities to choose to measure many financial instruments and certain other items at fair value. Unrealized gains and losses on items for which the fair value option has been elected will be recognized in earnings at each subsequent reporting date. The adoption of SFAS No. 159 did not have a material impact on our consolidated financial statements.

Reclassifications

Certain reclassifications have been made to the 2006 and 2007 financial statements to conform to the 2008 presentation. Specifically, operating expenses have been broken out between selling, general & administrative and research & development and engineering on the Consolidated Statement of Operations.

2. Accounts Receivable Trade

Accounts receivable consist of the following at:

	December 31,	
	2007	**2008**
Billed	$ 6,898,762	$ 5,158,101
Unbilled	2,790,560	2,162,830
Other	56,822	33,476
	$ 9,746,144	$ 7,354,407
Less: allowance for doubtful accounts	(29,534)	(22,373)
	$ 9,716,610	$ 7,332,034

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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 $0.4 million and $1.2 million for the periods ended December 31, 2007 and 2008, respectively, and are recorded as deferred revenue until earned. Contract retainage amounts were $0.2 million and $0.5 million for the periods ended December 31, 2007 and 2008, respectively, and are recorded as unbilled accounts receivable until final settlement of the underlying contracts.

3. Property and Equipment

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

	December 31,	
	2007	**2008**
Equipment	$ 5,525,092	$ 6,188,850
Furniture and fixtures	607,682	621,776
Software	1,106,893	1,170,767
Leasehold improvements	3,193,048	3,255,589
	10,432,715	11,236,982
Less accumulated depreciation	(4,573,200)	(5,873,025)
	$ 5,859,515	$ 5,363,957

Depreciation for the periods ended December 31, 2006, 2007, and 2008 was approximately $0.8 million, $1.3 million, and $1.3 million, respectively.

4. Intangible Assets

The following is a summary of intangible assets:

	December 31,	
	2007	**2008**
Goodwill	$ 418,073	$ 418,075
Patent costs	1,815,756	2,002,975
Other capitalized intellectual property rights	537,299	742,667
Accumulated amortization	(859,996)	(1,350,074)
	$ 1,911,132	$ 1,813,643

Amortization for the periods ended December 31, 2006, 2007, and 2008 was approximately $346,000, $535,000, and $634,000, respectively**.** No impairment loss was recognized for the period ending December 31, 2006, 2007 or 2008.

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

Year Ended December 31,	
2009	$ 600,128
2010	417,075

2011	275,071
2012	85,219
2013	17,644
Thereafter	431
	$ 1,395,568

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5. Accrued Liabilities

Accrued liabilities consist of the following at:

	December 31, 2007	December 31, 2008
Accrued compensation and related liabilities	$ 1,386,239	$ 1,431,779
Accrued professional fees	526,204	1,214,779
Accrued severance and bonuses	1,341,436	153,617
Accrued royalty	221,810	283,179
Deferred rent	884,660	717,978
Accrued interest	600,822	943,866
Other	370,627	416,110
	$ 5,331,798	$ 5,161,308

6. Debt Agreements

Working Capital Facility

Until May 2008, we had a $3.0 million senior secured revolving credit facility with First National Bank that was collateralized by a security interest in substantially all of our assets. The interest rate on borrowings under our secured revolving credit facility was equal to the prime rate, limited to no less than 6.0% and no greater than 10.0% per annum, with interest payable monthly. This agreement also provided a $1.0 million sub-limit for letters of credit.

In May 2008, we entered into a $10.0 million credit facility with Silicon Valley Bank, which includes a four year term debt of $5.0 million and a four-year revolving line of credit facility available for the remaining $5.0 million, based on the balance of our term loan at December 31, 2008. The interest rate on borrowings under the secured revolving facility was a floating per annum rate of 0.5% above the prime interest rate. Interest on the term loan was a floating per annum rate of 1.0% above the prime interest rate. This agreement also provided a $1.0 million sub-limit for letters of credit. As part of this agreement, we provided blanket collateral of substantially all of the company s assets, and agreed to be subject to certain loan covenants, including but not limited to, financial covenants requiring the on-going attainment of certain financial ratios, and the attainment of a minimum adjusted EBITDA that increases through-out the first year of the term loan period. In connection with the credit facility with Silicon Valley Bank, Carilion Clinic agreed to extend the maturity date of the existing $5.0 million aggregate principal amount in notes payable to Carilion Clinic to December 31, 2012, from the original date of December 30, 2009, and to subordinate the Carilion Clinic debt to that of Silicon Valley Bank.

In December 2008, we entered into a First Amendment to Loan and Security Agreement with Silicon Valley Bank. The Amendment adjusts interest rates under the $10 million debt facility, revises certain minimum EBITDA covenants under the facility, and includes intellectual property to the assets securing the facility. The new interest rate on the revolving line of credit is a floating rate of the prime interest rate plus 1.0%, with a minimum rate of 5.0%. The new interest rate on the term loan is a floating rate of the prime interest rate plus 1.5%, with a minimum rate of 5.5%.

Beginning in January 2009, we will pay interest and principal monthly on the term note over 42 months.

Convertible Debt

As more fully described in Note 12, we have outstanding promissory notes of $5,000,000 in the aggregate which are convertible, at the option of the holder, into shares of our Common Stock. The notes accrue simple interest at a rate of 6% annually and mature on December 31, 2012. As previously discussed, in May 2008, we amended the terms of our notes with Carilion Clinic to extend their due date to December 31, 2012 and to

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subordinate them to our new credit facility with Silicon Valley Bank. We issued warrants to purchase 10,000 shares of Luna Common Stock at a price of $7.98 per share in connection with the amended terms. The warrants expire on December 31, 2017. We valued the warrants using the Black-Scholes option pricing model, and recorded a deferred financing charge of $58,194.

The following table presents a summary of debt.

	December 31	
	2007	2008
Carilion Clinic financing (see note 12)	$ 5,000,000	$ 5,000,000
Silicon Valley Bank Term Loan		5,000,000
	$ 5,000,000	$ 10,000,000
Less: currently payable		1,428,572
Total long-term debt	$ 5,000,000	$ 8,571,428

Future maturities of long-term debt as of December 31, 2008 are as follows:

	Amount
Year ending December 31,	
2009	$ 1,428,571
2010	1,428,571
2011	1,428,571
2012	5,714,287
Total debt	$ 10,000,000

Costs associated with loans outstanding were as follows:

	December 31, 2006	December 31, 2007	December 31, 2008
Interest expense	$ 335,722	$ 318,480	$ 500,311
Amortization of transaction costs			$ 10,478
Total interest expense	$ 335,722	$ 318,480	$ 489,833

7. Income Taxes

Deferred tax assets and liabilities consist of the following components:

	December 31,	
	2007	2008
Research and development credits	$ 293,253	$ 386,161
Net operating loss carryforwards	7,030,624	7,745,382
Accrued liabilities	799,299	491,277
Stock-based compensation	438,191	615,902

Depreciation and amortization	(162,776)	438,121
Bad debt and inventory reserve	26,816	20,828
	8,425,407	9,697,671
Valuation allowance	(7,825,407)	(9,097,671)
Net deferred tax asset	$ 600,000	$ 600,000

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

	2006	2007	2008
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	12.04%	1.69%	1.48%
Change in valuation allowance	(55.94%)	(7.78%)	(20.24%)
Permanent differences and other	6.08	(31.87%)	(19.20%)
Income tax expense (benefit)	0.14%	0.00%	0.00

The income tax provision (benefit) consists of the following for:

	2006	2007	2008
Current:			
Federal	$	$	$
State	12,829		
Deferred Federal			
Deferred State			
Income tax expense (benefit)	$ 12,829	$	$

The realization of our deferred income tax assets is dependent upon sufficient future taxable income in future periods that deductible temporary differences are expected to be available to reduce taxable income. 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 forward at December 31, 2008 of approximately $20 million expiring at varying dates through 2026. We have recorded a refundable income tax receivable of approximately $98,000, representing net operating losses that we have carried back to recover state income taxes previously paid. We have research & development tax credit carryforwards of approximately $0.4 million, which expire at varying dates through 2026.

A tax benefit of $600,000 was recorded at December 31, 2007 and 2008, based upon management s assessment that it was at those dates more likely than not that a portion of the entire deferred tax benefit would be realized in future periods. Our assessment is based on a projection of the amount of federal taxable income that we estimate will be generated in future years, as well as an analysis of certain other evidentiary indicators, notably, that operating expenses have declined as a proportion of revenue for each year that we have been public, and our annual net loss has regularly declined.

We are regularly examined by federal and various state tax authorities. The U.S. federal statute of limitations remains open for the year 2002 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.

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8. Stockholders Equity

Common Stock

Upon the completion of our initial public offering, all of the outstanding shares of Class A Common Stock, Class B Common Stock and Class C Common Stock were converted into one class of common stock on a one-for-one basis. As such, all options and warrants to purchase Class A, B, or C shares are satisfied with Common Stock.

Warrants

In February 2006, we issued warrants for the purchase of 57,542 shares of our Class B Common Stock at an exercise price of $1.77 per share to former Luna Technologies shareholders to prevent dilution by a concurrent stock option grant. Class B Common Stock was converted into Common Stock upon the completion of our public offering, on a one-to-one basis. The warrants were valued using a Black-Scholes option pricing model with the following assumptions: risk-free rate of 4.55%, expected volatility of 64%, and an expected life of 10 years, which equaled the contractual term. The aggregate fair value of the warrant was $418,074, and was recorded as additional purchase price for the Luna Technologies acquisition.

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 recorded as a deferred prepaid financing charge.

Incentive Stock Option Plan

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. We have 3,024,186 options that are outstanding under the 2003 Plan for the year ended December 31, 2008. Pursuant to 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 August 2003, our Board of Directors authorized an option exchange program expiring on September 19, 2003 whereby option holders of Class A Common Stock issued under the 1999 plan were given the opportunity to exchange their options for options to purchase Class B Common Stock on a one for one basis. The new option grants were immediately vested on the date of exchange, September 29, 2003, had an exercise price of $0.35 and a life of 10 years from the date of grant. Upon completion of the option exchange program, the 1999 plan was terminated.

All of the outstanding options from the 1999 Plan had exercise prices in excess of the fair value of our Class A Common Stock as of the date of the exchange. As such, the option exchange was accounted for as a re-pricing in accordance with FIN 44. A total of 172,525 options were exchanged in connection with this transaction, of which 22,335 were outstanding at December 31, 2006, 2007, and 2008, respectively.

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 awards to employees,

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directors, and consultants of our Company to purchase common stock. Awards generally have a life of 10 years and exercise price equal to the closing price of our common stock on the date of the option grant. 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 first day of the fiscal year; (b) 1,695,690 shares; or (c) such other amount as our board of directors may determine. A total of 6,214,552 and 6,777,640 shares were available for future grant under the 2006 Plan as of December 31, 2007 and 2008, respectively.

Vesting typically occurs over a five year period.

Total non-cash stock option expense for the years ended December 31, 2006, 2007 and 2008 was $1.7 million, $2.4 million, and $2.9 million, respectively.

The following table sets forth the activity of our stock options to purchase common stock:

	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, 2006	3,975,555	0.35 1.77	0.65	$ 3,962,864	1,519,445	$ 0.36	$ 1,961,849
Forfeited	(178,444)	0.35	0.35				
Exercised	(271,648)	0.35	0.35				
Granted	1,457,131	1.77	1.77				
Balance at December 31, 2006	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

(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-money options only. The prices represent the closing price of our Common Stock on the NASDAQ Global Market 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, 2006	$ 0.35 $7.08	4,982,594	8.2	1.26	2,322,665	0.60
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

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The following table sets forth information regarding the weighted average grant-date fair value, for non-stock option equity instruments we issued during 2008:

	Number of Shares	Weighted-average grant date fair value
Non-vested at January 1, 2008		$
Non-vested at December 31, 2008	10,000	58,194
Granted during 2008	74,447	387,664
Vested during 2008	64,447	329,470
Forfeited during 2008		

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

	Total intrinsic value of options exercised	Total fair value of options vested
Year ended December 31, 2006	1,030,805	-0-
Year ended December 31, 2007	3,550,911	-0-
Year ended December 31, 2008	1,910,675	1,573,725

For the year ending December 31, 2008, 2007, and 2006, the weighted average grant date fair value of options granted was $4.13, $3.01, and 4.65, respectively. We estimate the fair value of options at the grant date using the Black-Scholes model.

We recognized $2.9 million in share-based payment expense, and we will recognize $6.2 million over the remaining requisite weighted average service period of 7.2 years for all options granted through December 31, 2008.

9. Commitments and Contingencies

Obligation Under Operating Leases

We lease our facilities in Blacksburg, Charlottesville, Danville, Hampton, and Roanoke, Virginia under non-cancelable operating leases that expire between May 2009 and December 2014. Certain of the leases are subject to fixed escalations. We recognize rent expense on such leases on a straight-line basis over the lease term. Rent expense under these leases was approximately $0.9 million, $1.4 million, and $1.3 million for the years ended December 31, 2006, 2007 and 2008, respectively.

Minimum future rentals, as of December 31, 2008, under the aforementioned operating leases for each of the next five periods ending are:

2009	$ 2,136,001
2010	1,206,424
2011	1,236,402
2012	381,416
2013	8,649
Thereafter	
	$ 4,968,892

We subleased our McLean facility during 2008. We will receive future payments of $189,065 during the remaining life of the sublease.

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New Facility Lease

We amended the lease for our Charlottesville facility, which now expires in December 2014. This lease is cancellable at the end of 2009 with a penalty equal to 50% of the lease payments remaining for the remainder of the lease term at that time. Since we include only minimum payments in the table above, we do not include any amounts in 2013 or 2014 for the Charlottesville facility lease.

Obligation Under Capital Leases and Accrued Loss on Sublease

We are obligated under capital leases covering certain equipment that expire at various dates during 2009.

The gross amount of property and equipment and related accumulated amortization recorded under capital leases were as follows at December 31:

	2007	2008
Equipment	$ 398,529	$ 398,529
Software	42,252	42,252
	440,781	440,781
Less accumulated amortization	(388,088)	(436,199)
	$ 52,693	$ 4,582

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 will be used to offset certain capital expenditures for leasehold improvements being made at our Danville facility. The remaining $450,000 is 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.

As of December 31, 2008, we had not fully met the capital expenditure milestone, and, as a result, we may be asked to repay the City of Danville $232,000 due to the pro rata shortfall of capital expenditures falling below required levels. Because of the failure to meet these milestones and the continuing obligation to maintain our investment and employees at this location through March 9, 2009, we have classified $232,000 of the grant as a current deferred credit on our balance sheet in anticipation of potentially returning the funds in March 2009.

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, 2008, approximately $1.4 million of this commitment remained. At the option of the Luna Technologies Division, this commitment may be reduced to $0.8 million in May 2009, under certain circumstances that are beyond our control.

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Royalty Agreement

We have licensed certain third-party technology from a vendor that provides for minimum royalties aggregating $3.2 million payable over the remaining patent terms of the underlying technology.

10. 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 will contribute 25% of the salary deferral elected by each employee up to a maximum deferral of 10% of annual salary.

We may, at our option, contribute additional amounts to the plan. We contributed approximately $0.4 million, $0.5 million, and $0.5 million to the plan for the years ended December 31, 2006, 2007 and 2008, respectively.

11. 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. Were an unfavorable outcome to occur, or if protracted litigation were to ensue, the impact could be material to us.

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. We have answered the complaint and intend to defend ourselves vigorously in this matter. While we believe the former employee s claims are without merit, counsel for such former employee has indicated that he may file additional claims against us. To date, no such additional claims have been filed. However, we cannot predict whether such former employee will file additional litigation against us or our subsidiaries or the ultimate outcome of any such litigation.

On June 22, 2007, Hansen Medical Inc., or 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 alleges 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, declaratory judgment, and fraud. In addition to monetary damages in an unspecified amount, the plaintiff company seeks, 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., or otherwise. We have answered the complaint and intend to defend ourselves vigorously in this matter. Hansen s claim of conversion has since been dismissed. We also filed a counterclaim against Hansen and an amended counterclaim on March 18, 2008. Our counterclaim asserts 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. We seek money damages from Hansen in an amount to be proven at trial and equitable, including declaratory, relief. In April 2008, the parties participated in a non-binding arbitration. In May 2008, the arbitrator rendered a non-binding award. In June 2008, we rejected the non-binding award, and the case is proceeding to trial on the merits, currently scheduled to begin in March 2009. While we cannot currently determine the ultimate liability pursuant to these actions, if we are unsuccessful in our litigation with Hansen, our business may be materially harmed. Not only may we not recover any damages, if Hansen is successful, we may be required to pay substantial damages, and we could lose the ability to freely use or license others to use certain intellectual property, any or all of which could materially harm our business.

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On September 10, 2007, we filed a complaint against our former auditing and accounting firm in connection with the firm s auditing and opining on the accuracy of several years of our consolidated financial statements in preparation for our registration with the Securities and Exchange Commission and our initial public offering of securities. On July 23, 2008, the parties settled the litigation at mediation without any admission of liability, or adjudication of fact or law. The material terms of settlement include payment to Luna and a mutual general release, as well as joint dismissal with prejudice of all claims and counterclaims. We recorded $0.5 million in other income related to this settlement which is composed of the proceeds, less related legal expenses.

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.

12. Carilion Promissory Notes

In 2005, we sold promissory notes to Carilion Clinic (Carilion) that are convertible into Common Stock at a fixed rate of $4.69159 per share. These notes accrue simple interest at a rate of 6.0% per year were originally payable on December 30, 2009 or a later date if extended by the holders of a majority of the aggregate principal amount of the notes, absent acceleration due to an event of default. The holders of a majority of the aggregate principal amount of the notes may also extend the maturity date of these notes for one additional year by providing notice to us and may further extend the maturity date for up to an additional three consecutive one year periods if we are not eligible for or have elected not to pursue SBIR funding. After the first extension, if any, we will have the right to repay any accrued interest in cash rather than common stock. The holders of these notes have the option to convert their notes (subject to certain limitations) into shares of our common stock at maturity or upon the occurrence of certain events prior to this offering. In addition, the holders may convert their notes (subject to certain limitations) into shares of common stock if we are no longer eligible for SBIR grants or have not applied for an SBIR grant within the preceding 12 months.

Our amended and restated investor rights agreement grants Carilion and certain other shareholders the rights to require us to register their shares of Common Stock for resale. Although we could be required to register shares held by these shareholders, there is no liquidated damages provision in the event such shares are not registered and the conversion of such debt can be satisfied with unregistered shares of Common Stock.

As previously discussed, in May 2008, we amended the promissory notes sold to Carilion, by extending the payable date from December 30, 2009 to December 31, 2012, and by subordinating these notes to our Silicon Valley Bank debt facility.

13. Relationship with Major Customers

During the years ended December 31, 2006, 2007 and 2008, approximately 87%, 68% and 73%, respectively, of our consolidated revenues were attributable to contracts with the U.S. government.

During the years ended December 31, 2007 and 2008, receivables with respect to contracts with the U.S government represented 81% and 75% 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.

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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.

There are no significant inter-segment sales. There was an insignificant amount of product sales made outside the U.S.

	Twelve Months Ended Dec 31,		
	2006	2007	2008
Technology Development Revenue	$ 18,787,863	$ 23,356,456	$ 26,838,592
Product and License Revenue	4,757,779	10,325,659	10,059,728
Total Revenue	$ 23,545,642	$ 33,682,115	$ 36,898,320
Technology Development Operating Loss	$ (4,243,331)	$ (3,898,626)	$ (1,322,542)
Product and License Operating Loss	(5,723,223)	(4,355,703)	(5,971,355)
Total Operating Loss	$ (9,966,554)	$ (8,254,329)	$ (7,293,897)

Additional segment information is as follows:

	December 31, 2007	December 31, 2008
Total segment assets:		
Technology Development	$ 27,303,342	$ 26,559,928
Product and License	5,245,536	7,456,639
Total	$ 32,548,878	$ 34,016,567

15. Quarterly Results

The following table sets forth our unaudited historical revenues, operating income and net loss by quarter during 2007 and 2008:

(Dollars in thousands, except per share amounts)	Quarter Ended							
	Mar. 31, 2007	Jun. 30, 2007	Sep. 30, 2007	Dec. 31, 2007	Mar. 31, 2008	Jun. 30, 2008	Sep. 30, 2008	Dec. 31, 2008
Revenues:								
Technology development	$ 5,287	$ 5,852	$ 5,952	$ 6,265	$ 6,602	$ 6,947	$ 7,247	$ 6,043
Product and license	1,784	2,003	2,867	3,671	2,318	2,931	3,457	1,354

Total revenues	7,071	7,855	8,820	9,936	8,920	9,878	10,704	7,397
Operating loss	(2,795)	(2,291)	(1,982)	(1,186)	(1,876)	(1,765)	(1,105)	(2,544)
Net loss	$ (2,682)	$ (2,178)	$ (1,838)	$ (1,151)	$ (1,852)	$ (1,798)	$ (473)	$ (2,161)
Net loss per share:								
Basic	$ (0.27)	$ (0.21)	$ (0.18))	$ (0.11)	$ (0.17)	$ (0.16)	$ (0.04)	$ (0.19)
Diluted	$ (0.27)	$ (0.21)	$ (0.18)	$ (0.11)	$ (0.17)	$ (0.16)	$ (0.04)	$ (0.19)
Weighted average shares:								
Basic	9,969,373	10,136,446	10,293,557	10,465,501	10,781,363	10,935,370	11,055,613	11,118,249
Diluted	9,969,373	10,136,446	10,293,557	10,465,501	10,781,363	10,935,370	11,055,613	11,118,249

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

None.

ITEM 9A. (T) CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

Our Chief Executive Officer and our Chief Financial Officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Securities Exchange Act of 1934 (the Exchange Act) Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this report (the Evaluation Date), have concluded that as of the Evaluation Date, our disclosure controls and procedures are effective, in all material respects, to ensure that information required to be disclosed in the reports that we file and submit under the Exchange Act (i) is recorded, processed, summarized and reported as and when required and (ii) is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2008 that have materially affected, or are 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) 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 the 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 the financial statements.

We conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2008. This evaluation was based on the framework in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

Based on our evaluation under the framework in *Internal Control Integrated Framework*, our Chief Executive Officer and Chief Financial Officer concluded that internal control over financial reporting was effective as of December 31, 2008.

This annual report does not include an attestation report of our 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.

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ITEM 9B. OTHER INFORMATION.

2009 Senior Management Incentive Compensation Plan

On March 11, 2009, the Compensation Committee of our Board of Directors approved our written Senior Management Incentive Compensation Plan for fiscal 2009 (the 2009 Plan). Under the terms of the 2009 Plan, our principal executive officer, our principal financial officer and other named executive officers are eligible for annual bonus payments based upon a percentage of their respective 2009 annual salaries and the achievement of specified objectives. Depending upon actual performance versus objectives, eligible participants could receive between zero and 150% of their individual target bonus percentage. Eligibility is triggered only if we demonstrate positive Adjusted EBITDA (as such term is defined in the 2009 Plan) during the third and fourth quarters of 2009. After this trigger is achieved, a bonus is awarded for each financial component if the respective minimum level for each component is achieved. The awards are calculated based upon the participant s overall target with component weights as follows: 30% based on the achievement of the budgeted 2009 net loss target, 30% based on the achievement of the budgeted Adjusted EBITDA target for the third and fourth quarters of 2009, 30% based upon a targeted rate of cash usage and 10% on the participant s individual 2009 performance goals being met. Bonuses may be paid, if earned, in cash, stock, or a combination of cash and stock.

A copy of the 2009 Plan is filed with this Annual Report on Form 10-K as exhibit 10.38 and is incorporated herein by reference.

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PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 of Form 10-K is incorporated by reference to our Proxy Statement for the 2009 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2008. Certain information required by this item concerning our executive officers is set forth in Part I, Item 1 of this Annual Report on Form 10-K, under Executive Officers of the Registrant.

ITEM 11. EXECUTIVE COMPENSATION.

The information required by Item 11 of Form 10-K is incorporated by reference to our Proxy Statement for the 2009 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2008.

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

The information required by Item 12 of Form 10-K is incorporated by reference to our Proxy Statement for the 2009 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2008.

EQUITY COMPENSATION PLANS

The following table summarizes our equity compensation plans as of December 31, 2008:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	4,800,446	$ 2.53	6,777,640
Equity compensation plans not approved by security holders			
Total	4,800,446	$ 2.53	6,777,640

Our 2006 Equity Incentive Plan provides for annual increases in the number of shares available for issuance thereunder on the first day of each fiscal year, beginning with our 2007 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 by reference to our Proxy Statement for the 2009 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2008.

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ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by Item 14 of Form 10-K is incorporated by reference to our Proxy Statement for the 2009 Annual Meeting of Stockholders anticipated to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2008.

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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.

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Schedule II

Luna Innovations Incorporated

Valuation and Qualifying Accounts

Column A	Column B Balance at beginning of Period	Column C Charged to costs and expenses	Column D Deductions	Column E Valuation allowance against deferred tax asset	Column F Balance at end of period
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
	7,896,049	2,319	(7,161)	1,272,264	9,163,471
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
	7,274,620	12,637	(1,948)	610,740	7,896,049
Year Ended December 31, 2006					
Reserves deducted from assets to which they apply:					
Allowances for doubtful accounts	$	$ 44,005	$ (24,995)	$	$ 19,010
Inventory	56,141	17,153	(32,351)		40,943
Valuation allowance against deferred tax asset	1,670,692			5,543,975	7,214,667
	1,726,833	61,158	(57,346)	5,543,975	7,274,620

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

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EXHIBIT INDEX

Exhibit No.	Exhibit Document
3.1(1)	Amended and Restated Certificate of Incorporation of the Registrant (Exhibit 3.2)
3.2(2)	Amended and Restated Bylaws of the Registrant (Exhibit 3.4)
4.1(3)	Specimen Common Stock certificate of the Registrant (Exhibit 4.1)
4.2(2)	2003 Stock Plan (Exhibit 10.7)
4.3(4)	2006 Equity Incentive Plan (Exhibit 10.9)
4.4(2)	Form of Senior Convertible Promissory Note (Exhibit 4.2)
4.5(2)	Form of Warrant to Purchase Shares of Common Stock of Luna Innovations Incorporated (Exhibit 4.6)
4.6(2)	Form of Stock Option Agreement (Exhibit 4.7)
4.7(5)	Subordination Agreement, Amendments to Senior Promissory Notes, and Warrant to Purchase Common Stock issued to Carilion Clinic (Exhibit 99.1)
10.1(2)	Form of Indemnification Agreement for directors and executive officers (Exhibit 10.1)
10.2(6)	Employment Agreement by and between the Company and Kent A. Murphy (Exhibit 10.1)
10.3(7)	Employment Agreement by and between the Company and Dale E. Messick (Exhibit 10.1)
10.4(8)	Amended and Restated Employment Agreement by and between the Company and Scott A. Graeff (Exhibit 10.1)
10.5(3)	Amended Loan Agreement, dated as of May 12, 2006, by and between Luna Innovations Incorporated and First National Bank (Exhibit 10.6)
10.6(2)	Amended and Restated Investor Rights Agreement, dated December 30, 2005, by and among Luna Innovations Incorporated, Carilion Health System and certain stockholders (Exhibit 10.8)
10.7(9)	Amended Lease, dated July 20, 2006, by and between Carilion Medical Center and Luna Innovations Incorporated. (Riverside Center, Roanoke, Virginia) (Exhibit 10.1)
10.8(10)	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)
10.9(3)	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)
10.10(11)	Commercial Lease, dated March 19, 2007, between Canvasback Real Estate & Investments LLC and Luna Innovations Incorporated (705 Dale Avenue, Charlottesville, Virginia) (Exhibit 10.1)
10.11(2)	Full Service Office Lease, dated August 2003, between Hampton R&D Properties, LLC and Luna Innovations Incorporated (130 Research Drive, Hampton, Virginia) (Exhibit 10.15)
10.12(2)	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)
10.13(2)	Grant Agreement, dated March 25, 2004, by and between the City of Danville, Virginia, and Luna Innovations Incorporated (Exhibit 10.21)
10.14(3)	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)

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Exhibit No.	Exhibit Document
10.15(3)	License Agreement No. DN-951, dated December 20, 2000, by and between NASA and Luna Technologies, Inc. (Exhibit 10.23)
10.16(3)	License Agreement No. DE-384, dated October 28, 2004, by and between NASA and Luna Technologies, Inc. (Exhibit 10.24)
10.17(3)	Fiber Optic Patent License, dated September 22, 2003, by and between United Technologies Corporation and Luna Innovations Incorporated (Exhibit 10.25)
10.18(3)	Amended and Restated License Agreement, dated March 19, 2004, by and between Virginia Tech Intellectual Properties, Inc. and Luna Innovations Incorporated (Exhibit 10.26)
10.19(12)	Co-Operation Agreement, dated August 10, 2006, by and between Luna Technologies, Inc. and Acterna France SAS. (Exhibit 10.6)
10.20(13)	Asset Transfer and License Agreement by and between Luna Innovations Incorporated and Coherent, Inc. (Exhibit 10.21)
10.21(10)	Form of Stock Sale Restriction Letter Agreement (Exhibit 10.28)
10.22(14)	Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Kent A. Murphy, dated as of January 23, 2007. (Exhibit 10.1)
10.23(14)	Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Dale E. Messick, dated as of January 23, 2007. (Exhibit 10.2)
10.24(14)	Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Scott A. Graeff, dated as of January 23, 2007. (Exhibit 10.3)
10.25(14)	Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Robert P. Lenk, dated as of January 23, 2007. (Exhibit 10.4)
10.26(14)	Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Scott A. Meller, dated as of January 23, 2007. (Exhibit 10.5)
10.27(14)	Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Michael F. Gunther, dated as of January 23, 2007. (Exhibit 10.6)
10.28(15)	Development and Supply Agreement by and between Luna Innovations Incorporated and Intuitive Surgical, Inc. dated June 11, 2007 (Exhibit 10.1)
10.29(16)	Second Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Kent A. Murphy, dated as of January 23, 2007. (Exhibit 10.1)
10.30(16)	Second Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Dale E. Messick, dated as of January 23, 2007. (Exhibit 10.2)
10.31(16)	Second Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Scott A. Graeff, dated as of January 23, 2007. (Exhibit 10.3)
10.32(16)	Amended and Restated Stock Sale Restriction Agreement by and between Luna Innovations Incorporated and Robert P. Lenk, dated as of January 23, 2007. (Exhibit 10.4)
10.33(17)	Amended and renegotiated commercial lease by and between Luna Innovations Incorporated and Canvasback Real Estate & Investments LLC dated March 18, 2008 (Exhibit 10.5)
10.34(18)	Loan and Security Agreement between Silicon Valley Bank and Luna Innovations Incorporated dated May 21, 2008 (Exhibit 99.1)
10.35(19)	2008 Senior Management Bonus Plan (Exhibit 10.2)

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Exhibit No.	Exhibit Document
10.36	First Amendment to Loan and Security Agreement between Silicon Valley Bank and Luna Innovations Incorporated dated December 31, 2008.
10.37	Non-Employee Director s Deferred Compensation Plan
10.38	2009 Senior Management Incentive Compensation Plan
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, dated June 2, 2006. 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 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.

(3) 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.

(4) 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.

(5) Incorporated by reference to the exhibits to the Registrant s Current Report on Form 8-K dated May 27, 2008 (file No. 000-52008). The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.

(6) Incorporated by reference to the exhibit to the Registrant s Current Report on Form 8-K, Commission File No. 000-52008, dated July 14, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.

(7) Incorporated by reference to the exhibit to the Registrant s Current Report on Form 8-K, Commission File No. 000-52008, dated August 29, 2006. 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, dated December 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, dated July 20, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.

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(10) 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.

(11) 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.

(12) Incorporated by reference to the exhibit to Registrant s Quarterly Report on Form 10-Q, Commission File No. 000-52008, filed on November 13, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form 10-Q.

(13) 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.

(14) Incorporated by reference to the exhibit to the Registrant s Current Report on Form 8-K, Commission File No. 000-52008, dated January 23, 2007. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.

(15) Incorporated by reference to the exhibit to the Registrant s Current Report on Form 8-K, Commission File No. 000-52008, dated June 11, 2007. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.

(16) Incorporated by reference to the exhibit to the Registrant s Current Report on Form 8-K, Commission File No. 000-52008, dated March 3, 2008. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.

(17) 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.

(18) Incorporated by reference to the exhibits to the Registrant s Current Report on Form 8-K, Commission File No. 000-52008, dated May 23, 2008. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.

(19) Incorporated by reference to the exhibit to Registrant s Quarterly Report on Form 10-Q, Commission File No. 000-52008, filed on August 7, 2008. The number given in parentheses indicates the corresponding exhibit number in such Form 10-Q.
Confidential treatment is requested.

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SIGNATURES

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

LUNA INNOVATIONS INCORPORATED

By: /s/ KENT A. MURPHY, PH.D.
Kent A. Murphy, Ph.D.

President and Chief Executive Officer

March 13, 2009

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Kent A. Murphy, Ph.D. and Dale E. Messick, and each of them acting individually, as his or her true and lawful attorneys-in-fact and agents, with full power of each to act alone, with full powers of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K with all exhibits thereto and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, with full power of each to act alone, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or his, her, or their substitutes, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ KENT A. MURPHY, PH.D. **Kent A. Murphy, Ph.D.**	President, Chief Executive Officer and Director (Principal Executive Officer)	March 13, 2009
/s/ DALE E. MESSICK **Dale E. Messick**	Chief Financial Officer (Principal Financial and Accounting Officer)	March 13, 2009
/s/ N. LEIGH ANDERSON, PH.D. **N. Leigh Anderson, Ph.D.**	Director	March 13, 2009
/s/ JOHN C. BACKUS **John C. Backus**	Director	March 13, 2009
/s/ MICHAEL DANIELS **Michael Daniels**	Director	March 13, 2009
/s/ BOBBIE KILBERG **Bobbie Kilberg**	Director	March 13, 2009

/s/ Edward G. Murphy, M.D. **Edward G. Murphy, M.D.**	Director	March 13, 2009
/s/ Richard W. Roedel **Richard W. Roedel**	Director	March 13, 2009