Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

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

For the quarterly period ended March 31, 2009

OR

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

For the transition period from to

COMMISSION FILE NUMBER 000-52008

LUNA INNOVATIONS INCORPORATED

(Exact name of registrant as specified in its charter)

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

One Riverside Circle, Suite 400
Roanoke, VA 24016
(Address of Principal Executive Offices)

(540) 769-8400
(Registrant's Telephone Number, Including Area Code)

(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

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

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

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

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

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: As of May 11, 2009, there were 11,181,000 shares of the registrant's common stock outstanding.

CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This Quarterly Report on Form 10-Q, including the sections entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Quantitative and Qualitative Disclosure About Market Risk" under Items 2 and 3, respectively, of Part I of this report, and the sections entitled "Legal Proceedings," "Risk Factors," "Unregistered Sales of Equity Securities and Use of Proceeds" and "Other Information" under Items 1, 1A, 2 and 5, respectively, of Part II of this report, may contain 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. Forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified. These risks and other factors include, but are not limited to, those listed under the section entitled "Risk Factors" in Item 1A of Part II of this Quarterly Report on Form 10-Q. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "expect," "plan," "anticipate," "believe," "estimate," "predict," "intend," "potential," "continue," "seek" or the negative of these terms or other comparable terminology. These statements are only predictions. Actual events and/or results may differ materially.

We believe that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements. Except as required by applicable law, including the securities laws of the United States and 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. Investors and potential investors should not place undue reliance on our forward-looking statements. Before you invest in our common stock, you should be aware that the occurrence of any of the events described in the "Risk Factors" section and elsewhere in this Quarterly Report on Form 10-Q could harm our business, prospects, operating results and financial condition. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

LUNA INNOVATIONS INCORPORATED
QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTER ENDED MARCH 31, 2009

TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION

ITEM 1. *FINANCIAL STATEMENTS*

Luna Innovations Incorporated
Consolidated Balance Sheets

	March 31, 2009 (unaudited)	December 31, 2008
Assets		
Current assets		
Cash and cash equivalents	$ 13,179,040	$ 15,518,960
Accounts receivable, net	7,921,282	7,332,034
Refundable income taxes	98,092	98,092
Inventory	2,850,327	2,828,991
Other current assets	347,915	342,598
Total current assets	24,396,656	26,120,675
Property and equipment, net	5,037,947	5,363,957
Intangible assets, net	274,051	1,813,643
Deferred tax asset	—	600,000
Other assets	100,564	118,292
Total assets	**$ 29,809,218**	**$ 34,016,567**
Liabilities and stockholders' equity		
Current liabilities		
Current portion of long term debt obligation	$ 4,642,857	$ 1,428,572
Current portion of capital lease obligation	14,597	17,396
Accounts payable	3,215,412	2,667,192
Accrued liabilities	4,349,627	5,161,308
Litigation reserve	36,303,643	—
Deferred credits	2,054,542	1,854,282
Total current liabilities	50,580,678	11,128,750
Long-term debt obligation	5,000,000	8,571,428
Total liabilities	55,580,678	19,700,178
Stockholders' equity:		
Common stock		
Common stock, par value $0.001, 100,000,000 shares authorized, 11,181,197 and 11,137,882 shares issued and outstanding	11,181	11,138
Additional paid-in capital	38,761,220	37,960,928
Accumulated deficit	(64,543,861)	(23,655,677)
Total stockholders' (deficit)/equity	(25,771,460)	14,316,389
Total liabilities and stockholders' (deficit)/equity	**$ 29,809,218**	**$ 34,016,567**

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

Luna Innovations Incorporated
Consolidated Statements of Operations

	Three Months Ended March 31,	
	2009 (unaudited)	2008 (unaudited)
Revenues:		
Technology development revenues	$ 6,882,372	$ 6,601,748
Product and license revenues	1,611,184	2,318,176
Total revenues	8,493,556	8,919,924
Cost of revenues:		
Technology development costs	4,897,756	4,193,646
Product and license costs	878,601	1,344,411
Total cost of revenues	5,776,357	5,538,057
Gross profit	2,717,199	3,381,867
Operating expense:		
Selling, general and administrative	4,235,588	4,517,290
Research, development, and engineering	995,643	740,830
Litigation reserve	36,303,643	—
Impairment of intangible assets	1,310,598	—
Total operating expense	42,845,472	5,258,120
Operating loss	(40,128,273)	(1,876,253)
Other (income)/expense		
Other expense	923	777
Interest expense/(income)	158,988	(25,082)
Total other expense/(income)	159,911	(24,305)
Loss before income taxes	(40,288,184)	(1,851,948)
Income tax expense	600,000	—
Net loss	$(40,888,184)	$(1,851,948)
Net loss per share:		
Basic	$ (3.66)	$ (0.17)
Diluted	$ (3.66)	$ (0.17)
Weighted average shares:		
Basic	11,161,423	10,781,363
Diluted	11,161,423	10,781,363

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

Luna Innovations Incorporated
Consolidated Statements of Cash Flows

	Three months ended March 31,	
	2009 (unaudited)	2008 (unaudited)
Cash flows used in operating activities		
Net loss	$ (40,888,184)	$ (1,851,948)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	619,788	481,832
Impairment of Intangible Assets	1,310,598	—
Share-based compensation	789,511	759,642
Deferred tax expense	600,000	—
Change in assets and liabilities:		
Accounts receivable	(589,248)	1,659,207
Inventory	(21,336)	(309,153)
Other current assets	(5,317)	58,660
Other assets	17,728	—
Accounts payable and accrued expenses	(263,459)	(1,211,503)
Litigation reserve	36,303,643	—
Deferred credits	200,260	(205,822)
Net cash used in operating activities	(1,926,016)	(619,085)
Cash flows used in investing activities		
Acquisition of property and equipment	(34,037)	(219,602)
Capitalized intellectual property costs	(30,749)	(93,771)
Net cash used in investing activities	(64,786)	(313,373)
Cash flows provided by financing activities		
Payments on capital lease obligations	(2,799)	(11,380)
Payments on debt obligation	(357,143)	—
Proceeds from the exercise of options and warrants	10,824	75,669
Net cash (used in)/ provided by financing activities	(349,118)	64,289
Net change in cash	(2,339,920)	(868,169)
Cash—beginning of period	15,518,960	12,046,945
Cash—end of period	$ 13,179,040	$11,178,776
Supplemental disclosure of cash flow information		
Cash paid for interest	$ 85,815	$ 10,099

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

Luna Innovations Incorporated
Notes to Unaudited Consolidated Financial Statements

1. Basis of Presentation and Significant Accounting Policies

Nature of Operations

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 Product and License 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.

Unaudited Interim Financial Information

The accompanying unaudited consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (US GAAP) and with the instructions to Form 10-Q and Article 10 of Regulation S-X of the Securities Exchange Act of 1934. Accordingly, they do not include all of the information and footnotes required by US GAAP for audited financial statements. The unaudited consolidated financial statements have been prepared on the same basis as the annual financial statements and in the opinion of management reflect all adjustments, consisting of only normal recurring accruals, with the exception of the litigation reserve explained below, considered necessary to present fairly our financial position at March 31, 2009 and results of operations and cash flows for the three months ended March 31, 2009 and 2008. The results of operations for the three months ended March 31, 2009 are not necessarily indicative of the results that may be expected for the year ending December 31, 2009.

The consolidated interim financial statements, including our significant accounting policies, should be read in conjunction with the audited Consolidated Financial Statements and the notes thereto for the year ended December 31, 2008, included in the Company's Annual Report on Form 10-K as filed with the Securities and Exchange Commission on March 16, 2009. As used herein, the terms "Luna", "Company", "we", "our" and "us" mean Luna Innovations Incorporated and its consolidated subsidiaries.

Consolidation Policy

Our consolidated financial statements are prepared in accordance with US GAAP and include the accounts of the Company, our wholly owned subsidiaries and other entities in which we have a controlling financial interest. We eliminate from our financial results all significant inter-company transactions. We do not have any investments in entities we believe are variable interest entities for which we are the primary beneficiary.

Hansen 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 alleged misappropriation of trade secrets, aiding and abetting breach of fiduciary duty, unfair competition, breach of contract, conversion, intentional interference with contract, breach of implied covenant of good faith and fair dealing, declaratory judgment, and fraud. In addition to money damages in an unspecified amount, Hansen sought, among other things, equitable relief, including an injunction against our using the allegedly misappropriated Hansen trade secrets in connection with our work with Intuitive Surgical, Inc., or otherwise. We answered the complaint and vigorously defended ourselves in this matter. Hansen's claim of conversion was since dismissed. We also filed a counterclaim against Hansen and an amended counterclaim on March 18, 2008 asserting claims for declaratory judgment, misappropriation of trade secrets, breach of contract, unfair competition under the California Business and Professional Code, breach of implied covenant of good faith and fair dealing and unjust enrichment. However, we subsequently withdrew all of our counterclaims prior to the matter proceeding to trial on the merits in March 2009.

Prior to and during the course of the trial, Hansen's claims for conversion, unfair competition, aiding and abetting breach of fiduciary duty and intentional interference with contract were all dismissed. Hansen's remaining claims for misappropriation of trade secrets, breach of contract, breach of implied covenant of good faith and fair dealing and fraud were submitted to a jury following a

trial on the merits that concluded in April 2009. On April 21, 2009, a jury found in favor of Hansen on its breach of contract, breach of the covenant of good faith and fair dealing and misappropriation of trade secrets claims, and it awarded a verdict for $36.3 million against us. The jury did not find in favor of Hansen on its fraud claims against us, but it did find that our misappropriation was willful or malicious. The verdict and recovery of damages is subject to customary post-trial motions and potential appeals. We will be asking the court to set aside the verdict in various respects, including through a reduction in the amount of the damages, and Hansen will likely be seeking to recover additional amounts for its attorneys' fees and exemplary damages and to obtain certain equitable relief. These additional amounts could be significant, even in relation to the damages awarded by the jury verdict.

While we cannot currently determine the ultimate liability pursuant to this verdict, we recorded a contingent liability of $36.3 million in estimation of the potential loss on this litigation during the three months ended March 31, 2009. If we are unable to reduce the verdict prior to the rendering of a final judgment by the court or to reach a reasonable settlement with Hansen, and depending on any equitable relief granted, we would be liable to pay substantial damages in excess of our liquid assets, and we could lose the ability to freely use or license others to use certain intellectual property. Any or all of the foregoing would materially harm our business, fundamentally change our business, and could result in our being required to take actions to discontinue operations, liquidate part or all of our operations or file a petition for bankruptcy in order to reorganize or liquidate.

Going Concern

The accompanying consolidated financial statements have been prepared assuming that we will continue as a going concern, which contemplates the realization of assets and the liquidation of liabilities in the normal course of business. We have a history of net losses from 2005 through the three months ended March 31, 2009, attributable to our operations and other charges. We have historically managed our liquidity through cost reduction initiatives and financing and capital markets transactions.

However, the loss contingency that we recorded in connection with a jury verdict rendered against us in the aforementioned litigation with Hansen has had a significant negative effect on our business. As further described above, Hansen previously filed a lawsuit against us and, on April 21, 2009, a jury awarded Hansen damages totaling approximately $36.3 million, an amount in excess of our current assets. The court has not yet entered a final judgment with respect to the jury's findings.

Both we and Hansen plan to file post-trial motions with the court and currently expect that an appeal of the judgment is likely if it is not significantly reduced or an alternative arrangement is not reached. Accordingly, we expect to continue to incur significant expenditures in future periods related to this matter, and the ultimate outcome of this litigation may have a significant impact on our ability to continue to operate our business in the manner that we have historically. As a part of its post-trial motions, Hansen will likely be seeking to recover additional amounts for its attorneys' fees and exemplary damages, which could be significant, even in relation to the damages awarded by the jury verdict.

In addition, as a result of the estimated loss contingency recognized during the three months ended March 31, 2009 in connection with our litigation with Hansen, we are not in compliance with certain of the financial covenants associated with our term loan and revolving line of credit with Silicon Valley Bank (see Note 2). Accordingly, Silicon Valley Bank may declare the balance of those debt facilities immediately due and payable. Furthermore, this non-compliance may result in an interest rate increase under our debt facility in an amount equal to the default rate of an additional five percentage points. Depending on the actions taken by Silicon Valley Bank with respect to those debt facilities, we may be forced to repay approximately $5.0 million in outstanding obligations in the next twelve months, and those debt facilities may no longer be available to us.

Also, the accrual of the loss contingency for our litigation with Hansen may result in our being unable to remain listed on the NASDAQ Global Market. As of March 31, 2009, our stockholders' deficit was approximately $26 million, well below the minimum standard of stockholders' equity of $10 million for continued listing on the NASDAQ Global Market. Furthermore, our market capitalization was well below $50 million, the alternative minimum market capitalization standard for such market. Accordingly, we may not be able to maintain the quantitative standards for continued listing on the NASDAQ Global Market, and 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. However, we are not presently in compliance with the continued listing requirements and standards of the NASDAQ Capital Market as well. 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 may be difficult for us to raise additional capital if we are not listed on a major exchange.

Finally, in the second half of 2008, the increased turmoil in the U.S. and global capital markets and a global slowdown of economic growth created a substantially more difficult business environment. Our ability to access the capital markets is expected to be extremely limited. These conditions have not improved through May 2009, and we experienced continued negative cash flow from operations in the three months ended March 31, 2009. The deteriorating economic and market conditions are not likely to improve significantly during 2009 and may continue past 2009 and could get worse.

As a result of the effects of our litigation with Hansen, the resulting impact on our debt facility with Silicon Valley Bank and the potential delisting of our common stock from the NASDAQ Global Market, as well as the general economic conditions, we may be unable to pay our obligations in the normal course of business in 2009 or service our debt in a timely fashion. Our ability to continue as a going concern is dependent on many events outside of our direct control, including, among other things, the successful resolution of our litigation with Hansen and our continued ability to obtain funding for working capital to operate our business, whether from Silicon Valley Bank or another source. Our recent operating losses and negative cash flows, negative working capital, stockholders' deficit and the uncertainty of our ability to successfully resolve our litigation with Hansen, among other factors, raise substantial doubt as to our ability to continue as a going concern. The accompanying consolidated financial statements do not include any further adjustments that might result from the ultimate and final outcome of these uncertainties.

Use of Estimates

The preparation of our consolidated financial statements in accordance with US 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.

Net Loss Per Share

We compute net loss per share in accordance with Statement of Financial Accounting Standards (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 4,834,418 and 3,441,142 common stock equivalents (which include outstanding warrants and stock options) are not included for the three months ended March 31, 2009 and 2008, respectively, as they are anti-dilutive to earnings per share. In addition, the conversion of the $5.0 million in convertible promissory notes would have been anti-dilutive.

Stock-Based Compensation

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 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 No. 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:

	Three Months ended March 31, 2009	Three months ended March 31, 2008
Risk-free interest rate	3.38%	3.78%
Expected life of options	7.5	7.5
Expected stock price volatility	83%	63%

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. Expected volatility for the three months ended March 31, 2008, is based upon the average volatility of comparable public companies due to the lack of historical market price data for our stock on such date. Expected volatility for the three months ended March 31, 2009 is based upon the actual volatility of Luna common stock. The expected life and estimated post employment termination behavior is based upon historical experience of homogeneous groups within our company.

A summary of the status of our 2003 Stock Plan and 2006 Equity Incentive Plan is presented below for the periods indicated:

	Options Outstanding				Options Exercisable		
	Number of Shares	Price per Share Range	Weighted Average	Aggregate Intrinsic Value (1)	Number of Shares	Weighted Average	Aggregate Intrinsic Value (1)
Balance, December 31, 2008	4,800,446	$0.35 - $8.20	$ 2.53	$2,853,667	2,967,610	$ 1.28	$ 2,665,403
Granted	257,000	$ 1.70	$ 1.70				
Exercised	(30,554)	$ 0.35	$ 0.35				
Canceled	(240,704)	$ 0.35 - $6.55	$ 2.10				
Balance, March 31, 2009	4,786,188	$0.35 - $8.20	$ 2.53	$ 1,149,760	3,015,116	$ 1.40	$1,120,766

At March 31, 2009, our 4.8 million outstanding stock options had a weighted average remaining contractual term of 7.2 years, and our 3.0 million outstanding and exercisable stock options had a weighted average remaining contractual term of 6.8 years.

For the three months ended March 31, 2009 and 2008, we recognized $789,511 and $759,642 in share-based payment expense, respectively. We expect to recognize approximately $5.7 million over the remaining requisite service period of five years.

Income Taxes

Our effective quarterly tax rate is estimated based upon the effective tax to be applicable to the full fiscal year. A deferred tax asset of $600,000 was recorded as of December 31, 2008, based upon management's assessment at that time that the benefit was more likely than not to be realized in future periods. At March 31, 2009, we provided a valuation allowance against the entire deferred tax asset due to management's current assessment that the benefit is no longer more likely than not to be realized due to the impact of the verdict in the Hansen litigation and other factors.

Impairment of Goodwill and Other Intangible Assets

As a result of the expense recognized with the Hansen litigation and in accordance with Statement of Financial Accounting Standards No. 142, *"Goodwill and Other Intangible Assets"* and Statement of Financial Accounting Standards No. 144, *"Accounting for the Impairment or Disposal of Long Lived Assets,"* we assessed the continued value of its goodwill and other intangible assets. Our analysis of future expected net cash flows, both on a discounted and on an undiscounted basis, indicated that these assets were impaired as of March 31, 2009 and, accordingly, we recorded an asset impairment charge of $1.3 million.

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 March 31, 2009 and December 31, 2008 were approximately $45,000 and $43,000, respectively.

Recent Accounting Pronouncements

With the exception of those discussed below, there have been no recent accounting pronouncements or changes in accounting pronouncements during the three months ended March 31, 2009, as compared to the recent accounting pronouncements described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2008, that we believe are of significance, or potential significance, to us.

Adopted Accounting Pronouncements

Effective January 1, 2009, we adopted Emerging Issues Task Force (EITF) Issue No. 08-7, "*Accounting for Defensive Intangible Assets*" (EITF 08-7) that clarifies accounting for defensive intangible assets subsequent to initial measurement. EITF 08-7 applies to acquired intangible assets which an entity has no intention of actively using, or intends to discontinue use of, the intangible asset but holds it to prevent others from obtaining access to it (i.e., a defensive intangible asset). Under EITF 08-7, the Task Force reached a consensus that an acquired defensive asset should be accounted for as a separate unit of accounting (i.e., an asset separate from other assets of the acquirer); and the useful life assigned to an acquired defensive asset should be based on the period during which the asset would diminish in value. The adoption did not have a material impact on our consolidated results of operations or financial condition.

Effective January 1, 2009, we adopted Financial Accounting Standards Board Staff Position (FSP) No. FAS 142-3, " *Determination of the Useful Life of Intangible Assets*" (FSP No. FAS 142-3) that amends the factors considered in developing renewal or extension assumptions used to determine the useful life of a recognized intangible asset under SFAS No. FAS 142. FSP No. 142-3 requires a consistent approach between the useful life of a recognized intangible asset under SFAS No. 142 and the period of expected cash flows used to measure the fair value of an asset under SFAS No. 141(R). The FSP also requires enhanced disclosures when an intangible asset's expected future cash flows are affected by an entity's intent and/or ability to renew or extend an arrangement. The adoption did not have a material impact on our consolidated results of operations or financial condition.

Effective for the quarter ended March 31, 2009, we adopted SFAS No. 161, "*Disclosures about Derivative Instruments and Hedging Activities—an amendment of FASB Statement No. 133*" (SFAS 161). The standard requires additional quantitative disclosures (provided in tabular form) and qualitative disclosures for derivative instruments. The required disclosures include how derivative instruments and related hedged items affect an entity's financial position, financial performance, and cash flows; the relative volume of derivative activity; the objectives and strategies for using derivative instruments; the accounting treatment for those derivative instruments formally designated as the hedging instrument in a hedge relationship; and the existence and nature of credit-risk-related contingent features for derivatives. SFAS 161 does not change the accounting treatment for derivative instruments. Since SFAS 161 only required additional disclosure and we do not have any derivative instruments, the adoption did not impact our consolidated results of operations, financial condition or cash flows.

Effective January 1, 2009, we adopted FSP No. FAS 157-2, "*Effective Date of FASB Statement No. 157*" (FSP No. FAS 157-2). FSP FAS 157-2 delayed the effective date of SFAS 157 for all non-financial assets and non-financial liabilities, except for items that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually), until the beginning of the first quarter of fiscal 2009. These include goodwill and other non-amortizable intangible assets. The adoption of SFAS 157 to non-financial assets and liabilities did not have a significant impact on our consolidated financial statements.

Effective January 1, 2009, we adopted SFAS No. 141 (revised 2007), "*Business Combinations*" (SFAS 141(R)). Under SFAS 141(R), an entity is required to recognize the assets acquired, liabilities assumed, contractual contingencies, and contingent consideration at their fair value on the acquisition date. It further requires that acquisition-related costs be recognized separately from the acquisition and expensed as incurred; that restructuring costs generally be expensed in periods subsequent to the acquisition date; and that changes in accounting for deferred tax asset valuation allowances and acquired income tax uncertainties after the measurement period be recognized as a component of provision for taxes. In addition, acquired in-process research and development is capitalized as an intangible asset and amortized over its estimated useful life. SFAS 141(R) is effective on a prospective basis for all business combinations for which the acquisition date is on or after the beginning of January 1, 2009, with the exception of the accounting for valuation allowances on deferred taxes and acquired contingencies under SFAS 109. With the adoption of SFAS 141(R), any tax related adjustments associated with acquisitions that closed prior to January 1, 2009 will be recorded through income tax expense, whereas the previous accounting treatment would require any adjustment to be recognized through the purchase price. The adoption of SFAS 141(R) did not have any impact on our consolidated financial statement as of and for the three months ended March 31, 2009.

2. Line of Credit

On May 21, 2008, we 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 unused balance. At March 31, 2009, there was an outstanding balance of approximately $4.6 million under the term loan and no outstanding balance under the revolving facility. 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.

Our revolving debt facility and term loan provide that if an event of default, as such term is defined in the Loan and Security Agreement, occurs, the obligations will bear interest at a rate that is five percentage points per annum above the applicable rate following such event. Events of default include, but are not limited to, such events as a material adverse change (as defined in the Loan and Security Agreement), insolvency, missed payments, judgments against us in excess of $250,000, breach of covenants, and other events specified in the Loan and Security Agreement. As a result of the estimated litigation reserve liability recognized during the three months ended March 31, 2009 recorded based on the jury verdict awarded against us in connection with our litigation with Hansen, we are not in compliance with certain of the financial covenants associated with the term loan and the revolving line of credit. Accordingly, Silicon Valley Bank may declare the balance of those debt facilities immediately due and payable. Furthermore, this non-compliance may result in an interest rate increase under our debt facility in an amount equal to the aforementioned default rate of an additional five percentage points. Since the loan may be considered due and payable, we have reflected the entire balance of the loan as current as of March 31, 2009.

3. Capital Structure

For the three months ended March 31, 2009, our capital structure changed as follows:

	Common Stock		Additional Paid-in Capital
	Shares	$	$
Balances, December 31, 2008	11,137,882	$ 11,138	$37,960,928
Exercise of stock options	30,554	30	10,781
Share-based compensation	12,761	13	789,511
Balances, March 31, 2009	11,181,197	$11,181	$ 38,761,220

4. Operating Segments

Our operations are divided into two operating segments—Technology Development and Product and Licensing.

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

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

The Chief Executive Officer and his direct reports collectively represent our chief operating decision makers, and they evaluate segment performance based primarily on revenue and operating income or loss. The accounting policies of our segments are the same as those described in the summary of significant accounting policies (see Note 1 to our Financial Statements, “Organization and Summary of Significant Accounting Policies,” presented in our Annual Report on Form 10-K as filed with the Securities and Exchange Commission on March 16, 2009).

The table below presents revenues and operating loss for reportable segments:

	Three Months Ended March 31,	
	2009	2008
Technology Development Revenue	$ 6,882,372	$ 6,601,748
Product and License Revenue	1,611,184	2,318,176
Total Revenue	$ 8,493,556	$ 8,919,924
Technology Development Operating Loss	$ (741,650)	$ (290,067)
Product and License Operating Loss	(39,386,623)	(1,586,186)
Total Operating Loss	$ (40,128,273)	$ (1,876,253)

Additional segment information is as follows:

	March 31, 2009	December 31, 2008
Total segment assets:		
Technology Development	23,786,417	$26,559,928
Product and License	6,022,801	7,456,639
Total	$29,809,218	$ 34,016,567

There are no material inter-segment revenues for any period presented.

The United States Government accounted for approximately 82% and 72% of total consolidated revenues for the three months ended March 31, 2009 and 2008.

International revenues (customers outside of the United States) accounted for 5.4% and 3.8% of total revenues for the three months ended March 31, 2009 and 2008.

5. Contingencies and Guarantees

We are from time to time involved in certain legal proceedings in the ordinary course of conducting our business. While the ultimate liability pursuant to these actions cannot currently be determined, we believe these legal proceedings, other than the potential award to Hansen described in Note 1, will not have a material adverse effect on our financial position or results of operations.

For discussion of our litigation with Hansen, see Note 1 at the subheading "Hansen Litigation" included in the notes to these unaudited consolidated financial statements as well as elsewhere in this Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2009.

We have an outstanding letter of credit at March 31, 2009, of $479,667 to the Industrial Development Authority of Montgomery County, Virginia, to support a lease of office space. This letter of credit expires in 2011.

In September 2008, our Luna Technologies Division executed a $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 March 31, 2009, approximately $1.5 million of the $2.0 million commitment remained.

We have entered into indemnification agreements with our officers and directors, to the extent permitted by law, pursuant to which we have agreed to reimburse the officers and directors for legal expenses in the event of litigation and regulatory matters. The terms of these indemnification agreements provide for no limitation to the maximum potential future payments. We have a directors and officers insurance policy that may, in certain instances, mitigate the potential liability and payments.

In March 2004, we received a grant of $0.9 million 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. 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 in 2008 approximately $668,000 of the grant as other income. As of March 31, 2009, we had not fully met the capital expenditure milestone, and as a result, we may be required to repay some or all of the remaining approximately $232,000 of the original grant. We have recorded this potential liability within deferred liabilities in the accompanying balance sheet as of March 31, 2009.

ITEM 2. *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: instrumentation and test & measurement, sensing, and instrumentation products and healthcare 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 a quarter 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 revenues were $8.5 million and $8.9 million during the three months ended March 31, 2009 and 2008, respectively, and we

had net losses of $40.9 million and $1.9 million for the same periods, respectively. Our loss for the three months ended March 31, 2009 includes a contingent liability of approximately $36.3 million recognized in the first quarter in connection with estimated losses from our ongoing litigation with Hansen Medical, Inc., or Hansen, and approximately $1.3 million in impairment charges against goodwill and other intangible assets related to the potential outcome of this litigation.

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 and growing 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 $6.6 million to $6.9 million for the three months ended March 31, 2008 compared to the three months ended March 31, 2009. We regularly have 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 $26.4 million as of March 31, 2009.

Revenues from product sales currently represent a smaller proportion of our total revenues, and, historically, we have derived most of these revenues from the sales of our sensing systems and products that make use of light-transmitting optical fibers, or fiber optics. License revenues associated with our proprietary technologies have been significant in prior years. In the near term, we expect revenues from product sales to increase 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 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 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 $40.9 million and $1.9 million for the three month periods ended March 31, 2009 and 2008, respectively. While the magnitude of loss in the first quarter of 2009 was driven by accrual of a litigation reserve, we also expect to continue to incur future losses due to additional expenses driven in part by professional fees, which could be substantial due to future activity expected with respect to our ongoing litigation with Hansen. Additionally, if we expand our business, we may also experience increased expenses for research and development, sales and marketing, manufacturing, finance and accounting personnel and expenses associated with public reporting and compliance obligations. As a result, we expect that we will continue to incur losses in 2009 and that these losses could be substantial.

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 19% of our total revenues for the three months ended March 31, 2009. Our license revenues comprise 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 insignificant portion of our product and license revenues, due to the completion of certain funded project development projects during 2008.

Cost of Revenues

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

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

Operating Expense

Operating expense consists of selling, general and administrative expenses, as well as expenses related to research and development, depreciation of fixed assets and amortization of intangible assets. These expenses also include compensation for employees in executive and operational functions, including certain non-cash charges related to expenses from option grants; facilities costs; professional fees; salaries, commissions, travel expense and related benefits of personnel engaged in sales, product management and marketing activities; costs of marketing programs and promotional materials; salaries, bonuses and related benefits of personnel engaged in our own research and development beyond the scope and activities of our Technology Development Division; product development activities not provided under contracts with third parties; and overhead costs related to these activities. For the quarter ended March 31, 2009, operating expenses also include approximately $36.3 million related to the accrual of estimated losses from our litigation with Hansen and approximately $1.3 million in impairment charges recorded against goodwill and other intangible assets in our product and license business segment associated with the potential litigation award.

Our operating expenses include stock-based compensation charges. We recorded stock-based compensation charges of approximately $0.8 million for the three months ended March 31, 2009. We also expect to record an aggregate stock-based compensation charge for stock options granted through March 31, 2009 of $5.7 million to be recognized in future periods through 2014.

Interest Income/Expense

As of March 31, 2009, there was no amount outstanding on our revolving credit facility, and we do not expect to draw, or may not be permitted to draw, on that facility in the near term. The primary source of our interest rate expense during the quarter ending March 31, 2008 was our long-term note payable due to Carilion Clinic with $5.0 million outstanding as of March 31, 2008. The primary sources of our interest expense during the three months ended March 31, 2009 relates to interest on our installment note due to Silicon Valley Bank, with $4.6 million outstanding as of March 31, 2009, and our long-term note payable due to Carilion Clinic, with $5.0 million outstanding as of March 31, 2009.

Interest income includes amounts earned on our cash deposits with financial institutions. We have invested the net proceeds of prior investments, including our initial public offering and the proceeds of our long-term note payable, in a money market account and draw from that account as needed to fund ongoing operations.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States (US GAAP). The preparation of these financial statements requires us to make estimates, assumptions and judgments that affect the amounts reported in our financial statements and the accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or judgments. Our significant accounting policies are described in the Management Discussion and Analysis section and the notes to our audited consolidated financial statements previously included in our Annual Report on Form 10-K for the period ended December 31, 2008, as filed with the Securities and Exchange Commission on March 16, 2009.

Results of Operations

Three Months Ended March 31, 2009 Compared to Three Months Ended March 31, 2008

Revenues

Total revenues decreased 4.8% to $8.5 million for the three months ended March 31, 2009 from $8.9 million for the three months ended March 31, 2008. Revenues within our Technology Development Division increased approximately 4.3% from the corresponding period in 2008 while revenues in our Product and License segment decreased by approximately 30%. Technology development revenues increased to $6.9 million for the three months ended March 31, 2009 from $6.6 million for the corresponding 2008 period. The growth within our Technology Development segment reflects continued strong success in obtaining research contracts, an increase in the size of certain awards, and the addition of direct contract personnel. We generated approximately $1.6 million in product and license revenues in the first quarter of 2009 as compared with $2.3 million in the first quarter of 2008, reflecting a decrease of approximately 20% in product sales, which we attribute in part to the overall decline in the U.S. economy that previously also impacted our business beginning in the fourth quarter of 2008, and a decrease of 45% in product development revenues, due principally to the discontinuation of certain contracts during 2008.

Cost of Revenues

Cost of revenues increased 4.3% to $5.8 million for the three months ended March 31, 2009 from $5.5 million for the corresponding 2008 period. The main components of this overall increase were increased direct labor to complete our awarded contracts and an increase to our estimated total costs attributable to an increase in the estimated overhead costs to be applied to our technology development contracts. Technology development cost of sales increased approximately 17% accounting for approximately $0.7 million in increased cost of revenues. Product and license cost of sales decreased $0.5 million, or 35%, which is consistent with the lower product development revenue.

Technology development costs increased 17% to $4.9 million for the three months ended March 31, 2009 from $4.2 million in the same period in 2008. This increase was comprised primarily of additional direct labor and the technology associated overhead related to research and development activities.

The gross margin decrease was primarily attributable to an increase in the overhead expenses allocable to our Technology Development contracts.

Operating Expense

Operating expense increased to $42.8 million for the three months ended March 31, 2009 from $5.3 million for the corresponding quarter in 2008. This change is primarily due to the estimated loss recognized in conjunction with our litigation with Hansen of $36.3 million and associated impairment of goodwill and other intangible assets totaling $1.3 million in our product and license business segment. Excluding those charges operating expenses were $5.2 million for the quarter ending March 31, 2009, a decrease of $0.1 million from the corresponding period in 2008.

Considering our trial in the litigation with Hansen continued into April 2009 and the court has not rendered a judgment pending post-trial motions, we expect that we will incur increased professional fees with respect to this litigation in the second quarter of 2009. In addition, unless we are able to settle this litigation with Hansen, we expect that we would continue to incur increased professional fees in future periods in connection with any potential appeals or other strategies based on the ultimate outcome of the litigation. Also, as a result of its post-trial motions, Hansen could be awarded additional amounts for its attorneys' fees and exemplary damages, which could be significant, even in relation to the damages awarded by the jury verdict, and thus exceed our existing loss contingency reserve and require us to record additional expense with respect of such additional amounts.

Other Income (Expense)

Net interest expense on March 31, 2009 was $159,000 compared to a net interest income of $25,000 during the same quarter in 2008, due to the addition of our credit facility with Silicon Valley Bank in May of 2008. For the quarter ended March 31, 2009 we recognized approximately $66,000 of interest expense related to the new credit facility, which bears interest at a floating rate of Prime plus 1.5% with a minimum interest rate of 5.5%. In addition, our convertible notes payable to Carilion Clinic in the aggregate amount of $5 million accrue simple interest at a rate of 6%. The remaining difference is primarily due to a decrease in return on cash deposits, which were $8,000 and $110,000 for the quarters ended March 31, 2009 and 2008, respectively.

In future periods, we anticipate that our interest expense may increase in the event that Silicon Valley Bank increases the interest rate on our debt facility in an amount equal to the default rate of an additional five percentage points. Based on the current amounts outstanding, this may result in additional default rate interest of $190,000 per year. However, Silicon Valley Bank has not increased our interest rate to the default interest rate at this time.

Liquidity and Capital Resources

As described more fully below under the caption "Legal Proceedings," in June 2007 Hansen filed a lawsuit against us. In March 2009, the lawsuit proceeded to trial, and, on April 21, 2009, the jury awarded Hansen damages totaling approximately $36.3 million, an amount in excess of the company's current assets. The verdict and recovery of damages is subject to customary post-trial motions and potential appeals. We will be asking the court to set aside the verdict in various respects, including through a reduction in the amount of the damages, and Hansen will likely be seeking to recover additional amounts for its attorneys' fees and exemplary damages and to obtain certain equitable relief. These additional amounts could be significant, even in relation to the damages awarded by the jury verdict. Accordingly, we expect to continue to incur significant expenditures in future periods related to this matter.

We expect that the noncompliant status of certain covenants of our term loan and credit facility, described below, and the potential expected cash outflows required to pursue legal appeals or other strategies may limit our ability to pursue all of our plans for our business. Furthermore, the uncertainty as to the resolution of the litigation, as well as any potential impairments to our intellectual property rights stemming from the litigation, could limit our ability to raise new capital from investors to operate our business.

On May 21, 2008, we 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 balance. The facility has a total

maximum debt capacity of $10 million. At March 31, 2009, there was an outstanding balance of $4.6 million under the term loan, and no outstanding balance under the revolving facility. Principal under the term loan is payable in 42 monthly installments beginning in January 2009. The loan terms require us to meet certain covenants relating to minimum adjusted EBITDA, and other specified financial ratios.

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 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%. As a result of the recognition of the estimated expense associated with our litigation with Hansen, as described more fully in Part II, Item 1 "Legal Proceedings", we are not in compliance with some covenants associated with the term loan and the revolving line of credit. Accordingly, Silicon Valley Bank may declare the balance of those debt facilities immediately due and payable. Furthermore, this non-compliance may result in an interest rate increase under our debt facility in an amount equal to the default rate of an additional five percentage points. Since the loan may be considered to be due and payable, we have reflected the entire balance of the loan within current liabilities in our balance sheet as of March 31, 2009.

Also the accrual of the loss contingency for our litigation with Hansen may result in our being unable to remain listed on the NASDAQ Global Market. As of March 31, 2009, our stockholders' deficit was approximately $26 million, well below the minimum standard of stockholders' equity of $10 million for continued listing on the NASDAQ Global Market. Furthermore, our market capitalization was well below $50 million, the alternative minimum market capitalization standard for such market. Accordingly, we may not be able to maintain the quantitative standards for continued listing on the NASDAQ Global Market, and 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. However, we are not presently in compliance with the continued listing requirements and standards of the NASDAQ Capital Market as well. 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 may be difficult for us to raise additional capital if we are not listed on a major exchange.

Finally, in the second half of 2008, the increased turmoil in the U.S. and global capital markets and a global slowdown of economic growth created a substantially more difficult business environment. Our ability to access the capital markets is expected to be extremely limited. These conditions have not improved through May 2009, and we experienced continued negative cash flow from operations in the three months ended March 31, 2009. The deteriorating economic and market conditions are not likely to improve significantly during 2009 and may continue past 2009 and could get worse.

As a result of the effects of our litigation with Hansen, the resulting impact on our debt facility with Silicon Valley Bank and the potential delisting of our common stock from the NASDAQ Global Market, as well as the general economic conditions, we may be unable to pay our obligations in the normal course of business in 2009 or service our debt in a timely fashion. Our ability to continue as a going concern is dependent on many events outside of our direct control, including, among other things, the successful resolution of our litigation with Hansen and our continued ability to obtain funding for working capital to operate our business, whether from Silicon Valley Bank or another source. Our recent operating losses and negative cash flows, negative working capital, stockholders' deficit and the uncertainty of our ability to successfully resolve our litigation with Hansen, among other factors, raise substantial doubt as to our ability to continue as a going concern. The accompanying condensed consolidated financial statements do not include any further adjustments that might result from the ultimate and final outcome of these uncertainties.

Discussion of Cash Flows

Recent Activity

We used approximately $2.0 million and $0.6 million of net cash from operations during the three months ended March 31, 2009 and 2008, respectively. The primary factors in the increased cash used in operations between the two periods were the $1.4 million increase in net loss (excluding the effects of the estimated litigation losses) relative to first quarter of 2008 and a $2.2 million decrease in the cash flow impact of changes in accounts receivable compared to the first quarter of 2008 offset by a $1.2 million improvement in the cash flow impact of changes in accounts payable and accrued liabilities in the first quarter of 2009 compared to 2008.

Cash used in investing activities for the three months ended March 31, 2009, was related primarily to legal fees associated with securing patent rights to certain technology. Our overall cash used in investing activities was less than $0.1 million in the quarter ended March 31, 2009, compared to $0.3 million in the March 31, 2008 quarter. This decrease was due primarily to a $0.2 million decrease in capital expenditures from the prior period.

We used approximately $0.3 million in financing activities in the first quarter of 2009 compared to generating approximately $64,000 in such activities for the first quarter of 2008. The change was primarily attributable to the principal payments on our term loan beginning in January 2009 and totaling approximately $357,000 for the quarter.

Summary of Contractual Obligations

We lease our facilities in Blacksburg, Charlottesville, Danville, McLean and Roanoke, Virginia under operating leases that expire on various dates through 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 expire through 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 $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 March 31, 2009, approximately $0.9 million of the $2.0 million commitment remained.

In March 2004, we received a grant of $0.9 million 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. 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 in 2008 approximately $668,000 of the grant as other income. As of March 31, 2009, we had not fully met the capital expenditure milestone, and as a result, we may be required to repay some or all of the remaining approximately $232,000 of the original grant. We have recorded this potential liability within deferred liabilities in the accompanying balance sheet as of March 31, 2009.

Off-Balance Sheet Arrangements

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

ITEM 3. *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 March 31, 2009 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 March 31, 2009, we had $13.2 million deposited in cash and cash equivalents bearing a weighted-average annual interest rate of 0.24%.

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 $5.0 million term loan with Silicon Valley Bank is prime plus 1.5%. The revolving debt facility and term loan have minimum interest rates of 5.0% and 5.5%, respectively. At March 31, 2009, the revolving debt facility and the term loan interest rates were 5.0% and 5.5%, respectively. Given the principal amount of our outstanding liabilities and scheduled payments to Silicon Valley Bank, a change in the prime interest rate by one percentage point for one year would result in a change in our annual interest expense of approximately $19,000.

Our revolving debt facility and term loan provide that if an event of default, as such term is defined in the Loan and Security Agreement, occurs, the obligations will bear interest at a rate that is five percentage points per annum above the applicable rate following such event. Events of default include, but are limited to, such events as a material adverse change (as defined in the Loan

and Security Agreement), insolvency, missed payments, judgments against us in excess of $250,000, breach of covenants, and other events specified in the Loan and Security Agreement. As a result of the expense for the loss contingency recognized during the three months ended March 31, 2009 recorded based on the jury verdict awarded against us in our litigation with Hansen Medical, Inc., we are not in compliance with certain covenants associated with the term loan and the revolving line of credit. Accordingly, Silicon Valley Bank may declare the balance of those debt facilities immediately due and payable. Furthermore, this non-compliance may result in an interest rate increase under our debt facility in an amount equal to the default rate of an additional five percentage points. In the event of this increase and based on our current principal amounts outstanding, we may additionally incur default interest of approximately $190,000 per year.

Although we believe that these measures are indicative of our sensitivity to interest rate changes, they do not adjust for potential changes in our credit quality, composition of our balance sheet and other business developments that could affect our interest rate exposure. Accordingly, no assurances can be given that actual results would not differ materially from the potential outcome simulated by this estimate.

Foreign Currency Exchange Rate Risk

As of March 31, 2009, all payments made under our research contracts have been denominated in United States dollars. Our product sales to foreign customers are also denominated in U.S. dollars, and we do not receive payments in foreign currency. As such, we are not directly exposed to currency gains or losses resulting from fluctuations in foreign exchange rates.

ITEM 4. *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 within the time periods specified in the Securities and Exchange Commission's rule and forms 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 were no changes in our internal control over financial reporting that occurred during our last fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Internal control over financial reporting means a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

PART II. OTHER INFORMATION

ITEM 1. *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, with the exception of the Hansen litigation, 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.

Litigation with Hansen Medical, Inc.

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 alleged misappropriation of trade secrets, aiding and abetting breach of fiduciary duty, unfair competition, breach of contract, conversion, intentional interference with contract, breach of implied covenant of good faith and fair dealing, declaratory judgment, and fraud. In addition to money damages in an unspecified amount, Hansen sought, among other things, equitable relief, including an injunction against our using the allegedly misappropriated Hansen trade secrets in connection with our work with Intuitive Surgical, Inc., or otherwise. We answered the complaint and vigorously defended ourselves in this matter. Hansen's claim of conversion was since dismissed. We also filed a counterclaim against Hansen and an amended counterclaim on March 18, 2008 asserting claims for declaratory judgment, misappropriation of trade secrets, breach of contract, unfair competition under the California Business and Professional Code, breach of implied covenant of good faith and fair dealing and unjust enrichment. However, we subsequently withdrew all of our counterclaims prior to the matter proceeding to trial on the merits in March 2009.

Prior to and during the course of the trial, Hansen's claims for conversion, unfair competition, aiding and abetting breach of fiduciary duty and intentional interference with contract were all dismissed. Hansen's remaining claims for misappropriation of trade secrets, breach of contract, breach of implied covenant of good faith and fair dealing and fraud were submitted to a jury following a trial on the merits that concluded in April 2009. On April 21, 2009, a jury found in favor of Hansen on its breach of contract, breach of the covenant of good faith and fair dealing and misappropriation of trade secrets claims, and it awarded a verdict for $36.3 million against us. The jury did not find in favor of Hansen on its fraud claims against us, but it did find that our misappropriation was willful or malicious. The verdict and recovery of damages is subject to customary post-trial motions and potential appeals. We will be asking the court to set aside the verdict in various respects, including through a reduction in the amount of the damages, and Hansen will likely be seeking to recover additional amounts for its attorneys' fees and exemplary damages and to obtain certain equitable relief. These additional amounts could be significant, even in relation to the damages awarded by the jury verdict.

While we cannot currently determine the ultimate liability pursuant to this verdict, we recorded a contingent liability of $36.3 million in estimation of the potential loss on this litigation during the three months ended March 31, 2009. If we are unable to reduce the verdict prior to the rendering of a final judgment by the court or to reach a reasonable settlement with Hansen and depending on any equitable relief granted, we would be liable to pay substantial damages in excess of our liquid assets, and we could lose the ability to freely use or license others to use certain intellectual property. Any or all of the foregoing would materially harm our business, fundamentally change our business, and could result in our being required to take actions to discontinue operations, liquidate part or all of our operations or file a petition for bankruptcy in order to reorganize or liquidate.

Claim by Former Employee

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.

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

If we are unsuccessful in the resolution of our litigation with Hansen Medical, Inc., our business may be materially harmed or fundamentally changed, and we may be required to take actions to reorganize, discontinue or liquidate part or all of our operations.

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. We answered the complaint and vigorously defended ourselves in this matter. However, we subsequently withdrew all of our counterclaims prior to the matter proceeding to trial on the merits in March 2009. Prior to and during the course of the trial, several of Hansen's claims were dismissed. Hansen's remaining claims for misappropriation of trade secrets, breach of contract, breach of implied covenant of good faith and fair dealing and fraud with respect to our dealings with Hansen as well as a subsequent agreement with Intuitive Surgical, Inc. were submitted to a jury following a trial on the merits that concluded in April 2009. On April 21, 2009, a jury found in favor of Hansen on its breach of contract, breach of the covenant of good faith and fair dealing and misappropriation of trade secrets claims, and it awarded a verdict for $36.3 million against us. The jury did not find in favor of Hansen on its fraud claims against us, but it did find that our misappropriation was willful or malicious. The verdict and recovery of damages is subject to customary post-trial motions and potential appeals. We will be asking the court to set aside the verdict in various respects, including through a reduction in the amount of the damages, and Hansen will likely be seeking to recover additional amounts for its attorneys' fees and exemplary damages and to obtain certain equitable relief. These additional amounts could be significant, even in relation to the damages awarded by the jury verdict.

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If we are not able to favorably resolve our litigation with Hansen Medical, Inc., we could potentially be required to seek relief through a filing under the U.S. Bankruptcy Code, either through plan of reorganization or under an alternative plan, which could include liquidation.

If we are not able to favorably resolve our litigation with Hansen, we could potentially be required to seek relief through a filing under the U.S. Bankruptcy Code. Such a restructuring would preferably be conducted through a prepackaged reorganization. We believe that the announcement of a reorganization plan and its execution in Bankruptcy Court, however, could materially adversely affect the relationships between us and our customers, employees, suppliers, partners and others. Further, if we are unable to develop a plan or to obtain confirmation of the plan on a timely basis, because of a legal challenge to it or inability to obtain sufficient financing or another cause, or for other reasons, we could be forced to operate in bankruptcy for an extended period while we tried to develop a reorganization plan that could be confirmed.

Substantial risks would result from any such bankruptcy filing. For example:

- a filing could substantially erode the confidence of our customers and partners in our ability to provide products and service over the long-term, and as a result there might be significant and precipitous decline in our revenues;
- if we were not able to develop a successful plan for reorganization, we could be forced to liquidate;
- holders of our debt obligations would have their claims significantly reduced, converted into equity or eliminated, depending upon the terms of the restructuring; and
- the equity interests of our current stockholders and employees could be completely eliminated.

The results of our litigation may materially impact our ability to operate our business as a going concern.

In addition to the potential money damages and injunctive relief that may be awarded in connection with the jury verdict award against us pursuant to our litigation with Hansen, the effects of the litigation may materially impact our ability to conduct business. A number of our contracts provide the counterparty to declare the contract in default, modify terms or discontinue the contract in the event of an unfavorable litigation result.

For example, our revolving debt facility and term loan with Silicon Valley Bank provide that if an event of default, as defined in the Loan and Security Agreement, occurs, the obligations may be deemed to be in default and will bear interest at a rate that is five percentage points per annum above the applicable rate following such event. Events of default include, but are limited to, such events as a material adverse change (as defined in the Loan and Security Agreement), insolvency, missed payments, judgments against us in excess of $250,000, breach of covenants, and other events specified in the Loan and Security Agreement. As a result of the loss contingency recognized during the three months ended March 31, 2009 recorded based on the jury verdict awarded against us in connection with our litigation with Hansen, we are not in compliance with certain of the financial covenants associated with the term loan and the revolving line of credit. Accordingly, Silicon Valley Bank may declare the balance of those debt facilities immediately due and payable. Furthermore, this non-compliance may result in an interest rate increase under our debt facility in an amount equal to the default rate of an additional five percentage points.

In addition, several of our contracts may also provide opt-out or default provisions that trigger in the event that we file for protection under the U.S. Bankruptcy Code. The loss of these contracts may materially limit our ability to conduct our business.

As a result of the effects of our litigation with Hansen, the resulting impact on our debt facility with Silicon Valley Bank, the potential delisting of our common stock from the NASDAQ Global Market, and our contracts as well as general economic conditions, we may be unable to pay our obligations in the normal course of business in 2009 or service our debt in a timely fashion. Our ability to continue as a going concern is dependent on many events outside of our direct control, including, among other things, the successful resolution of our litigation with Hansen and our continued ability to obtain funding for working capital to operate our business, whether from Silicon Valley Bank or another source. Our recent operating losses and negative cash flows, negative working capital, stockholders' deficit and the uncertainty of our ability to successfully resolve our litigation with Hansen, among other factors, raise substantial doubt as to our ability to continue as a going concern.

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

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

There was a rapid softening of the economy and tightening of the financial markets in the second half of 2008 that continued into the first quarter of 2009. This slowing of the economy has reduced the financial capacity of our customers and possibly our potential customers, thereby slowing spending on the products and services we provide. The outlook for the economy for the rest of 2009 remains uncertain.

We have a debt facility with Silicon Valley Bank that requires us to meet certain restrictive covenants. We are presently out of compliance with certain of those 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%.

In January 2009, we began 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.

As a result of the jury verdict in the Hansen case, we are currently not in compliance with certain of our covenants to Silicon Valley Bank. Accordingly, Silicon Valley Bank may declare the balance of those debt facilities immediately due and payable. Furthermore, this non-compliance may result in an interest rate increase under our debt facility in an amount equal to the default rate of an additional five percentage points.

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 81% and 74% of our consolidated total revenues for the quarters ended March 31, 2009 and 2008, 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 43% and 41% of our consolidated total revenues for the quarters ended March 31, 2009 and 2008, 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.

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 $40.9 million for the Quarter ended March 31, 2009. 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 the impact of our litigation with Hansen, we are unable to predict when or if we will be able to achieve profitability again. If our revenues do not increase, or if our expenses increase at a greater rate than our revenues, we will continue to experience losses. Even if we do achieve profitability, we may not be able to sustain or increase our profitability on a quarterly or annual basis.

We might require additional capital to support our business, 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, pursue our litigation strategies against Hansen 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.

As a result of the $36.3 million jury award in the Hansen case, we are not in compliance with certain covenants associated with our term loan and revolving line of credit with Silicon Valley Bank. Accordingly, Silicon Valley Bank may call the term loan or decline to advance funds under the line of credit. In addition, the jury award may make it extremely difficult to raise funds from any other source.

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.

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.

The magnitude of the jury verdict in the Hansen case may make it difficult to attract new employees and retain employees, including because of its effect on the equity incentives we use as part of our compensation packages.

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 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.

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.

As a result of the magnitude of the jury verdict in the Hansen case, vendors may not want to sell us products on normal credit terms, which could affect our supply of necessary components.

Any significant delay or interruption in the supply of components, or our inability to obtain substitute components or materials from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand of our customers and harm our business.

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

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

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

While historically we have developed and commercialized only a few products at a time, we plan to grow 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 may not be successful in identifying market needs for new technologies and developing new products to meet those needs.

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

Our growth strategy requires that we not only identify new technologies that meet market needs, but that we also develop successful commercial products that address those needs. We face several challenges in developing successful new products. Many of our existing products and those currently under development—including our Trimetasphere® carbon nanomaterials, 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.

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 March 31, 2009, 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 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.

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. government-licensed technology may result in the cancellation of the relevant U.S. government licenses. Our inability to manufacture our products successfully would have a material adverse effect on our revenues.

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

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

While we believe that none of our current products contain chemicals known by us to be hazardous or subject to environmental regulation, it is possible our current or future products, particularly carbon-based nanomaterials, may become subject to environmental or other regulation. We intend to develop and sell carbon-based nanomaterials as well as nanotechnology-enabled products, which are products that include nanomaterials as a component to enhance those products' performance. Nanomaterials and nanotechnology-enabled products have a limited historical safety record. Because of their size or shape or because they may contain harmful elements,

such as gadolinium and other rare-earth metals, our products could pose a safety risk to human health or the environment. These characteristics may also cause countries to adopt regulations in the future prohibiting or limiting the manufacture, distribution or use of nanomaterials or nanotechnology-enabled products. Such regulations may inhibit our ability to sell some products containing those materials and thereby harm our business or impair our ability to develop commercially viable products.

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

We face risks associated with our international business.

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

- having to comply with U.S. export control regulations and policies that restrict our ability to communicate with non-U.S. employees and supply foreign affiliates and customers;
- changes in or interpretations of foreign regulations that may adversely affect our ability to sell our products, perform services or repatriate profits to the United States;
- the imposition of tariffs;
- hyperinflation or economic or political instability in foreign countries;
- imposition of limitations on or increase of withholding and other taxes on remittances and other payments by foreign subsidiaries or joint ventures;
- conducting business in places where business practices and customs are unfamiliar and unknown;
- the imposition of restrictive trade policies;
- the imposition of inconsistent laws or regulations;
- the imposition or increase of investment and other restrictions or requirements by foreign governments;
- uncertainties relating to foreign laws and legal proceedings;
- having to comply with a variety of U.S. laws, including the Foreign Corrupt Practices Act; and
- having to comply with licensing requirements.

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

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 March 31, 2009, we had not fully met capital expenditure milestones, and, as a result, we may be asked to repay the City of Danville all or a part of $232,000 based on a computation of the pro rata amount of capital expenditures falling below required levels. We have classified this $232,000 as a current liability on our balance sheet as of March 31, 2009.

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, which carry 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.

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.

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 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 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 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 the value of our nanotechnology-related intellectual property. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our nanotechnology-related patents or in third party patents.

In the event that a claim relating to intellectual property is asserted against us, or third parties not affiliated with us hold pending or issued patents that relate to our products or technology, we may seek licenses to such intellectual property or challenge those patents. However, we may be unable to obtain these licenses on commercially reasonable terms, if at all, and our challenge of the patents may be unsuccessful. Our failure to obtain the necessary licenses or other rights could prevent the sale, manufacture, or distribution of our products and, therefore, could have a material adverse effect on our business, financial condition, and results of operations.

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

A substantial portion of our technology is licensed from academic institutions, corporations and government agencies. Under these licensing arrangements, a licensor may obtain rights over the technology, including the right to require us to grant a license to one or more third parties selected by the licensor or that we provide licensed technology or material to third parties for non-commercial research. The grant of a license for any of our core technologies to a third party could have a material and adverse effect on our business. In addition, some of our licensors retain certain rights under the licenses, including the right to grant additional licenses to a substantial portion of our core technology to third parties for noncommercial academic and research use. It is difficult to monitor and enforce such noncommercial academic and research uses, and we cannot predict whether the third party licensees would comply with the use restrictions of such licenses. We have incurred and could incur substantial expenses to enforce our rights against them. We also may not fully control the ability to assert or defend those patents or other intellectual property which we have licensed from other entities, or which we have licensed to other entities.

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

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

RISKS RELATING TO OUR COMMON STOCK

We are not presently in compliance with all applicable continued listing requirements or standards of the NASDAQ Global Market, and NASDAQ could determine to delist our common stock.

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 and standards. 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. As of March 31, 2009, our stockholders' deficit was approximately $26 million, and we do not satisfy the minimum market capitalization standard. Accordingly, we are not in compliance with the standards for continued listing on the NASDAQ Global Market. As such, 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. However, we are not presently in compliance with the continued listing requirements and standards of the NASDAQ Capital Market as well. 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.

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 such as our litigation with Hansen;
- 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 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, we typically have 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. 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 such as costs and losses related to our litigation with Hansen.

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 required us to include an internal control report with our Annual Report on Form 10-K. That report must include management's assessment of the effectiveness of our internal control over financial reporting as of the end of the fiscal year. Additionally, our independent registered public accounting firm will be required to issue a report on 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 2. *UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS*

(a) Unregistered Sales of Equity Securities during the Three Months Ended March 31, 2009

On January 1, 2009, we issued 11,800 shares of common stock to a vendor in connection with an agreement with them to provide certain services to us. The value of the shares at the time of grant was $24,544. The sale of these securities was deemed to be exempt from registration under the Securities Act of 1933, as amended, in reliance on Section 4(2) of such Act. The recipient represented its intention to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof. The purchaser had adequate access to information about us, and appropriate legends were affixed to the share certificate issued in the transaction.

(b) 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.

(c) Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

ITEM 3. *DEFAULTS UPON SENIOR SECURITIES*

Not applicable.

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

Not applicable

ITEM 5. *OTHER INFORMATION*

Item 1.01 Entry into a Material Definitive Agreement

On May 11, 2009, we stipulated and agreed with Hansen Medical, Inc., the counterparty in certain pending litigation, that we would not dispose of or transfer, or permit the disposal or transfer of, any material assets outside the ordinary course of our business or enter into any new license of any material intellectual property outside the ordinary course of our business, subject to certain exceptions. This stipulation was submitted to the Superior Court of the State of California, County of Santa Clara on May 11, 2009.

Item 3.01 Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer or Delisting.

Audit Committee Composition

On May 12, 2009, we notified NASDAQ that we no longer comply with NASDAQ Marketplace Rule 5605(c)(2)(A), which requires us to have an audit committee of our board of directors composed of at least three "independent directors" (as defined in NASDAQ Marketplace Rule 5000(a)(19). Following the conclusion of John C. Backus, Jr.'s term as a Class III member of our board of directors as of our annual meeting of stockholders on May 12, 2009, we were left with only two independent directors serving on our audit committee of our board of directors.

We intend to fill the vacancy on our audit committee as expeditiously as possible. In the meantime, we will rely on the cure period set forth in NASDAQ Marketplace Rule 5605(c)(4)(B) as confirmed to us by a letter from the listing qualifications staff of the NASDAQ Stock Market, dated May 13, 2009. This cure period will run through the earlier of our next annual meeting of stockholders or May 12, 2010.

Failure to Satisfy Continued Quantitative Listing Standard

On May 15, 2009, we notified NASDAQ that upon filing this Quarterly Report on Form 10-Q, we do not comply with all of the quantitative standards for continued listing on the NASDAQ Global Market because we do not meet either (i) the continued listing standard in Marketplace Rule 5450(b)(2)(A), which specifies that the market value of an issuer's common stock be at least $50,000,000, or (ii) the continued listing standard in Marketplace Rule 5450(b)(1)(A), which specifies that an issuer must maintain stockholders' equity of at least $10 million.

Therefore, NASDAQ may determine to delist our shares of common stock from the NASDAQ Global Market and to suspend trading effective at a future date. If we receive a deficiency notice from the NASDAQ staff, we intend to present a plan to regain compliance. If we receive a notice of delisting, we intend to appeal the proposed delisting and attempt to regain compliance with the continued listing requirements and standards.

ITEM 6. *EXHIBITS*

The exhibits listed on the Exhibit Index hereto are filed or incorporated by reference (as stated therein) as part of this Quarterly Report on Form 10-Q.

Table of Contents

SIGNATURES

Pursuant to the requirements 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

Date: May 15, 2009

By: */s/ Dale E. Messick*

Dale E. Messick
Chief Financial Officer
(Principal Financial and Accounting Officer and duly authorized Officer)

EXHIBIT INDEX

Exhibit Number	Description
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)
10.1(3)	Amendment to Employment Agreement by and between Luna Innovations Incorporated and Kent A. Murphy dated March 31, 2009. (Exhibit 10.1)
10.2(3)	Amendment to Employment Agreement by and between Luna Innovations Incorporated and Dale E. Messick dated March 31, 2009. (Exhibit 10.2)
10.3(3)	Amendment to Employment Agreement by and between Luna Innovations Incorporated and Scott A. Graeff dated March 31, 2009. (Exhibit 10.3)
10.4(4)	2009 Senior Management Incentive Compensation Plan. (Exhibit 10.38)
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 exhibits to the Registrant's Current Report on Form 8-K dated June 2, 2006 (file No. 000-52008). The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
(2) Incorporated by reference to the exhibits to the Registrant's Registration Statement on Form S-1, as amended, dated June 2, 2006 (file No. 333-131764). The number given in parentheses indicates the corresponding exhibit number in such Form S-1.
(3) Incorporated by reference to the exhibits to the Registrant's Current Report on Form 8-K dated March 31, 2009 (file No. 000-52008). The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
(4) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2008 filed March 16, 2009 (file No. 000-52008). The number in parentheses indicates the corresponding exhibit number in such Form 10-K.

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

I, Kent A. Murphy, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: May 15, 2009

/s/ KENT A. MURPHY

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

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

I, Dale E. Messick, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: May 15, 2009

/s/ DALE E. MESSICK

Dale E. Messick
Chief Financial Officer

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

In connection with the quarterly report of Luna Innovations Incorporated (the "Company") on Form 10-Q for the period ending March 31, 2008 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kent A. Murphy, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

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

/s/ KENT A. MURPHY

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

May 15, 2009

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

In connection with the quarterly report of Luna Innovations Incorporated (the "Company") on Form 10-Q for the period ending March 31, 2008 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Dale E. Messick, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

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

/s/ DALE E. MESSICK

Dale E. Messick
Chief Financial Officer

May 15, 2009