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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2012

Or

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

For the transition period from to

Commission File Number 001-34899

Pacific Biosciences of California, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**16-1590339**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
1380 Willow Road Menlo Park, CA 94025	**94025**
(Address of principal executive offices)	**(Zip Code)**

(650) 521-8000
(Registrant's telephone number, including area code)

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. (Check one):

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 ☒

Number of shares outstanding of the issuer's common stock as of October 26, 2012: 56,164,654

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Condensed Consolidated Balance Sheets
(Unaudited)

(in thousands except per share amounts)	September 30, 2012	December 31, 2011
Assets		
Current assets		
Cash and cash equivalents	$ 32,558	$ 58,865
Investments	86,844	118,569
Accounts receivable	532	4,557
Inventory, net	10,202	15,517
Prepaid expenses and other current assets	2,202	2,093
Total current assets	132,338	199,601
Property and equipment, net	15,514	18,398
Other long-term assets	356	317
Total assets	$ 148,208	$ 218,316
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 2,897	$ 4,742
Accrued expenses and other current liabilities	7,009	10,258
Deferred revenue, current	3,555	4,236
Facility financing obligation, current	165	140
Total current liabilities	13,626	19,376
Deferred revenue, non-current	1,000	1,616
Deferred rent and other long-term liabilities	2,386	3,075
Facility financing obligation, non-current	2,659	2,786
Total liabilities	19,671	26,853
Stockholders' equity		
Preferred Stock, $0.001 par value: Authorized 50,000 shares; No shares issued or outstanding at September 30, 2012 and December 31, 2011	—	—
Common Stock and additional paid-in-capital, $0.001 par value: Authorized 1,000,000 shares; Issued and outstanding 56,165 shares at September 30, 2012 and 54,964 shares at December 31, 2011	642,822	632,961
Accumulated other comprehensive income	66	57
Accumulated deficit	(514,351)	(441,555)
Total stockholders' equity	128,537	191,463
Total liabilities and stockholders' equity	$ 148,208	$ 218,316

See accompanying notes to the condensed consolidated financial statements.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)

(in thousands, except per share amounts)	Three-Month Periods Ended		Nine-Month Periods Ended	
	September 30, 2012	September 30, 2011	September 30, 2012	September 30, 2011
Revenue:				
Product revenue	$ 1,268	$ 9,819	$ 15,810	$ 19,966
Service and other revenue	1,283	535	3,620	728
Grant revenue	225	165	675	725
Total revenue	2,776	10,519	20,105	21,419
Cost of Revenue:				
Cost of product revenue	960	6,546	14,949	9,083
Cost of service and other revenue	1,626	645	4,843	839
Total cost of revenue	2,586	7,191	19,792	9,922
Gross profit	190	3,328	313	11,497
Operating Expense:				
Research and development	12,626	20,001	35,971	63,665
Sales, general and administrative	10,143	12,764	36,986	34,899
Total operating expense	22,769	32,765	72,957	98,564
Operating loss	(22,579)	(29,437)	(72,644)	(87,067)
Other income (expense), net	(150)	156	(152)	502
Net loss	$ (22,729)	$ (29,281)	$ (72,796)	$ (86,565)
Basic and diluted net loss per share	$ (0.41)	$ (0.54)	$ (1.31)	$ (1.62)
Shares used in computing basic and diluted net loss per share	55,877	54,283	55,582	53,466
Comprehensive loss	$ (22,738)	$ (29,466)	$ (72,787)	$ (86,548)

See accompanying notes to the condensed consolidated financial statements.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Condensed Consolidated Statements of Cash Flows
(Unaudited)

(in thousands)	Nine-Month Periods Ended September 30, 2012	2011
Cash flows from operating activities		
Net loss	$(72,796)	$ (86,565)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation	5,041	4,296
Stock-based compensation	7,158	9,100
Other items	270	42
Changes in assets and liabilities		
Accounts receivable	4,025	(4,093)
Inventory	4,151	(15,071)
Prepaid expenses and other assets	734	1,764
Accounts payable	(1,845)	(1,209)
Accrued expenses and other current liabilities	(3,249)	1,658
Deferred revenue	(1,297)	749
Deferred rent and other long-term liabilities	(791)	1,127
Net cash used in operating activities	(58,599)	(88,202)
Cash flows from investing activities		
Purchase of property and equipment	(1,263)	(7,846)
Purchase of investments	(69,436)	(232,957)
Sales of investments	7,896	36,520
Maturities of investments	92,392	194,929
Net cash provided by (used in) investing activities	29,589	(9,354)
Cash flows from financing activities		
Proceeds from issuance of common stock	2,703	7,486
Net cash provided by financing activities	2,703	7,486
Net decrease in cash and cash equivalents	(26,307)	(90,070)
Cash and cash equivalents at beginning of period	58,865	147,650
Cash and cash equivalents at end of period	$ 32,558	$ 57,580
Supplemental disclosure of non-cash investing and financing activities		
Inventory transferred to property and equipment for internal use	$ 1,164	$ 1,673
Vesting of stock options related to early exercises	$ —	$ 780

See accompanying notes to the condensed consolidated financial statements.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Overview

Pacific Biosciences of California, Inc., ("Pacific Biosciences", the "Company", "we", "us") has commercialized the PacBio *RS* High Resolution Genetic Analyzer to help scientists solve genetically complex problems. Based on our novel Single Molecule, Real-Time (SMRT) technology, our products enable scientists to increase their understanding of biological systems through targeted sequencing and insight into genetic variations.

The names "Pacific Biosciences," "PacBio," "SMRT," "SMRTbell" and our logo are our trademarks.

2. Summary of Significant Accounting Policies

Basis of Presentation

In the opinion of management, the accompanying unaudited Condensed Consolidated Financial Statements ("financial statements") of Pacific Biosciences of California, Inc. and its wholly-owned subsidiaries have been prepared on a consistent basis with the December 31, 2011 audited Consolidated Financial Statements and include all adjustments, consisting of only normal recurring adjustments, necessary to fairly state the information set forth herein. Certain prior year amounts in the financial statements and notes thereto have been reclassified to conform to the current year's presentation. The financial statements have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission ("SEC"), and, therefore, omit certain information and footnote disclosures necessary to present the statements in accordance with U.S. generally accepted accounting principles ("GAAP"). These financial statements should be read in conjunction with the audited Consolidated Financial Statements and Notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2011, which was filed on February 29, 2012. The results of operations for the first nine months of fiscal 2012 are not necessarily indicative of the results to be expected for the entire fiscal year or any future periods.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expense during the reporting periods. Our estimates include, but are not limited to, useful lives assigned to long-lived assets, amounts relating to the resolution of legal matters, assumptions used in computing stock-based compensation expense, provisions for income taxes, inventory valuation and reserves, and contingencies. Actual results could differ from our estimates, and such differences could be material to our financial position and results of operations.

Fair Value of Financial Instruments

The carrying amount of our financial assets and liabilities, including accounts receivable, prepaid expenses, other current assets, accounts payable, accrued expenses and other current liabilities, approximate fair value due to their short maturities. The carrying value of our facility financing obligation approximates fair value based on currently available borrowing rates and after consideration of non-performance risk and credit risk.

The fair value hierarchy established under GAAP requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level input that is significant to the fair value measurement. The three levels of inputs that may be used to measure fair value are as follows:

- Level 1: quoted prices in active markets for identical assets or liabilities;
- Level 2: inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices in active markets for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; and
- Level 3: unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

We consider an active market as one in which transactions for the asset or liability occurs with sufficient frequency and volume to provide pricing information on an ongoing basis. Conversely, we view an inactive market as one in which there are few transactions for the asset or liability, the prices are not current, or price quotations vary substantially either over time or among market makers. Where appropriate, our non-performance risk, or that of our counterparty, is considered in determining the fair values of liabilities and assets, respectively.

All of our cash deposits and money market funds are classified within Level 1 of the fair value hierarchy because they are valued using bank balances or quoted market prices. Our investments are classified as Level 2 instruments based on market pricing and other observable inputs. None of our investments are classified within Level 3 of the fair value hierarchy.

Assets and liabilities measured at fair value are classified in their entirety based on the lowest level input that is significant to the fair value measurement. Our assessment of the significance of a particular input to the entire fair value measurement requires management to make judgments and consider factors specific to the asset or liability.

The following table sets forth the fair value of our financial assets that were measured on a recurring basis as of September 30, 2012 and December 31, 2011, respectively (in thousands):

(in thousands)	September 30, 2012			December 31, 2011		
	Level 1	Level 2	Total	Level 1	Level 2	Total
Assets						
Cash and cash equivalents:						
Cash and money market funds	$13,362	$ —	$ 13,362	$49,267	$ —	$ 49,267
Commercial paper	—	19,196	19,196	—	9,598	9,598
Investments:						
Commercial paper	—	25,680	25,680	—	29,772	29,772
Corporate debt securities	—	31,667	31,667	—	37,387	37,387
Asset backed securities	—	3,435	3,435	—	9,909	9,909
Certificates of deposits	—	4,019	4,019	—	4,034	4,034
U.S. government and agency securities	—	22,043	22,043	—	37,467	37,467
Total assets measured at fair value	$13,362	$106,040	$119,402	$49,267	$128,167	$177,434

Level 2 inputs are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant inputs are observable in the market or can be corroborated by observable market data for substantially the full term of the assets. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable inputs including rate curves, foreign exchange rates, and forward and spot prices for currencies and commodities. For the three- and nine-month periods ended September 30, 2012, there were no transfers between Level 1 and Level 2 investments and there were no changes in our valuation techniques.

We have designated all investments as available-for-sale and therefore, such investments are reported at fair value, with unrealized gains and losses recorded in accumulated other comprehensive income. For securities sold prior to maturity, the cost of securities sold is based on the specific identification method. Realized gains and losses on the sale of investments are recorded in other income, net.

We periodically review our investments for indicators of impairment and recognize an impairment charge when a decline in the fair value of our investments below the cost basis is judged to be other-than-temporary. Factors considered in determining whether a loss is temporary include the length of time and extent to which the investment's fair value has been less than the cost basis, the financial condition and near-term prospects of the investee, extent of the loss related to credit of the issuer, the expected cash flows from the security, our intent to sell the security and whether or not we will be required to sell the security before the recovery of its amortized cost. During the three- and nine-month periods ended September 30, 2012 and 2011, we did not record impairment charges on our investments as it is more likely than not that we will recover their amortized cost basis upon sale or maturity.

Revenue Recognition

Our revenue is generated primarily from the sale of products and services. Product revenue consists of sales of our PacBio *RS* instrument and related consumables, and service and other revenue primarily consists of revenue earned from product maintenance agreements. Grant revenue reflects revenue from government grants that generally provide cost reimbursement for certain types of expenditures in return for research and development activities over a contractually defined period. Revenue from grants is recognized in the period during which the related costs are incurred, provided that the conditions under which the grants were provided have been met.

We recognize product and service revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed or determinable, and collectability is reasonably assured. In instances where final acceptance of the product or system is required, revenue is deferred until all acceptance criteria have been met. Revenue for product sales is generally recognized upon customer acceptance. Revenue for product maintenance agreements is recognized when earned, which is generally ratably over the service period.

In order to assess whether the price is fixed or determinable, we evaluate whether refund rights exist. If refund rights exist or payment terms are based on future performance, we defer revenue recognition until the price becomes fixed or determinable. We assess collectability based on a number of factors, including customer creditworthiness. If we determine that collection of amounts due is not reasonably assured, revenue recognition is deferred until receipt of payment.

We regularly enter into contracts from which revenue is derived from multiple deliverables including a mix of products and or services. Revenue recognition for contracts with multiple deliverables is based on the individual units of accounting determined to exist in the contract. A delivered item is considered a separate unit of accounting when 1) the delivered item has value to the customer on a stand-alone basis; and 2) when a general right of return exists, the delivery or performance of an undelivered item is considered probable and under our control. Items are considered to have stand-alone value when they are sold separately by any vendor or when the customer could resell the item on a stand-alone basis. Our revenue arrangements generally do not have a general right of return. When a deliverable does not meet the criteria to be considered a separate unit of accounting, we group it with other deliverables that, when combined, meet the criteria, and the appropriate allocation of arrangement consideration and revenue recognition is determined. Consideration is allocated at the inception of the contract to all deliverables based on their relative selling price. In order to determine the relative selling price of a deliverable, we apply, in order, the following hierarchy: 1) vendor-specific objective evidence ("VSOE"); 2) third-party evidence if VSOE is not available; and 3) our best estimate of selling price for the deliverable if neither VSOE nor third-party evidence is available.

In order to establish VSOE, we must regularly sell the product or service on a standalone basis with a substantial majority of sales priced within a relatively narrow range. If an insufficient number of standalone sales exist and VSOE cannot be determined, we then consider whether third party evidence can be used to establish selling price. Due to the lack of similar products and services sold by other companies within our industry, we have not established selling price using third-party evidence. If neither VSOE nor third party evidence of selling price exists, we determine our best estimate of selling price using a combination of prices set by our pricing committee adjusted for applicable discounts and customer orders received to date.

Deferred revenue primarily represents product maintenance agreement revenue that is expected to be recognized over the related service period, generally one to three years.

Net Loss Per Share

The following table presents the computation of basic and diluted net loss per share (in thousands, except per share amounts):

	Three-Months Ended September 30,		Nine-Months Ended September 30,	
Net loss per share	**2012**	**2011**	**2012**	**2011**
Numerator:				
Net loss	$(22,729)	$(29,281)	$(72,796)	$(86,565)
Denominator:				
Weighted average shares of common stock outstanding	55,877	54,283	55,582	53,541
Less: Shares of common stock subject to repurchase	—	—	—	(75)
Weighted average shares used in computation of basic and diluted net loss per share	55,877	54,283	55,582	53,466
Basic and diluted net loss per share	$ (0.41)	$ (0.54)	$ (1.31)	$ (1.62)

The following were excluded from the computation of diluted net loss per share for the periods presented because including them would have had an anti-dilutive effect (in thousands):

	As of September 30,	
	2012	**2011**
Options outstanding	10,973	8,825
Warrants to purchase common stock	10	10

Recent Accounting Pronouncements

In 2011 the FASB issued Accounting Standards Update No. 2011-04, to modify the definition of and requirements for measurement of and disclosure concerning fair value. We adopted this guidance beginning January 1, 2012. The adoption of this amendment had no impact on our financial position or results of operations.

In 2011 the FASB issued Accounting Standards Update No. 2011-05, requiring companies to present the components of other comprehensive income ("OCI") either in a single continuous statement of comprehensive income or in two separate but consecutive statements of net income and other comprehensive income. We adopted this guidance during the first quarter of 2012 and elected to disclose the OCI in a single continuous statement during interim reporting periods.

3. Cash, Cash Equivalents and Investments

We report all securities with stated maturities of 90 days or less at the date of purchase that are readily convertible into cash and have insignificant interest rate risk as cash equivalents. Our investments are carried at fair value with unrealized gains and losses reported in accumulated other comprehensive income (loss) ("OCI") in stockholders' equity. The cost of marketable securities is adjusted for the amortization of premiums and discounts to expected maturity. Premium and discount amortization is included in other income (expense), net. Realized gains and losses, as well as interest income, on available-for-sale securities are also included in other income (expense), net. The cost of securities sold is based on the specific identification method. We include all of our available-for-sale securities in current assets.

The following table summarizes our investments as of September 30, 2012 and December 31, 2011 (in thousands):

	As of September 30, 2012			
	Amortized Cost	Gross unrealized gains	Gross unrealized losses	Fair Value
Cash and cash equivalents:				
Cash and money market funds	$ 13,362	$ —	$ —	$ 13,362
Commercial paper	19,194	2	—	19,196
Total cash and cash equivalents	32,556	2	—	32,558
Investments:				
Commercial paper	25,676	7	(3)	25,680
Corporate debt securities	31,626	41	—	31,667
Asset backed securities	3,432	3	—	3,435
Certificates of deposit	4,011	8	—	4,019
U.S. government and agency securities	22,035	8	—	22,043
Total investments	86,780	67	(3)	86,844
Total cash, cash equivalents and investments	$ 119,336	$ 69	$ (3)	$ 119,402

	As of December 31, 2011			
	Amortized Cost	Gross unrealized gains	Gross unrealized losses	Fair Value
Cash and cash equivalents:				
Cash and money market funds	$ 49,267	$ —	$ —	$ 49,267
Commercial paper	9,599	—	(1)	9,598
Total cash and cash equivalents	58,866	—	(1)	58,865
Investments:				
Commercial paper	29,767	5	—	29,772
Corporate debt securities	37,379	65	(57)	37,387
Asset backed securities	9,904	7	(2)	9,909
Certificates of deposit	4,026	9	(1)	4,034
U.S. government and agency securities	37,435	35	(3)	37,467
Total investments	118,511	121	(63)	118,569
Total cash, cash equivalents and investments	$ 177,377	$ 121	$ (64)	$ 177,434

The estimated fair value of marketable debt securities (corporate debt securities, municipal bonds, U.S. government and agency securities, and U.S. treasury securities) as of September 30, 2012, by contractual maturity, are as follows:

	Fair Value
Due in one year or less	$102,605
Due after one year through 3 years	3,435
Total investments in debt securities	$106,040

Actual maturities may differ from contractual maturities because issuers may have the right to call or prepay obligations without call or prepayment penalties.

4. Balance Sheet Components

As of September 30, 2012 and December 31, 2011 our inventory, net, consisted of the following components (in thousands):

	September 30, 2012	December 31, 2011
Purchased materials, net	$ 4,332	$ 5,273
Work in process, net	3,133	5,347
Finished goods, net	2,737	4,897
Inventory, net	$ 10,202	$ 15,517

As of September 30, 2012 and December 31, 2011, our accrued expenses and other current liabilities consisted of the following (in thousands):

	September 30, 2012	December 31, 2011
Salaries and benefits	$ 4,128	$ 5,284
Legal services and matters	265	770
Customer deposits	869	1,503
Short-term portion of deferred rent	917	844
Other professional services	184	1,145
Other	646	712
Accrued expenses and other current liabilities	$ 7,009	$ 10,258

5. Contingencies

We may become subject to claims and assessments from time to time in the ordinary course of business. We accrue liabilities for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated.

Three putative class action lawsuits were filed against us and certain of our officers and directors in the Superior Court of the State of California, County of San Mateo. These actions were brought on behalf of all persons or entities who purchased or otherwise acquired our common stock pursuant or traceable to our initial public offering ("IPO") of common stock in October 2010. The claims were initiated between October 2011 and April 2012 and have since been consolidated as *In re Pacific Biosciences of California Inc. S'holder Litig.*, Case No. CIV509210 (the "State Court Action"). The plaintiffs in the State Court Action seek, among other things, compensatory damages, rescission, and attorneys' fees and costs on behalf of the putative class. Defendants in the State Court Action filed a motion to stay that lawsuit in deference to the *Primo* action pending in federal district court. On May 25, 2012, the Superior Court denied Defendants' motion to stay. Defendants in the State Court Action also filed a demurrer to certain of plaintiffs' claims, which was sustained in part and overruled in part on October 16, 2012. The Court also granted plaintiffs leave to amend their complaint.

On December 21, 2011, we and certain of our officers and directors were named in a putative class action lawsuit filed in United States District Court for the Northern District of California (*Primo v. Pacific Biosciences of California, Inc., et al.*, Case No. 4:11-CV-06599). On April 11, 2012, an amended complaint was filed in the *Primo* action, which added another plaintiff, Evan Powell. As amended, the complaint alleges violations of several provisions of the federal securities laws arising out of alleged misstatements or omissions in our August 16, 2010 registration statement (effective, as amended, on October 26, 2010), and by us and/or our employees during the class period. The complaint seeks, among other things, compensatory damages, rescission, and attorneys' fees and costs on behalf of the putative class. On April 6, 2012, Mr. Primo was appointed lead plaintiff in the action. Defendants in the *Primo* action have filed a motion to dismiss the amended complaint. A hearing on Defendants' motion to dismiss was held on October 11, 2012. A decision on the motion to dismiss has not yet been issued.

On December 29, 2011, we were named as a nominal defendant, along with certain of our directors as individual defendants, in a purported shareholder derivative lawsuit filed in United States District Court for the Northern District of California (*Burlingame v. Martin et al.*, Case No. 4:11-CV-06703). The complaint alleges that the director defendants breached various fiduciary duties owed to us, engaged in waste of corporate assets, and were, as a result, unjustly enriched. The complaint seeks, among other things, restitution of director profits allegedly obtained as a result of the aforesaid conduct, improvement of our corporate governance procedures, and attorneys' fees and costs. On February 28, 2012, the *Burlingame* action was related to the *Primo* action and transferred to the same judge hearing the *Primo* action.

Pursuant to Delaware law, we may have obligations, under certain circumstances, to hold harmless and indemnify each of our directors and certain officers, including those named in the *State Court Action* or the *Primo* or *Burlingame* actions, against judgments, fines, settlements and expenses related to claims arising against such directors and officers to the fullest extent permitted under Delaware law, our bylaws and certificate of incorporation. Such obligations for indemnification may apply to these lawsuits. In addition, we may have obligations, under certain circumstances, to hold harmless and indemnify each of the underwriters from our IPO and their respective affiliates, directors and officers against any and all losses, claims, damages and liabilities related to claims arising against such parties pursuant to the terms of the underwriting agreement between the underwriters and the Company.

We believe that the allegations in each of these pending actions are without merit and intend to vigorously contest the actions. However, there can be no assurance that we will be successful in our defense.

In addition, from time to time, we are a party to litigation and subject to claims incident to the ordinary course of business.

We cannot determine the ultimate outcome of these lawsuits. We cannot provide an estimate of the possible loss or possible range of loss associated with the resolution of these contingencies with certainty or confidence; therefore we have not provided an estimate and we have not recorded a liability.

6. Litigation Settlements

During April 2012, the Company entered into a settlement agreement with Life Technologies Corporation to settle a complaint filed by Life Technologies Corporation seeking review of a patent interference decision of the U.S. Patent and Trademark Office. Additionally, during April 2012, the Company entered into a settlement and release agreement with Helicos Biosciences Corporation, or Helicos, and Arizona Science and Technology Enterprises LLC d/b/a Arizona Technology Enterprises, or AzTE, to resolve all existing patent litigation between the parties. The settlement terms with Helicos and AzTE also include other features such as worldwide, non-exclusive limited licenses for the Company to all patents owned by Helicos and the two asserted patents in-licensed by Helicos from AzTE in the field relevant to the Company's current products, and a perpetual covenant not to sue. The Company determined the principal benefit of the settlement with Helicos and AzTE was the economic benefit of avoiding litigation expenses and that the value attributable to other settlement features was believed to be de minimus. No value was assigned to the licenses from Helicos and AzTE as the Company does not believe any of our current or future products would fall under any valid and enforceable claims in the licensed applications and patents.

We recorded a $1.8 million charge to selling, general and administrative expense during the first quarter of fiscal 2012. The payment of the $1.8 million was made during the six-month period ended June 30, 2012.

7. Stock Option Plans

As of September 30, 2012, we had three active equity compensation plans, the 2010 Equity Incentive Plan, or 2010 Plan, the 2010 Outside Director Equity Incentive Plan, or 2010 Director Plan, and the 2010 Employee Stock Purchase Plan, or ESPP.

As of September 30, 2012, 395,973 shares of our common stock have been reserved for issuance under the ESPP. Our ESPP permits eligible employees to purchase common stock at a discount through payroll deductions during defined offering periods. Each offering period generally consists of four purchase periods, each purchase period being six months. The price at which the stock is purchased is equal to the lower of 85% of the fair market value of the common stock at the beginning of an offering period or at the end of a purchase period. Shares issued under the ESPP totaled 404,274 and 832,878 shares during the three and nine-month periods ended September 30, 2012 respectively, and 620,424 shares were issued during the three and nine-month periods ended September 30, 2011. We estimate the value of the employee stock purchase rights on the date of grant using the Black-Scholes model.

The following table summarizes stock option activity for all stock option plans (in thousands, except per share amounts):

		Common Stock Options Outstanding		
	Shares available for grant	Number of shares	Exercise price per share	Weighted average exercise price per share
Balances, December 31, 2011	1,441	10,522	$ 0.20 – 16.00	$ 6.69
Additional shares reserved	3,298			
Options granted	(3,507)	3,507	$ 1.81 – 4.79	$ 3.80
Options exercised	—	(368)	$ 0.20 – 3.86	$ 1.56
Options canceled	2,688	(2,688)	$ 1.96 – 16.00	$ 8.37
Balances, September 30, 2012	3,920	10,973	$ 0.20 – 16.00	$ 5.99

Stock-based Compensation

Total stock-based compensation expense for employee stock options and stock purchases under the ESPP consists of the following (in thousands):

	Three-Month Periods Ended September 30,		Nine-Month Periods Ended September 30,	
	2012	2011	2012	2011
Cost of revenue	$ 84	$ 125	$ 393	$ 250
Research and development	1,181	1,509	3,384	4,794
Sales, general and administrative	1,123	1,355	3,381	4,056
Total stock-based compensation expense	$ 2,388	$ 2,989	$ 7,158	$ 9,100

We estimated the fair value of employee stock options using the Black-Scholes option pricing model. The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period of the awards.

The fair values of the common stock underlying stock options granted through the date of our initial public offering, ("IPO"), were estimated by our board of directors, which intended all options granted to be exercisable at a price per share not less than the per share fair value of our common stock underlying those options on the date of grant. The fair value of the shares of common stock underlying the stock options has historically been the responsibility of and determined by our board of directors. Because there was no public market for our common stock, our board of directors determined fair value of the common stock at the time of grant of the option by considering a number of objective and subjective factors including independent third-party valuations of our common stock, sales of convertible preferred stock to unrelated third parties, operating and financial performance, the lack of liquidity of capital stock and general and industry specific economic outlook, amongst other factors. The fair value of the underlying common stock was determined by our board of directors until such time as our common stock was publicly traded. Our common stock became publicly listed upon our IPO from which time options granted are issued with a strike price equal to the closing price on the date of grant.

The fair value of employee stock options was estimated using the following weighted average assumptions:

	Three-Month Periods Ended September 30,		Nine-Month Periods Ended September 30,	
	2012	2011	2012	2011
Expected term in years	6.1	6.1	6.1	6.1
Expected volatility	60.0%	60.0%	64.6%	57.6%
Risk-free interest rate	0.9%	1.3%	1.1%	1.9%
Dividend yield	—	—	—	—

Expected term — Expected term represents the period that our stock-based awards are expected to be outstanding. Our assumptions about the expected term have been on our historic cancellation and exercise experience and trends as well as our expectations for future periods.

Expected volatility — We do not have sufficient trading history to solely rely on the volatility of our own common stock for establishing expected volatility. Therefore, we based our expected volatility on the historical stock volatilities of our common stock as well as several comparable publicly listed companies over a period equal to the expected terms of the options.

Risk-free interest rate — The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant for zero coupon U.S. Treasury notes with maturities approximately equal to the option's expected term.

Expected dividend yield — We have never paid dividends and do not expect to pay dividends in the foreseeable future.

Expected forfeiture rate — We estimate our forfeiture rate based on an analysis of our actual forfeitures and will continue to evaluate the adequacy of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover behavior and other factors. The impact from a forfeiture rate adjustment will be recognized in full in the period of adjustment, and if the actual number of future forfeitures differs from that estimated, we may be required to record adjustments to stock-based compensation expense in future periods.

8. Subsequent Events

During April 2012, we filed a shelf registration statement on Form S-3 with the SEC pursuant to which we may, from time to time, sell up to an aggregate of $150 million of our common stock, warrants or debt securities. On May 1, 2012, the registration statement was declared effective by the SEC, which will allow us to access the capital markets for the three year period following this effective date. On October 5, 2012, we entered into a Controlled Equity Offering Sales Agreement ("Sales Agreement") with Cantor Fitzgerald & Co. ("Cantor") pursuant to which we may offer and sell, from time to time, through Cantor shares of our common stock having an aggregate offering price of up to $30.0 million through an "at-the-market offering." We are not obligated to make any sales of shares under the Sales Agreement. We will pay Cantor a commission equal to 3% of the gross proceeds from the sale of shares of our common stock under the Sales Agreement and reimburse up to $50,000 of legal expenses incurred by Cantor.

9. Restructuring

During September 2011, we implemented a workforce reduction of approximately 130 employees, or 28% of our workforce. The actions taken were in consideration of uncertainties associated with the economic environment and to position the Company for long-term success. The costs associated with this restructuring consisted of termination benefits of approximately $4.9 million, of which $3.5 million is included in research and development expense and $1.4 million is included in sales, general and administrative expense for the three and nine-month periods ended September 30, 2011. The accrued restructuring balance as of December 31, 2011 and September 30, 2012 is zero, as all related amounts had been settled or paid.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

This Quarterly Report on Form 10-Q contains forward-looking statements that involve risks and uncertainties. Forward-looking statements are based on our management's beliefs and assumptions and on information currently available to them. Such forward looking statements include, but are not limited to, statements related to: our expectations regarding our future losses, our expectations regarding our future sources of revenue, the timing of the conversion of our backlog, our expectations regarding our operating expenses; our expectations regarding our interest expense, our financial outlook; our expected revenues, gross margin, research and development expenses, and sales, general and administrative expenses, revenue recognition; our ability to fulfill customer orders; our investments and financing obligations; the effect of global market fluctuations; our expected expenses, including research and development expenses and administrative expenses; our beliefs about our ability to finance our operations; the development and marketability of our products; the potential dilution of current stockholders; our use of any funds raised through the sale of securities; as well as statements of belief and statements of assumptions underlying any of the foregoing. In some cases you can identify forward-looking statements by words such as "may," "will," "should," "could," "would," "expect," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential" and similar expressions intended to identify forward-looking statements. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including the risks faced by us and described under the heading "Risk Factors" in Part II, Item 1A of this Quarterly Report on Form 10-Q and our other filings with the SEC. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this Quarterly Report on Form 10-Q. You should read this Quarterly Report on Form 10-Q completely and with the understanding that our actual future results may be materially different from those we expect. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

Overview

We have developed and commercialized an integrated platform for genetic analysis. Combining nanofabrication, biochemistry, molecular biology, surface chemistry and optics, we created a technology platform called single molecule, real-time, or SMRT, technology. Our initial focus is to use our SMRT technology in the DNA sequencing market where we have developed and commercialized our first product, the PacBio *RS* High Resolution Genetic Analyzer. The PacBio *RS* consists of an instrument platform that uses our proprietary consumables, including our SMRT Cells and reagent kits.

Since our incorporation in 2000 through the first quarter of 2011 we primarily focused on developing our technology, undertaking engineering activities to develop our products, conducting initial marketing of our products, and pre-production activities associated with the commercial launch of the PacBio *RS* during April 2011. We have financed our operations primarily through the issuance of common and convertible preferred stock resulting in $575.0 million in net proceeds. Since our inception, we have incurred significant net losses and we expect to continue to experience significant losses as we invest in developing and taking advantage of market opportunities for our products, servicing and supporting customers, development of enhancements and updates to existing products, development of future products, and sales and administrative infrastructure. As of September 30, 2012, we had an accumulated deficit of $514.4 million.

Basis of Presentation

Revenue

During the three- and nine-month periods ended September 30, 2012 and 2011, the majority of our revenue related to the sale of PacBio *RS* instruments and associated consumables and services. Service and other revenue primarily consists of revenue derived from product maintenance agreements, while grant revenue represents amounts earned under research agreements with government entities which are recognized in the period during which the related costs are incurred.

We anticipate that our future revenue will be generated primarily from sales of our PacBio *RS* instruments and consumables, comprised of SMRT Cells and reagent kits, and system maintenance agreements.

As of September 30, 2012, our backlog was comprised of five instruments. We define backlog as purchase orders or signed contracts for systems from our customers which we believe are firm and for which we have not yet recognized revenue. We expect to convert this backlog to revenue during the fourth quarter of 2012 and the first quarter of 2013.

Cost of Revenue

Cost of revenue reflects the direct cost of product components, third party manufacturing services and our internal manufacturing overhead and customer service infrastructure costs incurred to produce, deliver, maintain and support our instruments, consumables, and services.

Manufacturing overhead, comprised mainly of labor costs, is determined and capitalized into inventory based on management's estimate of normal manufacturing capacity. Normal capacity is the production level expected to be achieved over a number of periods

under normal circumstances with available resources. Our current manufacturing volumes are below expected normal capacities, therefore manufacturing overhead incurred during the period exceeds the amounts absorbed into inventory and included in cost of revenue. As excess manufacturing resources are engaged in next generation product research and development, production of product used internally for R&D, and other R&D support activities, manufacturing costs in excess of amounts reflected in inventory and cost of revenue are expensed as a component of research and development expense during the period in which the expenses are incurred.

Service costs include the direct costs of components used in support, repair and maintenance of customer instruments as well as the cost of personnel, materials and support infrastructure necessary to support the installed customer base. As we are in the early stages of the commercial launch of our products, the capacity of our existing service infrastructure exceeds the number of installed customer instruments. Therefore, management has estimated the capacity of the existing service infrastructure and recognizes service related cost of revenue based on the installed base. As a result, total service infrastructure costs exceed the costs associated with the support of customer instruments and such excess costs are included as a component of sales, general and administrative expense.

Operating Expense

Research and Development Expense. Research and development expense consists primarily of expenses for personnel engaged in the development of our SMRT technology, the design and development of our products, including the PacBio *RS* , SMRT Cells and reagent kits and the scientific research necessary to produce commercially viable applications of our technology. These expenses also include prototype-related expenditures, development equipment and supplies, facilities costs and other related overhead.

Sales, General and Administrative Expense. Sales, general and administrative expense consists primarily of personnel-related expense related to our executive, legal, finance, sales, marketing, field service, customer support, and human resource functions, as well as fees for professional services and facility costs. Professional services consist principally of external legal, accounting and other consulting services. Selling, general and administrative recurring expenses are expected to increase gradually over time as we continue to add resources to our sales and support infrastructure.

Restructuring Expense. During September 2011, we implemented a workforce reduction of approximately 130 employees, or 28% of our workforce. The actions taken were in consideration of uncertainties associated with the economic environment and to position us for long-term success. The cost associated with this restructuring consists of termination benefits of approximately $4.9 million, of which $3.5 million is included in research and development expense and $1.4 million is included in sales, general and administrative expense for the three- and nine-month periods ended September 30, 2011.

Other Income (Expense), Net

Other income (expense), net consists primarily of interest income earned, accretion of discounts and amortization of premiums on investment balances, net gains or losses on foreign currency transactions, net losses from disposal of fixed assets, and foreign income taxes. Our interest income will vary each reporting period depending on our average investment balances during the period and market interest rates. Other income, net also includes interest expense relating to our facility financing obligations resulting from lease agreements entered into in 2010. We expect interest expense to fluctuate in the future with changes in the obligations.

Income Taxes

Since inception, we have incurred net losses and have not recorded any U.S. federal or state income tax benefits for such losses as they have been offset by valuation allowances.

While such trends are important to understanding and evaluating our financial results, the other transactions, events and trends discussed in “Risk Factors” in this report may also materially impact our business operations and financial results.

Critical Accounting Policies and Estimates

Management’s Discussion and Analysis of Financial Condition and Results of Operations is based upon our Condensed Consolidated Financial Statements, which we have prepared in accordance with U.S. generally accepted accounting principles (“GAAP”). The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, cost of revenue, and operating expenses, and related disclosure of contingent assets and liabilities. Management bases its estimates on historical experience and on various other assumptions that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, if different estimates reasonably could have been used, or if changes in the estimate that are reasonably likely to occur could materially impact the financial statements. During the three- and nine-month periods ended September 30, 2012, there have been no significant changes in our critical accounting policies and estimates as compared to the disclosures in Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2011.

Results of Operations

Comparison of the Three-Month Periods Ended September 30, 2012 and 2011

(in thousands, except percentages)	Three-Month Period Ended September 30, 2012	2011	Increase/ (Decrease)	% Increase/ (Decrease)
	(unaudited)			
Revenue:				
Product revenue	$ 1,268	$ 9,819	$ (8,551)	(87%)
Service and other revenue	1,283	535	748	140%
Grant revenue	225	165	60	36%)
Total revenue	2,776	10,519	(7,743)	(74%)
Cost of Revenue:				
Cost of product revenue	960	6,546	(5,586)	(85%)
Cost of service and other revenue	1,626	645	981	152%
Total cost of revenue	2,586	7,191	(4,605)	(64%)
Gross profit	190	3,328	(3,138)	(94%)
Operating Expense:				
Research and development	12,626	20,001	(7,375)	(37%)
Sales, general and administrative	10,143	12,764	(2,621)	(21%)
Total operating expense	22,769	32,765	(9,996)	(31%)
Operating loss	(22,579)	(29,437)	6,858	23%
Other income (expense), net	(150)	156	(306)	(196%)
Net loss	$ (22,729)	$ (29,281)	$ 6,552	22%

Revenue

Our total revenue for the third quarter of 2012 was $2.8 million compared to $10.5 million in the third quarter of 2011. Product revenue in the third quarter of 2012 consisted of approximately $1.3 million from sales of consumables compared to $9.4 million from sales of our PacBio *RS* instruments and $0.4 million from sales of consumables in the third quarter of 2011. Instrument revenue in the three-month period ended September 30, 2011 reflects 15 instrument installations and acceptances during the period. No revenue from the sale of PacBio *RS* instruments was recognized during the third quarter of 2012. Service and other revenue of $1.3 million and $0.5 million, for the third quarter of 2012 and 2011, respectively, was primarily derived from product maintenance agreements sold in conjunction with PacBio *RS* instruments.

We expect our fourth quarter revenue to increase sequentially from the third quarter of 2012 primarily reflecting increases in both instrument revenue and recurring consumable revenue.

Gross Profit

Gross profit of $0.2 million and $3.3 million for the third quarter of 2012 and 2011, respectively, pertains to consumable shipments and services provided to our installed base of instruments as well as the recognition of revenue on 15 PacBio *RS* instruments during the third quarter of 2011. Cost of product revenue of $1.0 million for the third quarter of 2012 reflects the costs relating to components and manufacturing overhead incurred on the consumables that were shipped during the period. Cost of product revenue of $6.5 million for the three-month period ended September 30, 2011 reflects part of the costs relating to components and manufacturing overhead incurred on the 15 instruments that were delivered and installed during the period. A significant portion of the costs associated with the instrument revenue recognized during the third quarter of 2011 were expensed as research and development costs during earlier periods prior to the finalization of the commercial designs, specifications and configurations of our products. Cost of service and other revenue of $1.6 million and $0.6 million for the third quarter of 2012 and 2011, respectively, reflect the costs of personnel, materials and support infrastructure necessary to support the installed base of PacBio *RS* instruments. We expect our overall gross margin will be near break-even during the fourth quarter of 2012.

Research and Development Expense

During the third quarter of 2012, research and development expenses decreased $7.4 million, or 37%, compared to the third quarter of 2011. The decrease was driven primarily by a $7.1 million decrease in personnel related expense, including stock-based compensation, due to lower headcount in 2012 compared to 2011. The decrease in expenses also includes a $1.3 million decrease in supplies, equipment and consulting costs, offset by a $1.3 million increase in amounts allocated to research and development as a result of decreased commercial production volumes. Research and development expense included stock-based compensation expense of $1.2 million and $1.5 million during the third quarter of 2012 and 2011, respectively. Research and development expense for the third quarter of 2011 include $3.5 million of restructuring costs. Research and development expenses during the fourth quarter of 2012 are expected to be comparable to those incurred during the third quarter of 2012. Research and development expenses can fluctuate due to the timing of when certain activities such as prototype expenses occur.

Sales, General and Administrative Expense

For the third quarter of 2012, selling, general and administrative expenses decreased $2.6 million, or 21%, compared to the third quarter of 2011. The decrease was driven primarily by a $1.1 million decrease in personnel related expense, including stock-based compensation, due to decreased headcount in 2012 compared to 2011. The decrease in expenses also reflects a $0.7 million increase in service cost allocations to cost of service and a $0.7 million decrease in professional and consulting services. Sales, general and administrative expense included stock-based compensation expense of $1.1 million and $1.4 million during the third quarter of 2012 and 2011, respectively. Included in sales, general and administrative expense for the third quarter of 2011 is $1.4 million of restructuring costs. Sales, general and administrative expenses during the fourth quarter of 2012 are expected to be comparable to those incurred during the third quarter of 2012.

Other Income (Expense), Net

Other income (expense), net changed from $0.2 million of net income in the third quarter of 2011 to $0.2 million net expense in the third quarter of 2012 with the change primarily attributed to fixed assets written off during the third quarter of 2012.

Comparison of the Nine-Month Periods Ended September 30, 2012 and 2011

(in thousands, except percentages)	Nine-Month Period Ended September 30, 2012	2011	Increase/ (Decrease)	% Increase/ (Decrease)
	(unaudited)			
Revenue:				
Product revenue	$ 15,810	$ 19,966	$ (4,156)	(21%)
Service and other revenue	3,620	728	2,892	397%
Grant revenue	675	725	(50)	(7%)
Total revenue	20,105	21,419	(1,314)	(6%)
Cost of Revenue:				
Cost of product revenue	14,949	9,083	5,866	65%
Cost of service and other revenue	4,843	839	4,004	477%
Total cost of revenue	19,792	9,922	9,870	99%
Gross profit	313	11,497	(11,184)	(97%)
Operating Expense:				
Research and development	35,971	63,665	(27,694)	(43%)
Sales, general and administrative	36,986	34,899	2,087	6%
Total operating expense	72,957	98,564	(25,607)	(26%)
Operating loss	(72,644)	(87,067)	14,423	17%
Other income (expense), net	(152)	502	(654)	(130%)
Net loss	$ (72,796)	$ (86,565)	$ 13,769	16%

Revenue

Our total revenue for the nine-month period ended September 30, 2012 was $20.1 million compared to $21.4 million in the nine-month period ended September 30, 2011. Product revenue during the nine-month period ended September 30, 2012 consisted of approximately $12.5 million from sales of our PacBio *RS* instruments and approximately $3.3 million from sales of consumables compared to $19.4 million from sales of our PacBio *RS* instruments and $0.6 million from sales of consumables during the nine-month period ended September 30, 2011. Instrument revenue for the nine-month periods ended September 30, 2012 reflects the 18

instrument installations and acceptances during the period. Instrument revenue for the nine-month periods ended September 30, 2011 reflects the 31 instrument installations, 11 of which were beta instruments that were upgraded to commercial specifications, and 20 additional instruments delivered and installed during the period. Service and other revenue of $3.6 million and $0.7 million, for the nine-month periods ended September 30, 2012 and 2011, respectively, was primarily derived from product maintenance agreements sold in conjunction with PacBio *RS* instruments.

Gross Profit

Gross profit of $0.3 million and $11.5 million for the nine-month periods ended September 30, 2012 and 2011 corresponds to the recognition of revenue on 18 and 31 PacBio *RS* instruments, respectively, as well as consumable shipments and services provided to our installed base of instruments. Cost of product revenue of $14.9 million for the nine-month period ended September 30, 2012 reflects the costs relating to components and manufacturing overhead incurred on the 18 instruments that were installed and consumables that were shipped during the period. Cost of product revenue of $9.1 million for the nine-month period ended September 30, 2011 reflects a portion of the costs relating to components and manufacturing overhead incurred on the 31 instruments that were delivered and installed during the period. A significant portion of the costs associated with the instrument revenue recognized during the period in 2011 were expensed as research and development costs during earlier periods prior to the finalization of the commercial designs, specifications and configurations of our products. Cost of revenue for the nine-month period ended September 30, 2012 also included $0.7 million of expense associated with our C2 release in the first quarter of 2012 and a $0.9 million charge associated with provision for excess and obsolete inventory based on a review of on hand inventory and future demand. Cost of service and other revenue of $4.8 million and $0.8 million for the nine-month periods ended September 30, 2012 and 2011, respectively, reflect the costs of personnel, materials and support infrastructure necessary to support the installed base of PacBio *RS* instruments.

Research and Development Expense

During the nine-month period ended September 30, 2012, research and development expenses decreased $27.7 million, or 43%, compared to the same period ended September 30, 2011. The decrease was driven primarily by a $16.4 million decrease in personnel related expense, including stock-based compensation, due to lower headcount in 2012 compared to 2011. The decrease in expenses also includes a $4.0 million decrease related to expensed instrument development components accounted for as development expense in 2011, a $3.2 million decrease in supplies, development materials and prototype-related expenses, a $1.3 million decrease in facility and technology expenses, a $1.0 million decrease in consulting and professional services and a net decrease of $1.8 million in other research and development expenses. Additionally, research and development expense for the nine-month period ended September 30, 2011 included $3.5 million of restructuring costs. Research and development expense included stock-based compensation expense of $3.4 million and $4.8 million during the nine-month periods ended September 30, 2012 and 2011, respectively.

Research and development expenses incurred during the first quarter of 2011 include costs associated with the finalization of commercial designs, specifications and configurations for our products prior to commercial launch during the second quarter of 2011. During the nine-month periods ended September 30, 2012 and 2011, research and development expenses were reduced by the capitalization of $6.5 million and $6.1 million, respectively, of manufacturing overhead into inventory.

Sales, General and Administrative Expense

For the nine-month period ended September 30, 2012, selling, general and administrative expenses increased $2.1 million, or 6%, compared to the same period ended September 30, 2011. The increase was driven primarily by a $3.6 million increase in legal and other professional and consulting expenses primarily related to litigation, including settlement charges of $1.8 million relating to the resolution of two intellectual property matters. The increase in expenses also includes a $0.9 million increase in depreciation expense partially offset by $2.6 million increase in service cost allocations to cost of service. Allocation of service related costs from sales, general and administrative expense to cost of service began in conjunction with the commercial launch during the second quarter of 2011. Sales, general and administrative expense included stock-based compensation expense of $3.4 million and $4.1 million during the nine-month periods ended September 30, 2012 and 2011, respectively. Included within sales, general and administrative expenses for the nine-month period ended September 30, 2011 is $1.4 million of restructuring costs.

Other (Expense) Income, Net

Other income (expense), net changed from $0.5 million of net income for the nine-month period ended September 30, 2011 to a net expense of $0.2 million for the nine-month period ended September 30, 2012. The change was primarily attributed to fixed assets written off during the first and third quarter of 2012 and lower interest income in the nine-month period ended September 30, 2012 compared to the nine-month period ended September 30, 2011. The decrease in interest income was primarily a result of lower average investment balances in 2012 as compared to 2011.

Liquidity and Capital Resources

Since our inception we have financed our operations primarily through the issuance of convertible preferred stock and the issuance of common stock through our initial public offering resulting in $575.0 million in net proceeds. As of September 30, 2012, we had cash, cash equivalents and investments of $119.4 million, a decrease of $58.0 million compared to December 31, 2011,

reflecting approximately $58.6 million of cash used during the period to fund operations and $1.3 million of fixed asset purchases partially offset by $2.7 million of proceeds from employee stock plans. Although we believe that existing cash, cash equivalents and investments will be sufficient to fund our projected operating requirements for at least 12 months, we expect to raise additional funds to support our operations through public or private equity or debt financing in the future. This expectation is based on our current operating and financing plans, which are subject to change. Factors that may affect our capital needs include, but are not limited to, slower than expected adoption of our products resulting in lower sales of our products and services; future acquisitions; our ability to maintain new collaboration and customer arrangements; the progress of our research and development programs; initiation or expansion of research programs and collaborations; the costs involved in preparing, filing, prosecuting, defending and enforcing intellectual property rights; the purchase of patent licenses; and other factors.

To the extent we raise additional funds through the sale of equity or convertible debt securities, the issuance of such securities will result in dilution to our stockholders. There can be no assurance that such funds will be available on favorable terms, or at all. If adequate funds are not available, we may be required to curtail operations significantly or to obtain funds by entering into collaboration agreements on unattractive terms. Our inability to raise capital would have a material adverse effect on our business, financial condition and results of operations.

In April 2012, we filed a shelf registration statement on Form S-3 with the SEC pursuant to which we may, from time to time, sell up to an aggregate of $150 million of our common stock, warrants or debt securities. On May 1, 2012, the registration statement was declared effective by the SEC, which will allow us to access the capital markets for the three year period following this effective date.

On October 5, 2012, we entered into a Controlled Equity Offering Sales Agreement (“Sales Agreement”) with Cantor Fitzgerald & Co. (“Cantor”) pursuant to which we may offer and sell, from time to time, through Cantor shares of our common stock having an aggregate offering price of up to $30.0 million through an “at-the-market offering.” We are not obligated to make any sales of shares under the Sales Agreement. We will pay Cantor a commission equal to 3% of the gross proceeds from the sale of shares of our common stock under the Sales Agreement and reimburse up to $50,000 of legal expenses incurred by Cantor. We intend to use the net proceeds from this offering for general corporate purposes, including capital expenditures and working capital. We may also use a portion of the net proceeds from this offering to acquire or invest in complementary businesses, technologies, product candidates or other intellectual property.

Operating Activities

Our primary uses of cash from operating activities are for the manufacturing and sale of PacBio *RS* instruments and consumables, development of ongoing product enhancements and future product releases, and support functions related to our selling, general and administrative activities. The net cash used for the nine-month periods ended September 30, 2012 and 2011 primarily reflects the net loss for those periods, partially offset by non-cash operating expenses including depreciation, stock-based compensation, and changes in operating assets and liabilities.

Net cash used in operating activities was $58.6 million for the nine-month period ended September 30, 2012 as compared to $88.2 million for the nine-month period ended September 30, 2011, due primarily to net losses of $72.8 million and $86.6 million, respectively, partially offset by depreciation and stock-based compensation of $12.2 million and $13.4 million, respectively. In addition, cash used in operating activities decreased for the nine-month period ended September 30, 2012 as compared to the same period last year primarily as a result of a decreased accounts receivable balance and inventory levels, partially offset by decreased accrued expenses and other current liabilities in 2012.

Investing Activities

Our investing activities consist primarily of net investment purchases, maturities and sales and capital expenditures. Net cash provided by investing activities was $29.6 million for the nine-month period ended September 30, 2012, comprised of net maturities of investments of $30.9 million partially offset by purchases of property and equipment of $1.3 million. Net cash used in investing activities during the same period in 2011 totaled $9.4 million, comprised of net purchases of investments of $1.6 million and purchases of property and equipment of $7.8 million.

Financing Activities

For the nine-month period ended September 30, 2012, we received $2.7 million of proceeds from the issuance of our common stock through stock option exercises and the sale of shares under our Employee Stock Purchase Plan and for the nine-month period ended September 30, 2011, we received $7.5 million from stock option exercises and the sale of shares under our Employee Stock Purchase Plan.

Off-Balance Sheet Arrangements

As of September 30, 2012 we did not have any off-balance sheet arrangements.

In the ordinary course of business, we enter into standard indemnification arrangements with our customers, suppliers, licensors and collaborators. Pursuant to these arrangements, we indemnify, hold harmless and agree to reimburse the indemnified parties for losses suffered or incurred by the indemnified party, in connection with a trade secret, copyright, patent or other intellectual property

infringement claim by a third party with respect to its technology, or from our performance or non-performance under a contract, or any defective products supplied by us, or any negligent acts or omissions, or willful misconduct, committed by us or any of our employees, agents or representatives. The term of these indemnification agreements is generally perpetual any time after the execution of the agreement. The maximum potential amount of future payments we could be required to make under these agreements is not determinable because it involves claims that may be made against us in future periods, but have not yet been made. To date, we have not incurred costs to defend lawsuits or settle claims related to these indemnification agreements. We also have certain indemnification obligations to our directors and certain officers, as well as the underwriters from our IPO, and we are incurring costs to defend our directors, certain officers and the underwriters in connection with several securities litigation lawsuits that we are currently a party to as described above in "Part I, Item 1. Financial Statements —Note 5. *Contingencies*" to the consolidated financial statements.

Recent Accounting Pronouncements

In 2011 the FASB issued Accounting Standards Update No. 2011-04, to modify the definition of and requirements for measurement of and disclosure concerning fair value. We adopted this guidance beginning January 1, 2012. The adoption of this amendment had no impact on our financial position or results of operations.

In 2011 the FASB issued Accounting Standards Update No. 2011-05, requiring companies to present the components of other comprehensive income either in a single continuous statement of comprehensive income or in two separate but consecutive statements of net income and other comprehensive income. We adopted this guidance during the first quarter of 2012 and elected to disclose the OCI in a single continuous statement during interim reporting periods.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate and Market Risk

Our exposure to market risk is confined to our cash, cash equivalents and our investments, all of which have maturities of less than three years. The goals of our investment policy are preservation of capital, fulfillment of liquidity needs and fiduciary control of cash and investments. We also seek to maximize income from our investments without assuming significant risk. To achieve our goals, we maintain a portfolio of cash equivalents and investments in a variety of high credit quality securities. The securities in our investment portfolio are not leveraged, are classified as available-for-sale, and are, due to their very short-term nature, subject to minimal interest rate risk. We currently do not hedge interest rate exposure. Because of the short-term maturities of our investments, we do not believe that an increase in market rates would have any material negative impact on the value of our investment portfolio.

Foreign Exchange Risk

The majority of our revenue, expense, and capital purchasing activities are transacted in U.S. dollars. However, a portion of our operations consists of sales activities outside of the United States; therefore we have foreign exchange exposures relating to non-U.S. dollar revenues, operating expenses, accounts receivable, accounts payable, and currency balances. Our primary exposure is with the Euro. We designed a hedging policy to mitigate the impact of changes in currency exchange rates on our net cash flow from foreign currency denominated sales.

Our international operations are subject to risks typical of international operations, including, but not limited to, differing economic conditions, changes in political climate, differing tax structures, other regulations and restrictions and foreign exchange rate volatility.

Item 4. Controls and Procedures.

(a) Disclosure controls and procedures.

Our management, with the participation of our chief executive officer and our chief financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on this evaluation, our chief executive officer and our chief financial officer concluded that our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our chief executive officer and our chief financial officer, as appropriate, to allow timely decisions regarding required disclosure.

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

(b) Changes in internal control over financial reporting.

There were no changes in our internal control over financial reporting that occurred during the quarter ended September 30, 2012 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings.

Information pertaining to legal proceedings can be found in "Part I, Item 1. Financial Statements—Note 5. *Contingencies* and Note 6. *Litigation Settlements*" to the consolidated financial statements, and is incorporated by reference herein.

Item 1A. Risk Factors

You should consider carefully the risks and uncertainties described below, together with all of the other information in this Quarterly Report on Form 10-Q and in our Annual Report on Form 10-K that was filed with the Securities and Exchange Commission on March 1, 2012, which could materially affect our business, financial condition, results of operations and prospects. The risks described below are not the only risks facing us. Risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially affect our business, financial condition, results of operations and prospects

Risks Related to Our Business

We are an early stage commercial company.

During 2011 we launched our first commercial product and as such, we have limited historical financial data upon which to base our projected revenue, planned operating expense or upon which to evaluate us and our commercial prospects. Based on our limited experience in developing and marketing new products, we may not be able to effectively:

- drive adoption of our products;
- attract and retain customers for our products;
- provide appropriate levels of customer training and support for our products;
- implement an effective marketing strategy to promote awareness of our products;
- focus our research and development efforts in areas that generate returns on these efforts;
- comply with evolving regulatory requirements applicable to our products;
- anticipate and adapt to changes in our market;
- maintain and develop strategic relationships with vendors and manufacturers to acquire necessary materials for the production of our products;
- scale our manufacturing activities to meet potential demand at a reasonable cost;
- avoid infringement and misappropriation of third-party intellectual property;
- obtain licenses on commercially reasonable terms to third-party intellectual property;
- obtain valid and enforceable patents that give us a competitive advantage;
- protect our proprietary technology;
- protect our products from any equipment or software-related system failures; and
- attract, retain and motivate qualified personnel.

In addition, a high percentage of our expenses is and will continue to be fixed. Accordingly, if we do not generate revenue as and when anticipated, our losses may be greater than expected and our operating results will suffer.

We have incurred losses to date, and we expect to continue to incur significant losses as we develop our business and may never achieve profitability.

We have incurred net losses since inception and we cannot be certain if or when we will produce sufficient revenue from our operations to support our costs. Even if profitability is achieved, we may not be able to sustain profitability. We expect to incur substantial losses and negative cash flow for the foreseeable future.

If our products fail to achieve and sustain sufficient market acceptance, we will not generate expected revenue and our business may not succeed.

Although we have now commercialized the PacBio *RS* and started recognizing revenue from our products, we cannot be sure that they will gain acceptance in the marketplace at levels sufficient to support our costs. Our success depends, in part, on our ability to expand the market for genetic analysis to include new applications that are not practical with other current technologies. To accomplish this, we must successfully commercialize, and continue development of, our SMRT technology for use in a variety of life science applications. There can be no assurance that we will be successful in securing additional customers for our products, in particular, our first product which is focused on DNA sequencing. Furthermore, we cannot guarantee that the design of our products, including the initial and subsequent specifications and any enhancements or improvements to those specifications, will be satisfactory to potential customers in the markets we seek to reach. These markets are dynamic, and there can be no assurance that they will develop as quickly as we expect or that they will reach their full potential. As a result, we may be required to refocus our marketing efforts, and we may have to make changes to the specifications of our products to enhance our ability to enter particular markets more quickly. Even if we are able to implement our technology successfully, we may fail to achieve or sustain market acceptance of our products by academic and government research laboratories and pharmaceutical, biotechnology and agriculture companies, among others, across the full range of our intended life science applications. If the market for our products grows more slowly than anticipated, if competitors develop better or more cost-effective products or if we are unable to develop a significant customer base, our future sales and revenue would be materially harmed and our business may not succeed. For example, in September 2011, we implemented a reduction in our workforce due in part to our infrastructure being staffed to support a faster adoption rate for our products. If the adoption rate for our products continues to be slow or does not grow, our business may be adversely affected.

Our products are highly complex, with significant support requirements.

In light of the highly complex technology involved in our products, there can be no assurance that we will be able to successfully provide adequate support for our products. Our customers have experienced reliability issues with our PacBio *RS* instruments that we believe are consistent with the introduction of similar new, highly complex products. While we believe that our customers, particularly those who were early adopters of other new DNA sequencing technologies in the past, understand that such issues can be common with novel, highly complex products like the PacBio *RS*, if our products continue to have reliability or other quality issues or require unexpected levels of support, the market acceptance and utilization of our products may not grow to levels sufficient to support our costs and our reputation and business could be harmed. We deliver our PacBio *RS* instruments with one year of service included in the purchase price with an option to purchase one or more additional years of service. Since launching our PacBio *RS* instrument during 2011, we have incurred significant service and support costs. If service and support costs increase, our business and operations may be adversely affected.

We may not be able to produce instruments that consistently achieve the specifications and quality that our customers expect.

We have established performance standards for our commercial products that we may not consistently achieve using our current design and manufacturing processes. If we do not consistently achieve the specifications and quality that our customers expect, customer demand may be negatively affected. Customers may refuse to accept our products in a timely manner or at all, which would adversely affect our revenue. Any inability to meet performance standards may materially impact the commercial viability of our products and harm our business.

We may be unable to consistently manufacture our consumable kits, including SMRT Cells, to the specifications required by our customers or in quantities necessary to meet demand at an acceptable cost.

In order to successfully derive revenue from our products, we need to supply our customers with consumable kits to be used with our instruments. We have limited experience manufacturing these consumable kits. For example, the manufacture of our SMRT Cells involves complex manufacturing processes. Since we are in an early phase of producing SMRT Cells, our current manufacturing yields are low and therefore the cost of manufacturing these products is high. Our customers have experienced variability in the performance of our SMRT Cells. There is no assurance that we will be able to manufacture our consumable kits or SMRT Cells so that they consistently achieve the product specifications and quality that our customers expect. There is also no assurance that we will be able to increase manufacturing yields and decrease costs. Furthermore, we may not be able to increase manufacturing capacity for our consumable kits or SMRT Cells to meet anticipated demand. An inability to manufacture consumable kits and SMRT Cells that consistently meet specifications, in necessary quantities and at commercially acceptable costs, will have a negative material impact on our business.

We may not be able to convert our orders in backlog into revenue.

Our backlog represents product orders from our customers that we have confirmed and for which we have not yet recognized revenue. We may not receive revenue from these orders, and the order backlog we report may not be indicative of our future revenue.

Many events can cause an order to be delayed or not completed at all, some of which may be out of our control. If we delay fulfilling customer orders, those customers may seek to cancel their orders with us. In addition, customers may otherwise seek to cancel or delay their orders even if we are prepared to fulfill them. If our orders in backlog do not result in sales, our operating results may suffer.

Rapidly changing technology in life sciences could make the products we are developing obsolete unless we continue to develop and manufacture new and improved products and pursue new market opportunities.

Our industry is characterized by rapid and significant technological changes, frequent new product introductions and enhancements and evolving industry standards. Our future success will depend on our ability to continually improve our products, to develop and introduce new products that address the evolving needs of our customers on a timely and cost-effective basis and to pursue new market opportunities. These new market opportunities may be outside the scope of our proven expertise or in areas which have unproven market demand, and new products and services developed by us may not gain market acceptance. Our inability to gain market acceptance of new products could harm our future operating results. Our future success also depends on our ability to manufacture new and improved products to meet customer demand in a timely and cost-effective manner, including our ability to resolve manufacturing issues that may arise as we commence production of these complex products. Unanticipated difficulties or delays in replacing existing products with new products or in manufacturing improved or new products in sufficient quantities to meet customer demand could diminish future demand for our products and harm our future operating results.

We may be unable to develop our future commercial applications.

Our future business depends on our ability to execute on our plans to develop, manufacture and market additional commercial applications of our SMRT technology. Future commercial applications will require significant investments of cash and resources and we may experience unexpected delays or difficulties that could postpone our ability to commercially launch these future applications, which could have a material adverse effect on our business, prospects, operating results and financial condition.

A significant portion of our potential sales depends on customers' capital spending budgets that may be subject to significant and unexpected variation which could have a negative effect on the demand for our product.

We have based our business model on our belief that the market for sequencing products is large and expected to grow significantly. The market is still developing and we cannot quantify the size of the market with certainty. Growth in the market is dependent on increases in the demand for sequencing products from both research institutions and commercial companies. A substantial portion of our potential product sales represent significant capital purchases by customers. Our potential customers include academic and government institutions, genome centers, medical research institutions, pharmaceutical, agricultural, biotechnology and chemical companies. Their capital spending budgets can have a significant effect on the demand for our products. These budgets are based on a wide variety of factors, including the allocation of available resources to make purchases, funding from government sources which is highly uncertain, the spending priorities among various types of research equipment and policies regarding capital expenditures during recessionary periods. Any decrease in capital spending or change in spending priorities of our potential customers could significantly reduce the demand for our products. Moreover, we have no control over the timing and amount of purchases by these potential customers, and as a result, revenue from these sources may vary significantly due to factors that can be difficult to forecast. We may also have to write off excess or obsolete inventory if sales of our products are not consistent with our expectations or the market requirements for our products change due to technical innovations in the marketplace. Any delay or reduction in purchases by potential customers or our inability to forecast fluctuations in demand could harm our future operating results. In addition, if the market for our products is not as large as we expected and if the market does not grow as rapidly as we expected, demand for our products could be adversely affected.

We have limited experience in sales and marketing of our products and, as a result, may be unable to successfully increase sales of our products.

We have limited experience in sales and marketing of our products. Our ability to achieve profitability depends on our ability to attract customers for our products. We may be unable to effectively market our products. To perform sales, marketing, distribution and customer support successfully, we will face a number of risks, including:

- our ability to attract, retain and manage the sales, marketing and service personnel necessary to expand market acceptance for our technology;
- the time and cost of maintaining and growing a specialized sales, marketing and service force for a particular application, which may be difficult to justify in light of the revenue generated; and
- our sales, marketing and service force may be unable to initiate and execute successful commercial activities.

We enlist third parties to assist with sales, distribution and customer support globally or in certain regions of the world. There is no guarantee, if we enter into such arrangements, that we will be successful in attracting desirable sales and distribution partners or that we will be able to enter into such arrangements on favorable terms. If our sales and marketing efforts, or those of any third-party sales and distribution partners, are not successful, our technologies and products may not gain market acceptance, which could materially impact our business operations.

We have limited experience in manufacturing our products. If we are unable to manufacture sufficient quantities of our products with sufficient quality by ourselves or with partners in a timely manner, our ability to sell our products may be harmed.

In order to manufacture our products in volume, we need to maintain sufficient internal manufacturing capacity or contract with manufacturing partners, or both. Our technology and the manufacturing process for our products are highly complex, involving a large number of unique parts, and we may encounter difficulties in manufacturing our products. There is no assurance that we will be able to consistently meet the volume and quality requirements necessary to be successful in the market. Manufacturing and product quality issues may arise as we adjust the scale of our production. If our products do not consistently meet our customers' performance expectations, our reputation may be harmed, and we may be unable to generate sufficient revenue to become profitable. Any delay or inability in maintaining or expanding our manufacturing capacity to meet customer demand could diminish our ability to sell our products, which could result in lost revenue and seriously harm our business, financial condition and results of operations.

We rely on other companies for the manufacture of certain components and sub-assemblies and intend to outsource additional sub-assemblies in the future. We may not be able to successfully scale the manufacturing process necessary to build and test multiple products on a full commercial basis, in which event our business would be materially harmed.

Our products are complex and involve a large number of unique components, many of which require precision manufacturing. The nature of the products requires customized components that are currently available from a limited number of sources, and in some cases, single sources. We have chosen to source certain critical components from a single source, including suppliers for our SMRT Cell chips, reagents and instruments. If we were required to purchase these components from an alternative source, it could take several months or longer to qualify the alternative sources. If we are unable to secure a sufficient supply of these product components, we will be unable to manufacture and sell our products in a timely fashion or in sufficient quantities or under acceptable terms. Additionally, for some of those components that are currently purchased from a sole or single source supplier, we have not yet arranged for alternative suppliers.

The operations of our third-party manufacturing partners and suppliers could be disrupted by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier. Certain of our suppliers and logistics centers are located in regions that have been or may be affected by earthquake and tsunami activity, which could disrupt the flow of components and sub-assemblies. A significant natural disaster, such as an earthquake, a hurricane, volcano, or a flood, could have a material adverse impact on our business, operating results, and financial condition. If our manufacturing partners or suppliers are unable or fail to fulfill their obligations to us, we might not be able to manufacture our products and satisfy customer demand in a timely manner, and our business could be harmed as a result. Our current manufacturing process is characterized by long lead times between the ordering and delivery of our products. We will need to take steps to scale the manufacturing process; including lowering the manufacturing costs of our products as well as improvements to our manufacturing yields and cycle times, manufacturing documentation, and quality assurance and quality control procedures. If we are unable to reduce our manufacturing costs and establish and maintain reliable high volume manufacturing as we scale our operations, our business could be materially harmed.

Delivery of our products could be delayed or disrupted by factors beyond our control, and we could lose customers as a result.

We rely on third-party carriers for the timely delivery of our products. As a result, we are subject to carrier disruptions and increased costs that are beyond our control, including worker strikes, inclement weather and increased fuel costs. Any failure to deliver products to our customers in a timely and accurate manner may damage our reputation and brand and could cause us to lose customers. If our relationship with any of these third-party carriers is terminated or impaired or if any of these third parties is unable to deliver our products, the delivery and acceptance of our products by our customers may be delayed which could harm our business and financial results. In addition, some of our consumable products need to be kept at a constant temperature. If our third-party carriers are not able to maintain those temperatures during shipment, our products may be rendered unusable by our customers. The failure to deliver our products in a timely manner may harm our relationship with our customers, increase our costs and otherwise disrupt our operations.

We may encounter difficulties in managing future growth, and these difficulties could impair our profitability.

We expect to experience growth in the future, which may place a strain on our human and capital resources. If we are unable to manage future growth effectively, our business and operating results could suffer. Our ability to manage our operations and costs, including research and development, costs of components, manufacturing, sales and marketing, requires us to continue to enhance our operational, financial and management controls, reporting systems and procedures and to attract and retain sufficient numbers of talented employees. If we are unable to scale up and implement improvements to our manufacturing process, develop reliable third-party manufacturers of sub-assemblies and control systems in an efficient or timely manner, or if we encounter deficiencies in existing systems and controls, we will not be able to make available the products required to meet future customer demand for our products. Failure to attract and retain sufficient numbers of talented employees will further strain our human resources and could impede our growth.

We depend on the continuing efforts of our senior management team and other key personnel. If we lose members of our senior management team or other key personnel or are unable to successfully retain, recruit and train qualified scientists, engineering and other personnel, our ability to develop our products could be harmed, and we may be unable to achieve our goals.

Our future success depends upon the continuing services of members of our senior management team and scientific and engineering personnel. In particular, our scientists and engineers are critical to our future technological and product innovations, and we will need to hire additional qualified personnel. Our industry, particularly in the San Francisco Bay Area, is characterized by high demand and intense competition for talent, and the turnover rate can be high. We compete for qualified management and scientific personnel with other life science companies, academic institutions and research institutions, particularly those focusing on genomics. These employees could leave our company with little or no prior notice and would be free to work for a competitor. If one or more of our senior executives or other key personnel were unable or unwilling to continue in their present positions, we may not be able to replace them easily or at all, and other senior management may be required to divert attention from other aspects of the business. In addition, we do not have “key person” life insurance policies covering any member of our management team or other key personnel. The loss of any of these individuals or our ability to attract or retain qualified personnel, including scientists, engineers and others, could prevent us from pursuing collaborations and adversely affect our product development and introductions, business growth prospects, results of operations and financial condition.

Adverse conditions in the global economy and disruption of financial markets may significantly harm our revenue, profitability and results of operations.

The global economy and credit and capital markets have experienced recent volatility and disruption. Volatility and disruption of financial markets could limit our customers’ ability to obtain adequate financing or credit to purchase and pay for our products in a timely manner or to maintain operations, which could result in a decrease in sales volume that could harm our results of operations. General concerns about the fundamental soundness of domestic and international economies may also cause our customers to reduce their purchases. Changes in governmental banking, monetary and fiscal policies to address liquidity and increase credit availability may not be effective. We may experience changes in other income as a result of volatility in the global economy, including interest rates and expenses. Significant government investment and allocation of resources to assist the economic recovery of sectors which

do not include our customers may reduce the resources available for government grants and related funding for life sciences research and development. Continuation or further deterioration of these financial and macroeconomic conditions could significantly harm our sales, profitability and results of operations.

It is likely that we will need additional financing to fund our existing operations. Securities we issue to fund our operations could dilute your ownership.

It is likely that we will raise additional funds through public or private debt or equity financing. Such additional funds may not be available on terms acceptable to us or at all, particularly in light of recent market conditions. If we raise funds by issuing equity securities, the percentage ownership of our stockholders will be reduced, and the new equity securities may have priority rights over current investors. In April 2012, we filed a shelf registration statement on Form S-3 with the SEC pursuant to which we may, from time to time, sell up to an aggregate of $150 million of our common stock, warrants or debt securities. On May 1, 2012, the registration statement was declared effective by the SEC, which will allow us to access the capital markets for the three year period following this effective date. On October 5, 2012, we entered into the Sales Agreement with Cantor pursuant to which we may offer and sell, from time to time, through Cantor shares of our common stock having an aggregate offering price of up to $30.0 million through an "at-the-market offering." We are not obligated to make any sales of shares under the Sales Agreement. We will pay Cantor a commission equal to 3% of the gross proceeds from the sale of shares of our common stock under the Sales Agreement and reimburse up to $50,000 of legal expenses incurred by Cantor. We intend to use the net proceeds from this offering for general corporate purposes, including capital expenditures and working capital. We may also use a portion of the net proceeds from this offering to acquire or invest in complementary businesses, technologies, product candidates or other intellectual property.

We operate in a highly competitive industry and if we are not able to compete effectively, our business and operating results will likely be harmed.

Some of our current competitors, as well as many of our potential competitors, have greater name recognition, more substantial intellectual property portfolios, longer operating histories, significantly greater resources to invest in new technologies, more substantial experience in new product development and manufacturing capabilities and more established distribution channels to deliver products to customers than we do. These competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards or customer requirements. In light of these advantages, even if our technology is more effective than the products or service offerings of our competitors, current or potential customers might accept competitive products and services in lieu of purchasing our technology. Increased competition may result in pricing pressures, which could harm our sales, profitability or market share. Our failure to compete effectively could materially and adversely affect our business, financial condition or results of operations.

Our sales cycle is lengthy and unpredictable, which makes it difficult to forecast revenue and may increase the magnitude of quarterly fluctuations in our operating results.

Our PacBio *RS* has a lengthy sales and purchase order cycle because it is a major capital item and generally requires the approval of our customers' senior management. This may contribute to substantial fluctuations in our quarterly operating results, particularly during the periods in which our sales volume is low. Because of these fluctuations, it is likely that in some future quarters our operating results will fall below the expectations of securities analysts or investors. If that happens, the market price of our stock would likely decrease. Past fluctuations in our quarterly operating results have resulted in decreases in our stock price. Such fluctuations also mean that investors may not be able to rely upon our operating results in any particular period as an indication of future performance.

Our products could have unknown defects or errors, which may give rise to claims against us or divert application of our resources from other purposes.

Any product using our SMRT technology will be complex and may develop or contain undetected defects or errors. We cannot provide assurance that material performance problems will not arise. Despite testing, defects or errors may arise in our products, which could result in a failure to achieve increased market acceptance, diversion of development resources, injury to our reputation and increased warranty, service and maintenance costs. We ship our PacBio *RS* instruments with one year of service included in the purchase price with an option to purchase one or more additional years of service. We provide a twelve-month warranty period for the PacBio *RS*. The warranty is limited to replacing, repairing or giving credit for, at our option, any instrument for which a warranty claim is provided to us within the warranty period. We also provide a warranty for our consumables, but claims must be made within 30 days from the shelf life date or "use by" date. The warranty is limited to replacing, or at our option, giving credit for, any consumable with defects in material or workmanship. Defects or errors in our products might also discourage customers from purchasing our products. The costs incurred in correcting any defects or errors may be substantial and could adversely affect our operating margins. In addition, such defects or errors could lead to the filing of product liability claims against us, which could be costly and time-consuming to defend and result in substantial damages. Although we have product liability insurance, any future product liability insurance that we procure may not protect our assets from the financial impact of a product liability claim. Moreover, we may not be able to obtain adequate insurance coverage on acceptable terms. Any insurance that we do obtain will be subject to deductibles and coverage limits. A product liability claim could have a serious adverse effect on our business, financial condition and results of operations.

Increased market adoption of our products by customers may depend on the availability of sample preparation and informatics tools, some of which may be developed by third parties.

Our commercial success may depend in part upon the development of sample preparation and software and informatics tools by third parties for use with our products. We cannot guarantee that third parties will develop tools that will be useful with our products or be viewed as useful by our customers or potential customers. A lack of additional available complementary sample preparation and informatics tools may impede the adoption of our products and may adversely impact our business.

Ethical, legal and social concerns surrounding the use of genetic information could reduce demand for our technology.

Our products may be used to provide genetic information about humans, agricultural crops and other living organisms. The information obtained from our products could be used in a variety of applications, which may have underlying ethical, legal and social concerns, including the genetic engineering or modification of agricultural products or testing for genetic predisposition for certain medical conditions. Governmental authorities could, for safety, social or other purposes, call for limits on or regulation of the use of genetic testing. Such concerns or governmental restrictions could limit the use of our products, which could have a material adverse effect on our business, financial condition and results of operations.

Our products could in the future be subject to regulation by the U.S. Food and Drug Administration or other domestic and international regulatory agencies, which could increase our costs and delay our commercialization efforts, thereby materially and adversely affecting our business and results of operations.

Our products are not currently subject to U.S. Food and Drug Administration, or FDA, clearance or approval since they are not intended for use in the diagnosis or treatment of disease. However, in the future, certain of our products or related applications could be subject to FDA regulation, or the FDA's regulatory jurisdiction could be expanded to include our products. Even where a product is exempted from FDA clearance or approval, the FDA may impose restrictions as to the types of customers to which we can market and sell our products. Such regulation and restrictions may materially and adversely affect our business, financial condition and results of operations.

Many countries have laws and regulations that could affect our products. The number and scope of these requirements are increasing. Unlike many of our competitors, this is an area where we do not have expertise. We may not be able to obtain regulatory approvals in such countries or may incur significant costs in obtaining or maintaining our foreign regulatory approvals. In addition, the export by us of certain of our products which have not yet been cleared for domestic commercial distribution may be subject to FDA or other export restrictions.

Our operations involve the use of hazardous materials, and we must comply with environmental, health and safety laws, which can be expensive and may adversely affect our business, operating results and financial condition.

Our research and development and manufacturing activities involve the use of hazardous materials, including chemicals and biological materials, and some of our products include hazardous materials. Accordingly, we are subject to federal, state, local and foreign laws, regulations and permits relating to environmental, health and safety matters, including, among others, those governing the use, storage, handling, exposure to and disposal of hazardous materials and wastes, the health and safety of our employees, and the shipment, labeling, collection, recycling, treatment and disposal of products containing hazardous materials. Liability under environmental laws and regulations can be joint and several and without regard to fault or negligence. For example, under certain circumstances and under certain environmental laws, we could be held liable for costs relating to contamination at our or our predecessors' past or present facilities and at third-party waste disposal sites. We could also be held liable for damages arising out of human exposure to hazardous materials. There can be no assurance that violations of environmental, health and safety laws will not occur as a result of human error, accident, equipment failure or other causes. The failure to comply with past, present or future laws could result in the imposition of substantial fines and penalties, remediation costs, property damage and personal injury claims, investigations, the suspension of production or product sales, loss of permits or a cessation of operations. Any of these events could harm our business, operating results and financial condition. We also expect that our operations will be affected by new environmental, health and safety laws and regulations on an ongoing basis, or more stringent enforcement of existing laws and regulations. Although we cannot predict the ultimate impact of any such new laws and regulations, or such more stringent enforcement, they will likely result in additional costs and may increase penalties associated with violations or require us to change the content of our products or how we manufacture them, which could have a material adverse effect on our business, operating results and financial condition.

Our facilities in California are located near known earthquake faults, and the occurrence of an earthquake or other catastrophic disaster could cause damage to our facilities and equipment, which could require us to cease or curtail operations.

Our facilities in the San Francisco Bay Area are located near known earthquake fault zones and are vulnerable to damage from earthquakes. We are also vulnerable to damage from other types of disasters, including fire, floods, power loss, communications failures and similar events. If any disaster were to occur, our ability to operate our business at our facilities would be seriously, or potentially completely, impaired. In addition, the nature of our activities could cause significant delays in our research programs and commercial activities and make it difficult for us to recover from a disaster. The insurance we maintain may not be adequate to cover our losses resulting from disasters or other business interruptions. Accordingly, an earthquake or other disaster could materially and adversely harm our ability to conduct business.

Doing business internationally creates operational and financial risks for our business.

Conducting and launching operations on an international scale requires close coordination of activities across multiple jurisdictions and time zones and consumes significant management resources. If we fail to coordinate and manage these activities effectively, our business, financial condition or results of operations could be adversely affected. International sales entail a variety of risks, including longer payment cycles and difficulties in collecting accounts receivable outside of the United States, currency exchange fluctuations, challenges in staffing and managing foreign operations, tariffs and other trade barriers, unexpected changes in legislative or regulatory requirements of foreign countries into which we sell our products, difficulties in obtaining export licenses or in overcoming other trade barriers and restrictions resulting in delivery delays and significant taxes or other burdens of complying with a variety of foreign laws. In conducting our international operations, we will be subject to U.S. laws relating to our international activities, as well as foreign laws relating to our activities in other countries. Failure to comply with these laws may subject us to financial and other penalties in the U.S. and foreign countries that could impact our operations or financial condition.

Changes in the value of the relevant currencies may affect the cost of certain items required in our operations. Changes in currency exchange rates may also affect the relative prices at which we are able sell products in the same market. Our revenue from international customers may be negatively impacted as increases in the U.S. dollar relative to our international customers local currency could make our products more expensive, impacting our ability to compete. Our costs of materials from international suppliers may increase if in order to continue doing business with us they raise their prices as the value of the U.S. dollar decreases relative to their local currency. Foreign policies and actions regarding currency valuation could result in actions by the United States and other countries to offset the effects of such fluctuations. The recent global financial downturn has led to a high level of volatility in foreign currency exchange rates and that level of volatility may continue, which could adversely affect our business, financial condition or results of operations.

We are subject to existing and potential additional governmental regulation that may impose burdens on our operations, and the markets for our products may be narrowed.

We are subject, both directly and indirectly, to the adverse impact of existing and potential future government regulation of our operations and markets. For example, export of our instruments may be subject to strict regulatory control in a number of jurisdictions. The failure to satisfy export control criteria or to obtain necessary clearances could delay or prevent shipment of products, which could adversely affect our revenue and profitability. Moreover, the life sciences industry, which is expected to be one of the primary markets for our technology, has historically been heavily regulated. There are, for example, laws in several jurisdictions restricting research in genetic engineering, which may narrow our markets. Given the evolving nature of this industry, legislative bodies or regulatory authorities may adopt additional regulation that adversely affects our market opportunities. Additionally, if ethical and other concerns surrounding the use of genetic information, diagnostics or therapies become widespread, there may be less demand for our products. See also our risk factor above titled “Ethical, legal and social concerns surrounding the use of genetic information could reduce demand for our technology.” Our business is also directly affected by a wide variety of government regulations applicable to business enterprises generally and to companies operating in the life science industry in particular. See also our risk factors above titled “Our products could in the future be subject to regulation by the U.S. Food and Drug Administration or other domestic and international regulatory agencies, which could increase our cost and delay our commercialization efforts, thereby materially and adversely affecting our business and results of operations” and “Our operations involve the use of hazardous materials, and we must comply with environmental, health and safety laws, which can be expensive and may adversely affect our business, operating results and financial condition.” Failure to comply with these regulations or obtain or maintain necessary permits and licenses could result in a variety of fines or other censures or an interruption in our business operations which may have a negative impact on our ability to generate revenue and could increase the cost of operating our business.

If we fail to maintain proper and effective internal control, our ability to produce accurate financial statements on a timely basis could be impaired, which would adversely affect our business and our stock price.

Ensuring that we have adequate internal financial and accounting controls and procedures in place to produce accurate financial statements on a timely basis is a costly and time-consuming effort that needs to be re-evaluated frequently. We may in the future discover areas of our internal financial and accounting controls and procedures that need improvement. Operating as a public company requires sufficient resources within the accounting and finance functions in order to produce timely financial information, ensure the level of segregation of duties, and maintain adequate internal control over financial reporting customary for a U.S. public company.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. Our management does not expect that our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system’s objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within our company will have been detected.

Pursuant to Section 404 of the Sarbanes-Oxley Act, we were required to perform an evaluation of our internal control over financial reporting by December 31, 2011. While we performed this evaluation and concluded that our internal control over financial reporting was operating effectively as of December 31, 2011, there can be no assurance that in the future material weaknesses or significant deficiencies will not exist or otherwise be discovered. In addition, if we are unable to produce accurate financial statements on a timely basis, investors could lose confidence in the reliability of our financial statements, which could cause the market price of our common stock to decline and make it more difficult for us to finance our operations and growth.

Our ability to use net operating losses to offset future taxable income may be subject to substantial limitations.

Under Section 382 of the Internal Revenue Code, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change net operating losses, or NOLs, to offset future taxable income. We believe that we have had one or more ownership changes, as a result of which our existing NOLs are currently subject to limitation. Future changes in our stock ownership, including pursuant to any sales of equity securities we may make under our Form S-3 Registration Statement, could result in additional ownership changes under Section 382. We may not be able to utilize a material portion of our NOLs, even if we attain profitability.

We may not realize the anticipated benefits from our restructuring efforts.

On September 20, 2011, we implemented a restructuring that resulted in a reduction of our workforce in order to manage and reduce our operating costs and expenses. If we experience unanticipated inefficiencies or incremental costs in connection with our restructuring activities we may be unable to realize cost reductions and we may incur additional expenses. There can be no assurance that we will realize the benefits that we anticipate from our restructuring activities or that such activities will reduce our operating expenses and improve our cost structure.

Risks Related to Our Intellectual Property

Failure to secure patent or other intellectual property protection for our products and improvements to our products may reduce our ability to maintain any technological or competitive advantage over our competitors and potential competitors.

Our ability to protect and enforce our intellectual property rights is uncertain and depends on complex legal and factual questions. Our ability to establish or maintain a technological or competitive advantage over our competitors may be diminished because of these uncertainties. For example:

- we or our licensors might not have been the first to make the inventions covered by each of our pending patent applications or issued patents;
- we or our licensors might not have been the first to file patent applications for these inventions;
- it is possible that neither our pending patent applications nor the pending patent applications of our licensors will result in issued patents;
- our patents or the patents of our licensors may not be of sufficient scope to prevent others from practicing our technologies, developing competing products, designing around our patented technologies or independently developing similar or alternative technologies;
- our and our licensors' patent applications or patents have been, and may in the future be, subject to interference, opposition or similar administrative proceedings, which could result in those patent applications failing to issue as patents, those patents being held invalid or the scope of those patents being substantially reduced;
- we may not adequately protect our trade secrets;
- we may not develop additional proprietary technologies that are patentable; or
- the patents of others may limit our freedom to operate and prevent us from commercializing our technology in accordance with our plans.

The occurrence of any of these events could impair our ability to operate without infringing upon the proprietary rights of others or prevent us from establishing or maintaining a competitive advantage over our competitors.

Variability in intellectual property laws may adversely affect our intellectual property position.

Intellectual property laws, and patent laws and regulations in particular, have been subject to significant variability either through administrative or legislative changes to such laws or regulations or changes or differences in judicial interpretation, and it is expected that such variability will continue to occur. Additionally, intellectual property laws and regulations differ among countries. Variations in the patent laws and regulations or in interpretations of patent laws and regulations in the United States and other countries may diminish the value of our intellectual property and may change the impact of third-party intellectual property on us. Accordingly, we cannot predict the scope of patents that may be granted to us, the extent to which we will be able to enforce our patents against third parties or the extent to which third parties may be able to enforce their patents against us.

Some of the intellectual property that is important to our business is owned by other companies or institutions and licensed to us, and changes to the rights we have licensed may adversely impact our business.

We license from third parties some of the intellectual property that is important to our business, including patent licenses from Cornell Research Foundation, Indiana University Research and Technology Corporation, Stanford University and GE Healthcare Bio-Sciences Corp. If we fail to meet our obligations under these licenses, these third parties could terminate the licenses. If the third parties who license intellectual property to us fail to maintain the intellectual property that we have licensed, or lose rights to that intellectual property, the rights we have licensed may be reduced or eliminated, which could subject us to claims of intellectual property infringement. Termination of these licenses or reduction or elimination of our licensed rights may result in our having to negotiate new or reinstated licenses with less favorable terms, or could subject us to claims of intellectual property infringement in litigation or other administrative proceedings that could result in damage awards against us and injunctions that could prohibit us from selling our products. In addition, some of our licenses from third parties limit the field in which we can use the licensed technology. Therefore, in order for us to use such licensed technology in potential future applications that are outside the licensed field of use, we may be required to negotiate new licenses with our licensors or expand our rights under our existing licenses. We cannot assure you that we will be able to obtain such licenses or expanded rights on reasonable terms or at all. In addition, we have limited rights to participate in the prosecution and enforcement of the patents and patent applications that we have licensed. As a result, we cannot be certain that these patents and applications will be prosecuted and enforced in a manner consistent with the best interests of our business. Further, because of the rapid pace of technological change in our industry, we may need to rely on key technologies developed or licensed by third parties, and we may not be able to obtain licenses and technologies from these third parties at all or on reasonable terms. The occurrence of these events may have a material adverse effect on our business, financial condition or results of operations.

The measures that we use to protect the security of our intellectual property and other proprietary rights may not be adequate, which could result in the loss of legal protection for, and thereby diminish the value of, such intellectual property and other rights.

In addition to patents, we also rely upon trademarks, trade secrets, copyrights and unfair competition laws, as well as license agreements and other contractual provisions, to protect our intellectual property and other proprietary rights. Despite these measures, any of our intellectual property rights could be challenged, invalidated, circumvented or misappropriated. In addition, we attempt to protect our intellectual property and proprietary information by requiring our employees, consultants and certain academic collaborators to enter into confidentiality and assignment of inventions agreements, and by requiring our third-party manufacturing partners to enter into confidentiality agreements. There can be no assurance, however, that such measures will provide adequate protection for our intellectual property and proprietary information. These agreements may be breached, and we may not have adequate remedies for any such breach. In addition, our trade secrets and other proprietary information may be disclosed to others, or others may gain access to or disclose our trade secrets and other proprietary information. Enforcing a claim that a third party illegally obtained and is using our trade secrets is expensive and time consuming, and the outcome is unpredictable. Additionally, others may independently develop proprietary information and techniques that are substantially equivalent to ours. The occurrence of these events may have a material adverse effect on our business, financial condition or results of operations.

Our intellectual property may be subject to challenges in the United States or foreign jurisdictions that could adversely affect our intellectual property position.

Our pending, issued and granted U.S. and foreign patents and patent applications have been, and may in the future be, subject to challenges by third parties asserting prior invention by others or invalidity on various grounds, through proceedings, such as interferences, reexamination or opposition proceedings. Addressing these challenges to our intellectual property can be costly and distract management's attention and resources. For example, we incurred significant legal expenses in the first half of 2012 to litigate and settle a complaint filed by Life Technologies Corporation seeking review of a patent interference decision of the U.S. Patent and Trademark Office (see "Part I, Item 1. Financial Statements –Note 6. *Litigation Settlements*"). Additionally, as a result of these challenges, our patents or pending patent applications may be determined to be unpatentable to us, invalid or unenforceable, in whole or in part. Accordingly, adverse rulings from the relevant patent offices in these proceedings may negatively impact the scope of our intellectual property protection for our products and technology and may adversely affect our business.

Some of our technology is subject to "march-in" rights by the U.S. government.

Some of our patented technology was developed with U.S. federal government funding. When new technologies are developed with U.S. government funding, the government obtains certain rights in any resulting patents, including a nonexclusive license authorizing the government to use the invention for non-commercial purposes. These rights may permit the government to disclose our confidential information to third parties and to exercise "march-in" rights to use or allow third parties to use our patented technology. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the U.S. government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, U.S. government-funded inventions must be reported to the government and U.S. government funding must be disclosed in any resulting patent applications. In addition, our rights in such inventions are subject to government license rights and foreign manufacturing restrictions.

We may become involved in legal proceedings to enforce our intellectual property rights.

Our intellectual property rights involve complex factual, scientific and legal questions. We operate in an industry characterized by significant intellectual property litigation. Even though we may believe that we have a valid patent on a particular technology, other companies may have from time to time taken, and may in the future take, actions that we believe violate our patent rights. Legal actions to enforce these patent rights can be expensive and may involve the diversion of significant management time and resources. Our enforcement actions may not be successful, could give rise to legal claims against us and could result in some of our intellectual property rights being determined to be invalid or not enforceable.

We could in the future be subject to legal proceedings with third parties who may claim that our products infringe or misappropriate their intellectual property rights.

Our products are based on complex, rapidly developing technologies. We may not be aware of issued or previously filed patent applications belonging to third parties that mature into issued patents that cover some aspect of our products or their use. In addition, because patent litigation is complex and the outcome inherently uncertain, our belief that our products do not infringe third-party patents of which we are aware or that such third-party patents are invalid and unenforceable may be determined to be incorrect. As a result, third parties may claim that we infringe their patent rights and may file lawsuits or engage in other proceedings against us to enforce their patent rights. For example, we incurred significant legal expenses in the first half of 2012 to litigate and settle a complaint filed by Helicos Biosciences Corporation alleging that our products infringe patents owned and in-licensed by Helicos (see "Part I, Item 1. Financial Statements – Note 6. *Litigation Settlements*"). In addition, as we enter new markets, our competitors and other third parties may claim that our products infringe their intellectual property rights as part of a business strategy to impede our successful entry into those markets. In fact, several companies in our industry, such as Life Technologies Corporation, Illumina, Inc. and Complete Genomics, Inc., are involved in patent litigation with each other. Additionally, we have certain obligations to many of our customers to indemnify and defend them against claims by third parties that our products or their use infringe any intellectual property of these third parties. In defending ourselves against any of these claims, we could incur substantial costs, and the attention of our management and technical personnel could be diverted. Even if we have an agreement to indemnify us against such costs, the indemnifying party may be unable to uphold its contractual obligations. To avoid or settle legal claims, it may be necessary or desirable in the future to obtain licenses relating to one or more products or relating to current or future technologies, which could negatively affect our gross margins. We may not be able to obtain these licenses on commercially reasonable terms, or at all. We may be unable to modify our products so that they do not infringe the intellectual property rights of third parties. In some situations the results of litigation or settlement of claims may require that we cease allegedly infringing activities which could prevent us from selling some or all of our products. The occurrence of these events may have a material adverse effect on our business, financial condition or results of operations.

In addition, in the course of our business we may from time to time have access or be alleged to have access to confidential or proprietary information of others, which though not patented, may be protected as trade secrets. Others could bring claims against us asserting that we improperly used their confidential or proprietary information, or misappropriated their technologies and incorporated those technologies into our products. A determination that we illegally used the confidential or proprietary information or misappropriated technologies of others in our products could result in our having to pay substantial damage awards or be prevented from selling some or all of our products, which could adversely affect our business.

We have not yet registered some of our trademarks in all of our potential markets, and failure to secure those registrations could adversely affect our business.

Some of our trademark applications may not be allowed for registration, and our registered trademarks may not be maintained or enforced. In addition, in the U.S. Patent and Trademark Office and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings.

Our use of "open source" software could adversely affect our ability to sell our products and subject us to possible litigation.

A portion of our products or technologies developed and/or distributed by us incorporate "open source" software and we may incorporate open source software into other products or technologies in the future. Some open source software licenses require that we disclose the source code for any modifications to such open source software that we make and distribute to one or more third parties, and that we license the source code for such modifications to third parties, including our competitors, at no cost. We monitor the use of open source software in our products to avoid uses in a manner that would require us to disclose or grant licenses under our source code that we wish to maintain as proprietary, however there can be no assurance that such efforts have been or will be successful. In some circumstances, distribution of our software that includes or is linked with open source software could require that we disclose and license some or all of our proprietary source code in that software, which could include permitting the use of such software and source code at no cost to the user. Open source license terms are often ambiguous, and there is little legal precedent governing the interpretation of these licenses. Successful claims made by the licensors of open source software that we have violated the terms of these licenses could result in unanticipated obligations including being subject to significant damages, being enjoined from distributing products that incorporate open source software, and being required to make available our proprietary source code pursuant to an open source license, which could substantially help our competitors develop products that are similar to or better than ours and otherwise adversely affect our business.

Risks Relating to Owning Our Common Stock

Our share price is volatile, and you may be unable to sell your shares at or above the price you paid to acquire it.

The market price of our common stock is subject to wide fluctuations in response to many risk factors listed in this section, and others beyond our control, including:

- actual or anticipated fluctuations in our bookings, financial condition and operating results;
- announcements of technological innovations by us or our competitors;
- overall conditions in our industry and market;
- addition or loss of significant customers;
- changes in laws or regulations applicable to our products;
- actual or anticipated changes in our growth rate relative to our competitors;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- additions or departures of key personnel;
- competition from existing products or new products that may emerge;
- issuance of new or updated research or reports by securities analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- disputes or other developments related to proprietary rights, including patents, litigation matters and our ability to obtain intellectual property protection for our technologies;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us or our stockholders;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares; and
- general economic and market conditions.

Furthermore, in the past and recently, stock markets have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of our common stock. You may not realize any return on your investment in us and may lose some or all of your investment. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We are currently a party to this type of litigation (see "Part I, Item 1. Financial Statements—Note 5. *Contingencies*") and may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

If securities or industry analysts publish negative reports about our business, our share price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that securities or industry analysts publish about us or our business. If one or more of the analysts who cover us downgrade our shares or change their opinion of our shares, our share price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

Future sales of our common stock could cause our share price to fall.

In April 2012, we filed a shelf registration statement on Form S-3 with the SEC pursuant to which we may, from time to time, sell up to an aggregate of $150 million of our common stock, warrants or debt securities. On May 1, 2012, the registration statement was declared effective by the SEC, which will allow us to access the capital markets for the three year period following this effective date. On October 5, 2012, we entered into the Sales Agreement with Cantor pursuant to which we may offer and sell, from time to time, through Cantor shares of our common stock having an aggregate offering price of up to $30.0 million through an "at-the-market offering." We are not obligated to make any sales of shares under the Sales Agreement. The sale of securities under the Form S-3 registration statement, including pursuant to the Sales Agreement, will result in dilution of our stockholders and could cause our share price to fall. In addition, the holders of a significant number of shares of our common stock are entitled to rights with respect to registration of such shares under the Securities Act pursuant to an investor rights agreement between such holders and us. If such holders, by exercising their registration rights, sell a large number of shares, they could adversely affect the market price for our

common stock. If we file a registration statement for the purpose of selling additional shares to raise capital and are required to include shares held by these holders pursuant to the exercise of their registration rights, our ability to raise capital may be impaired. Such holders have waived their registration rights with respect to the sale of shares pursuant to the Sales Agreement through March 2013. We have also filed a registration statement on Form S-8 under the Securities Act to register shares for issuance under our 2004 Equity Incentive Plan, 2005 Stock Plan, 2010 Equity Incentive Plan, 2010 Employee Stock Purchase Plan and 2010 Outside Director Equity Incentive Plan. Each of our 2010 Equity Incentive Plan, 2010 Employee Stock Purchase Plan and 2010 Outside Director Equity Incentive Plan provides for automatic increases in the shares reserved for issuance under the plan which could result in additional dilution to our stockholders.

Concentration of ownership by our principal stockholders may result in control by such stockholders of the composition of our board of directors.

Our existing significant stockholders, executive officers, directors and their affiliates beneficially own a significant number of our outstanding shares of common stock. As a result, these stockholders will be able to exercise a significant level of control over all matters requiring stockholder approval, including the election of directors. This control could have the effect of delaying or preventing a change of control of our company or changes in management and will make the approval of certain transactions difficult or impossible without the support of these stockholders.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our certificate of incorporation and bylaws, as amended and restated, may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and bylaws include provisions that:

- authorize our board of directors to issue, without further action by the stockholders, up to 50,000,000 shares of undesignated preferred stock and up to approximately 1,000,000,000 shares of authorized but unissued shares of common stock;
- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;
- specify that special meetings of our stockholders can be called only by our board of directors, the Chairman of the Board, the Chief Executive Officer or the President;
- establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- establish that our board of directors is divided into three classes, Class I, Class II and Class III, with each class serving staggered terms;
- provide that our directors may be removed only for cause; and
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us.

Our large number of authorized but unissued shares of common stock may potentially dilute your stockholdings.

We have a significant number of authorized but unissued shares of common stock. Our board of directors may issue shares of common stock from this authorized but unissued pool from time to time without stockholder approval, resulting in the dilution of our existing stockholders.

We do not intend to pay dividends for the foreseeable future.

We have never declared or paid any cash dividends on our common stock and do not intend to pay any cash dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the operation of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

Item 1B. Unresolved Staff Comments

None

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Recent Sales of Unregistered Securities

There have been no sales of unregistered securities during the three- and nine-month periods ended September 30, 2012.

Item 4. Mine Safety Disclosures

Not applicable.

Item 6. Exhibits

The exhibits listed in the Exhibit Index immediately preceding the exhibits are filed (other than exhibits 32.1 and 32.2) as part of this Quarterly Report on Form 10-Q and such Exhibit Index is incorporated herein by reference.

Signatures

Pursuant to the requirements of the Securities Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Date: November 1, 2012

By: /s/ SUSAN K. BARNES

Susan K. Barnes
Executive Vice President
And
Chief Financial Officer

Date: November 1, 2012

By: /s/ BRIAN B. DOW

Brian B. Dow
Vice President
And
Principal Accounting Officer

Exhibit Index

Exhibit Number	Exhibit Description
10.1	Controlled Equity Offering℠ Sales Agreement, dated October 5, 2012, by and between the registrant and Cantor Fitzgerald & Co. (incorporated by reference to Exhibit 10.1 of Form 8-K (File 001-34899) filed on October 5, 2012)
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of the Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350).
32.2	Certification of the Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350).
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Calculation Linkbase Document
101.DEF	XBRL Taxonomy Definition Linkbase Document
101.LAB	XBRL Taxonomy Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a), AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael Hunkapiller, Chairman, President and Chief Executive Officer, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Pacific Biosciences of California, Inc.;

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

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

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

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

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

Date: November 1, 2012

/s/ Michael Hunkapiller

Michael Hunkapiller
Chairman, President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a), AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Susan Barnes, Executive Vice President and Chief Financial Officer, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Pacific Biosciences of California, Inc.;

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

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

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

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

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

Date: November 1, 2012

/s/ Susan Barnes

Susan Barnes
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

Certification of CEO Furnished Pursuant to 18 U.S.C. Section 1350,
As Adopted Pursuant To
Section 906 of The Sarbanes-Oxley Act of 2002

In connection with the Quarterly Report of Pacific Biosciences of California, Inc. (the "Company") on Form 10-Q for the quarter ended September 30, 2012, as filed with the Securities and Exchange Commission on the date hereof, I, Michael Hunkapiller, Chief Executive Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that,

(i) the Quarterly Report of the Company on Form 10-Q for the period ended September 30, 2012 (the "Report"), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and

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

Date: November 1, 2012

/s/ Michael Hunkapiller
Michael Hunkapiller
Chairman, President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

Certification of CFO Furnished Pursuant to 18 U.S.C. Section 1350,
As Adopted Pursuant To
Section 906 of The Sarbanes-Oxley Act of 2002

In connection with the Quarterly Report of Pacific Biosciences of California, Inc. (the "Company") on Form 10-Q for the quarter ended September 30, 2012, as filed with the Securities and Exchange Commission on the date hereof, I, Susan Barnes, Chief Financial Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that,

(i) the Quarterly Report of the Company on Form 10-Q for the period ended September 30, 2012 (the "Report"), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and

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

Date: November 1, 2012

/s/ Susan Barnes

Susan Barnes
Executive Vice President and
Chief Financial Officer
(Principal Financial Officer)