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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, 2011

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 31, 2011: 54,812,464

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Condensed Consolidated Balance Sheets

(in thousands except share and per share amounts)	September 30, 2011 (unaudited)	December 31, 2010 (1)
Assets		
Current assets		
Cash and cash equivalents	$ 57,580	$ 147,650
Investments	136,116	136,024
Accounts receivable	4,434	341
Inventory, net	20,262	6,864
Prepaid expenses and other current assets	1,891	2,235
Total current assets	220,283	293,114
Property and equipment, net	17,359	12,311
Other long-term assets	319	322
Total assets	$ 237,961	$ 305,747
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 8,158	$ 9,515
Accrued expenses and other current liabilities	8,872	7,994
Deferred revenue	3,970	3,221
Current portion of facility financing obligation	132	110
Total current liabilities	21,132	20,840
Lease incentives and other long-term liabilities	3,321	2,114
Facility financing obligation, less current portion	2,824	2,927
Total liabilities	27,277	25,881
Stockholders' equity		
Common Stock, $0.001 par value; Authorized 1,000,000,000 shares; Issued and outstanding 54,795,382 shares at September 30, 2011 and 52,855,267 shares at December 31, 2010	55	53
Additional paid-in capital	629,365	612,001
Accumulated other comprehensive loss	(4)	(21)
Accumulated deficit	(418,732)	(332,167)
Total stockholders' equity	210,684	279,866
Total liabilities and stockholders' equity	$ 237,961	$ 305,747

(1) The condensed consolidated balance sheet at December 31, 2010 has been derived from the audited consolidated financial statements at that date but does not include all of the information and footnotes required by U.S. generally accepted accounting principles for complete financial statements.

See accompanying notes to the condensed consolidated financial statements.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Condensed Consolidated Statements of Operations
(Unaudited)

(in thousands, except share and per share amounts)	Three-Month Periods Ended		Nine-Month Periods Ended	
	September 30, 2011	September 30, 2010	September 30, 2011	September 30, 2010
Revenue:				
Product revenue	$ 9,819	$ —	$ 19,966	$ —
Service and other revenue	535	—	728	—
Grant revenue	165	220	725	1,394
Total revenue	10,519	220	21,419	1,394
Cost of Revenue:				
Cost of product revenue	6,546	—	9,083	—
Cost of service and other revenue	645	—	839	—
Total cost of revenue	7,191	—	9,922	—
Gross profit	3,328	220	11,497	1,394
Operating Expense:				
Research and development	20,001	32,873	63,665	85,279
Sales, general and administrative	12,764	8,043	34,899	19,760
Total operating expense	32,765	40,916	98,564	105,039
Operating loss	(29,437)	(40,696)	(87,067)	(103,645)
Other income (expense), net	156	(12)	502	(102)
Net loss	$ (29,281)	$ (40,708)	$ (86,565)	$ (103,747)
Basic and diluted net loss per share	$ (0.54)	$ (39.70)	$ (1.62)	$ (134.07)
Shares used in computing basic and diluted net loss per share	54,283,162	1,025,326	53,465,836	773,839

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, 2011	2010
Cash flows from operating activities		
Net loss	$ (86,565)	$(103,747)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation	4,296	3,703
Stock-based compensation	9,100	6,268
Other items	42	66
Changes in assets and liabilities		
Accounts receivable	(4,093)	(1,052)
Inventory	(15,071)	—
Prepaid expenses and other assets	1,764	(2,381)
Accounts payable	(1,209)	7,433
Accrued expenses and other current liabilities	1,658	7,061
Deferred revenue	749	—
Lease incentives and other long-term liabilities	1,127	(300)
Net cash used in operating activities	(88,202)	(82,949)
Cash flows from investing activities		
Purchase of property and equipment	(7,846)	(4,030)
Purchase of investments	(232,957)	(76,315)
Sales of investments	36,520	—
Maturities of investments	194,929	29,607
Net cash used in investing activities	(9,354)	(50,738)
Cash flows from financing activities		
Proceeds from issuance of Convertible Preferred Stock, net	—	105,874
Proceeds from issuance of Common Stock	7,486	1,298
Net cash provided by financing activities	7,486	107,172
Net decrease in cash and cash equivalents	(90,070)	(26,515)
Cash and cash equivalents at beginning of period	147,650	89,232
Cash and cash equivalents at end of period	$ 57,580	$ 62,717
Supplemental disclosure of non-cash investing and financing activities		
Assets acquired under facility financing obligation	$ —	$ 2,971
Additions to property and equipment under tenant improvement allowances	$ —	$ 1,910
Inventory transferred to property and equipment for internal use	$ 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", "PacBio", "we", "us") has commercialized a platform for single molecule, real-time detection of biological events. Our initial focus is on the DNA sequencing market where we have developed and introduced a third generation sequencing platform.

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

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America, or GAAP, for interim financial information, the instructions to Form 10-Q, and Rule 10-01 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. All intercompany accounts and transactions have been eliminated in consolidation. In the opinion of management, all adjustments, consisting of normal recurring entries considered necessary for a fair presentation have been included. The financial results present in these interim financial statements are not necessarily indicative of results to be expected for the full fiscal year or any future period.

During the second quarter of 2011, we commercially launched and generated significant revenue from our initial product, the PacBio *RS*, a third generation sequencing platform. We were considered a development-stage enterprise through March 31, 2011, but, as a result of the commercial launch during 2011, we are no longer considered a development-stage enterprise.

The balance sheet at December 31, 2010 has been derived from our audited financial statements at that date. The financial statements and related disclosures have been prepared with the presumption that users of the interim financial statements have read or have access to our audited financial statements for the preceding fiscal year. Accordingly, these financial statements should be read in conjunction with the audited financial statements and notes thereto contained in our Annual Report on Form 10-K.

Use of Estimates

The preparation of condensed consolidated 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 condensed consolidated financial statements and the reported amounts of revenue and expense during the reporting periods. Our estimates include, but are not limited to, estimated selling price, inventory valuation, cost of revenue, useful lives assigned to long-lived assets, the valuation of common stock and options, stock-based compensation expense and contingencies. We base our estimates on historical experience and on various other market-specific and other relevant assumptions that are believed 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 could differ from our estimates, and such differences could be material to our financial position and results of operations.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements—(Continued)
(Unaudited)

Fair Value of Financial Instruments

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

A fair value hierarchy was established under GAAP that 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 of 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 to be one in which transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis, and 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.

Our cash and cash equivalents, which include money market funds and commercial paper, are classified as Level I or Level II assets. Our investments, which include commercial paper, certificates of deposit, corporate debt securities, asset backed securities, and U.S. government and agency securities, are classified as Level II assets within the fair value hierarchy. We did not have any Level III items at the dates presented.

Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of 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 our financial assets that were measured at fair value as of September 30, 2011 and December 31, 2010 by level within the fair value hierarchy (in thousands).

	September 30, 2011			December 31, 2010		
	Level I	Level II	Total	Level I	Level II	Total
Assets						
Money Market Funds	$13,532	$ —	$ 13,532	$118,462	$ —	$118,462
Certificates of Deposits	—	4,053	4,053	—	—	—
Commercial Paper	—	72,618	72,618	—	59,573	59,573
Corporate Debt Securities	—	46,843	46,843	—	49,970	49,970
Asset Backed Securities	—	10,554	10,554	—	—	—
U.S. Government and Agency Securities	—	36,192	36,192	—	47,141	47,141
Total assets measured at fair value	$13,532	$170,260	$183,792	$118,462	$156,684	$275,146

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements—(Continued)
(Unaudited)

Revenue Recognition

Our revenue is generated primarily from the sale of products and services. Product revenue primarily 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 revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed or determinable, and collectibility 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 there are refund rights or payment terms based on future performance, we defer revenue recognition until the price becomes fixed or determinable. We assess collectibility 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 where revenue is derived from multiple deliverables including a mix of products 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 the control of the Company. 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 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 priced within a relatively narrow range. If there are not a sufficient number of standalone sales and VSOE cannot be determined, then we 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.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements—(Continued)
(Unaudited)

Net Loss Per Share

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

	Three-Months Ended September 30,		Nine-Months Ended September 30,	
	2011	2010	2011	2010
Net loss per share:				
Numerator				
Net loss	$ (29,281)	$ (40,708)	$ (86,565)	$(103,747)
Denominator:				
Weighted average shares of common stock outstanding	54,283,162	1,147,535	53,541,391	845,074
Less: Shares of common stock subject to repurchase	—	(122,209)	(75,555)	(71,235)
Weighted average shares used in computation of basic and diluted net loss per share	54,283,162	1,025,326	53,465,836	773,839
Basic and diluted net loss per share	$ (0.54)	$ (39.70)	$ (1.62)	$ (134.07)

The following convertible preferred stock, outstanding options, common stock subject to repurchase, and warrants to purchase convertible preferred stock 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:

	As of September 30,	
	2011	2010
Convertible Preferred Stock (on an as if converted basis)	—	37,183,560
Options outstanding	8,824,838	9,327,813
Common Stock subject to repurchase	—	178,024
Warrants to purchase Common Stock	9,898	25,282

Recent Accounting Pronouncements

In June of 2011, Accounting Standards Codification Topic 220, *Comprehensive Income* was amended to increase the prominence of items reported in other comprehensive income. Accordingly, we can present all non-owner changes in stockholders' equity either in a single continuous statement of comprehensive income or in two separate but consecutive statements. We plan to adopt this guidance as of January 1, 2012 on a retrospective basis and do not expect the adoption thereof to have a material effect on our consolidated financial statements.

In May of 2011, Accounting Standards Update No. 2011-04 ("ASU 2011-04"), *Fair Value Measurements* was amended. ASU 2011-04 clarifies the application of existing fair value measurement requirements and results in common measurement and disclosure requirements in U.S. GAAP and International Financial Reporting Standards ("IFRS"). ASU 2011-04 also expands the disclosures for fair value measurements that are estimated using significant unobservable (Level 3) inputs. This new guidance is to be applied prospectively for reporting periods beginning on or after December 15, 2011. We plan to adopt this guidance as of January 1, 2012 on a prospective basis and do not expect the adoption thereof to have a material effect on our consolidated financial statements.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements—(Continued)
(Unaudited)

3. Cash and Cash Equivalents and Investments

Our investments consist of marketable debt securities, including U.S. Government and Agency securities; corporate debt securities, bonds and asset-backed securities; mortgage-backed securities, municipal notes and bonds; and publicly traded equity securities. 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 interest income and other, net. Realized gains and losses, as well as interest income, on available-for-sale securities are also included in interest income and other, net. The cost of securities sold is based on the specific identification method. The fair values of securities are based on quoted market prices. We include all of our available-for-sale securities in current assets.

The following table summarizes the gross unrealized gains and losses and fair value for investments reported as cash and cash equivalents and investments as of September 30, 2011 and December 31, 2010 (in thousands):

	As of September 30, 2011			
	Amortized Cost	Gross unrealized gains	Gross unrealized losses	Fair Value
Cash and Cash Equivalents:				
Commercial Paper	$ 34,141	$ 3	$ —	$ 34,144
Investments:				
Commercial Paper	$ 38,470	$ 4	$ —	$ 38,474
Corporate Debt Securities	46,917	37	(111)	46,843
Asset Backed Securities	10,546	10	(2)	10,554
Certificates of Deposit	4,031	22	—	4,053
U.S. Government and Agency Securities	36,159	34	(1)	36,192
	$136,123	$ 107	$ (114)	$136,116
	$170,264	$ 110	$ (114)	$170,260

	As of December 31, 2010			
	Amortized Cost	Gross unrealized gains	Gross unrealized losses	Fair Value
Cash and Cash Equivalents:				
Commercial Paper	$ 14,495	$ —	$ —	$ 14,495
Corporate Debt Securities	6,167	—	(2)	6,165
	$ 20,662	$ —	$ (2)	$ 20,660
Investments:				
Commercial Paper	$ 45,077	$ 1	$ —	$ 45,078
Corporate Debt Securities	43,820	11	(26)	43,805
U.S. Government and Agency Securities	47,146	3	(8)	47,141
	$136,043	$ 15	$ (34)	$136,024
	$156,705	$ 15	$ (36)	$156,684

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements—(Continued)
(Unaudited)

4. Balance Sheet Components

As of September 30, 2011 and December 31, 2010 our inventory, net, consisted of the following (in thousands):

	September 30, 2011	December 31, 2010
Purchased materials	$ 5,743	$ 4,051
Work in process	9,233	2,813
Finished goods	5,286	—
Inventory, net	$ 20,262	$ 6,864

As of September 30, 2011 and December 31, 2010, our accrued expenses and other current liabilities consisted of the following (in thousands):

	September 30, 2011	December 31, 2010
Salaries and benefits	$ 5,277	$ 5,494
Professional services	1,369	659
Short-term portion of deferred rent	816	573
Customer deposits	985	—
Other	425	1,268
Accrued expenses and other current liabilities	$ 8,872	$ 7,994

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.

On August 27, 2010, we were named as a defendant in a complaint filed by Helicos Biosciences Corporation, or Helicos, alleging infringement of patents owned and in–licensed by the plaintiffs. Helicos seeks a permanent injunction enjoining us from further infringement of the asserted patents, and unspecified monetary damages. On October 22, 2010, Helicos filed an amended complaint naming additional defendants in the lawsuit. On November 8, 2010, we filed our response to Helicos' complaint denying Helicos' allegations, asserting affirmative defenses of noninfringement, invalidity and unenforceability of the claims of the patents in suit, and asserting counterclaims for declaratory judgment that our products do not infringe the claims of the patents in suit, and that those claims are invalid and unenforceable. On January 27, 2011, we filed requests that the U.S. Patent and Trademark Office ("USPTO") order re-examination of all of the claims of each of the asserted patents. The USPTO granted our request for re-examination of each of the asserted patents, and rejected all of the claims of the asserted patents as being unpatentable over prior art. On October 20, 2011, the USPTO issued actions closing prosecution in three of the asserted patents, maintaining the rejection of all claims of each of these patents as unpatentable over the prior art, and has not yet issued a further action in the fourth asserted patent. Despite our defenses and counterclaims, we cannot guarantee any outcome of this lawsuit.

On October 21, 2011 and October 24, 2011 we and certain of our officers and directors were named in two identical purported class action lawsuits filed in the Superior Court of the State of California, County of San Mateo. Plaintiffs have brought claims for violation of several provisions of federal securities laws in connection with the Company's August 16, 2010 registration statement (as amended, effective as of October 26, 2010). The complaints seek, among other things, compensatory damages, rescission, and attorney's fees and costs. 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 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.

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.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements—(Continued)
(Unaudited)

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 guarantee any outcome of these lawsuits. An estimate of the possible loss or possible range of loss associated with the resolution of these contingencies cannot be provided with certainty or confidence, and therefore no estimate is provided and we have not recorded a liability.

6. Stock Option Plans

As of September 30, 2011, we had two active equity compensation plans, the 2010 Equity Incentive Plan, or 2010 Plan, and the 2010 Outside Director Equity Incentive Plan, or 2010 Director Plan. Prior to the adoption of these plans, we granted options pursuant to the 2004 Equity Incentive Plan, through August 2005, and the 2005 Stock Plan, through October 2010. Upon termination of the predecessor plans, the shares available for grant at the time of termination, and shares subsequently returned to the plans upon forfeiture or option termination, were transferred to the successor plan in effect at the time of share return.

We also have the 2010 Employee Stock Purchase Plan, or ESPP, under which 129,576 shares of our common stock have been reserved for issuance as of September 30, 2011. Our ESPP permits eligible employees to purchase common stock at a discount through payroll deductions during defined offering periods. Each offering period will generally consist of four purchase periods, each purchase period being approximately 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 620,424 shares 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.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements—(Continued)
(Unaudited)

The following table summarizes stock option activity for all stock option plans:

		Common Stock Options Outstanding		
	Shares available for grant	Number of shares	Exercise price	Weighted average exercise price
Balances, December 31, 2010	3,637,548	9,813,373	$0.20 – 16.00	$ 6.78
Additional shares reserved				
Options granted	(1,371,200)	1,371,200	$5.99 – 15.98	$ 10.60
Options exercised	—	(1,320,542)	$0.20 – 10.84	$ 3.10
Options repurchased	851	—	$ 1.96	$ 1.96
Options canceled	1,039,193	(1,039,193)	$1.96 – 16.00	$ 9.30
Balances, September 30, 2011	3,306,392	8,824,838	$0.20 – 16.00	$ 7.62

Stock-based Compensation

Total stock-based compensation expense for employee stock options and stock purchases under the 2010 Employee stock Purchase Plan, or ESPP, consists of the following (in thousands):

	Three-Month Periods Ended September 30,		Nine-Month Periods Ended September 30,	
	2011	2010	2011	2010
Research and development	$ 1,623	$ 1,515	$ 5,029	$ 4,280
Sales, general and administrative	1,366	747	4,071	1,988
Total stock-based compensation expense	$ 2,989	$ 2,262	$ 9,100	$ 6,268

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements—(Continued)
(Unaudited)

Employee Stock-based Compensation

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 at a price equal to the closing price on the date of grant.

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

	Three-Month Periods Ended September 30,		Nine-Month Periods Ended September 30,	
	2011	2010	2011	2010
Expected term	6.1 years	6.05 years	6.1 years	6.05 years
Expected volatility	60%	55%	58%	46 - 55%
Risk-free interest rate	1.2 - 1.8%	1.6 - 2.2%	1.2 - 2.6%	1.6 - 2.6%
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 use the volatility of our own common stock for establishing expected volatility. Therefore, we based our expected volatility on the historical stock volatilities of several publicly listed comparable 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.

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.

7. Restructuring

During September 2011, the Company implemented a workforce reduction of approximately 130 employees, or 28% of its 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 consist 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.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements—(Continued)
(Unaudited)

A summary of the Company's accrued restructuring expense and accrued restructuring liability as of September 30, 2011 is as follows (in thousands):

	Expense for Three Months Ended September 30, 2011	Balance June 30 2011	Accrued	Paid	Balance September 30, 2011
Salaries and benefits	$ 4,592	$ —	$4,592	$(3,163)	$ 1,429
Administrative	347	—	347	(187)	160
Total Restructuring	$ 4,939	$ —	$4,939	$(3,350)	$ 1,589

With respect to our workforce reduction, we do not expect to incur further restructuring charges. We expect the termination benefits to be paid during the fourth quarter of 2011.

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. 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. We assume no obligation to update these forward-looking statements, whether as a result of new information, future events or otherwise.

Overview

We develop, manufacture and market an integrated platform for genetic analysis. Combining recent advances in 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* , a third generation sequencing platform. The PacBio *RS* consists of an instrument platform that uses our proprietary consumables, including our SMRT Cells and reagent kits.

During the first half of 2011, we continued commercial production of the PacBio *RS* and finalized designs for our SMRT cells and reagent kits. In April, we began commercial shipments of PacBio *RS* instruments and as of September 30, 2011, had recognized revenue on 31 instruments, including 11 beta instruments that were updated successfully to commercial specifications, as well as consumables revenue and service agreement revenue associated with the instruments.

Basis of Presentation

Revenue

During 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 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, 2011, our backlog was approximately $18 million comprised of 27 systems. We define backlog as purchase orders or signed contracts 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 through the first half of 2012.

Cost of Revenue

Cost of revenue reflects the direct cost of product components and third party manufacturing services as well as 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. 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 included the direct costs of components used in support, repair and maintenance of customer instruments as well as the cost of personnel 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.

Cost of revenue recorded during the third quarter and year-to-date 2011 reflects the costs associated with 15 system installations during the quarter and 31 year-to-date. Gross profit for the third quarter of 2011 reflects the ongoing, but declining, margin positive impact of significant instrument component costs that were expensed during prior periods pursuant to generally accepted accounting principles. As a result, a significant portion of the costs associated with the instrument revenue recognized during the periods were incurred during the periods leading up to September 30, 2010. The cost of product revenue recognized during 2011 was limited to the costs relating to components and manufacturing overhead incurred subsequent to September 30, 2010 for the 31 delivered instruments. The majority of previously expensed inventory was utilized by September 30, 2011; therefore we expect a significant increase in product related cost during the last quarter of 2011.

Operating Expense

Restructuring Expense. During September 2011, the Company implemented a workforce reduction of approximately 130 employees, or 28% of its workforce. The actions taken were in consideration of uncertainties associated with the economic environment and to position the Company for long-term success. The cost associated with this restructuring consist 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.

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 decrease in the near future and increase gradually over time as we continue to add resources to our sales and support infrastructure.

While such trends are important to understanding and evaluating our financial results, the other transactions, events and trends discussed in “Risk Factors” in Item 1A of 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. Management has discussed the development, selection and disclosure of significant estimates with the Audit Committee of our Board of Directors. 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, 2011, 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, 2010, other than the revenue policy discussed below.

Revenue Recognition

Our revenue is generated primarily from the sale of products and services. Product revenue primarily 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 revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed or determinable, and collectibility is reasonably assured. In instances where final acceptance of the product or system is required, revenue is deferred until all the acceptance criteria have been met. Revenue for product sales is recognized generally 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 there are refund rights or payment terms based on future performance, we defer revenue recognition until the price becomes fixed or determinable. We assess collectibility 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 where revenue is derived from multiple deliverables including a mix of products 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 the control of the Company. 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 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 priced within a relatively narrow range. If there are not a sufficient number of standalone sales and VSOE cannot be determined, then we 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.

Results of Operations

Comparison of the Three-month Periods Ended September 30, 2011 and 2010

(in thousands, except percentages)	Three Months Ended September 30, 2011	2010	Increase/ (Decrease)	% Increase/ (Decrease)
	(unaudited)			
Revenue:				
Product revenue	$ 9,819	$ —	$ 9,819	—
Service and other revenue	535	—	535	—
Grant revenue	165	220	(55)	(25%)
Total revenue	10,519	220	10,299	4681%
Cost of Revenue:				
Cost of product revenue	6,546	—	6,546	—
Cost of service and other revenue	645	—	645	—
Total cost of revenue	7,191	—	7,191	—
Gross profit	3,328	220	3,108	1413%
Operating Expense:				
Research and development	20,001	32,873	(12,872)	(39%)
Sales, general and administrative	12,764	8,043	4,721	59%
Total operating expense	32,765	40,916	(8,151)	(20%)
Operating loss	(29,437)	(40,696)	(11,259)	(28%)
Other income (expense), net	156	(12)	168	1400%
Net loss	$ (29,281)	$ (40,708)	$ (11,427)	(28%)

Revenue

Our total revenue for the third quarter of 2011 was $10.5 million compared to $0.2 million in the third quarter of 2010. We began commercially shipping our PacBio *RS* during the second quarter of 2011. Product revenue in the third quarter of 2011 consisted of approximately $9.4 million from sales of our PacBio *RS* instruments and approximately $0.4 million from sales of consumables. The instrument revenue stemmed from 15 instrument installations during the period. Service and other revenue of $0.5 million for the third quarter of 2011 was primarily derived from product maintenance agreements sold in conjunction with PacBio *RS* instruments.

Grant revenue earned is dependent on the grant received, the amount of the grant and subsequent work performed pursuant to the grant. For the third quarter of 2011, grant revenue remained consistent with the third quarter of 2010 at $0.2 million.

Cost of Revenue

Gross profit of $3.3 million for the third quarter of 2011 reflects the sale of 15 PacBio *RS* instruments. Cost of product revenue of $6.5 million for the period reflects the costs relating to components and manufacturing overhead incurred subsequent to September 30, 2010 for the fifteen instruments that were delivered and installed during the period. Cost of service and other revenue of $0.6 million for the period reflect the costs of personnel and support infrastructure necessary to support the installed base of PacBio RS instruments. We did not realize product costs during 2010 as revenue was derived solely from government grants.

Research and Development Expense

For the third quarter of 2011, research and development expenses decreased $12.9 million, or 39%, compared to the third quarter of 2010. The decrease was driven primarily by an $8.2 million decrease related to expensed instrument components accounted for as development expense, a $3.9 million decrease in supplies, development materials and prototype-related expenses and a $0.6 million decrease in facility and technology expenses. The 2011 results also reflect the capitalization of $2.5 million of manufacturing overhead into inventory. The decreases noted were partially offset by an increase of $2.5 million in personnel related expense relating primarily to increased manufacturing headcount. Research and development expense included stock-based compensation expense of $1.6 million and $1.5 million during the third quarter of 2011 and 2010, respectively. Included in research and development expenses for the third quarter of 2011 is $3.5 million of restructuring costs.

Sales, General and Administrative Expense

For the third quarter of 2011, selling, general and administrative expenses increased $4.7 million, or 59%, compared to the third quarter of 2010. The increase was driven primarily by a $3.7 million increase in personnel related expense, including stock-based compensation, as we built out our field sales and service functions and a $0.8 million increase in professional services primarily related to public company compliance and legal matters. Sales, general and administrative expense included stock-based compensation expense of $1.4 million and $0.7 million during the third quarter of 2011 and 2010, respectively. Included in sales, general and administrative expenses for the third quarter of 2011 is $1.4 million of restructuring costs.

Other Income (Expense), Net

The change in other income (expense), net primarily reflects an increase in interest income compared to the third quarter of 2010. The increase was primarily a result of higher average investment balances in 2011 as a result of our IPO as compared to 2010.

Comparison of the Nine-month Periods Ended September 30, 2011 and 2010

(in thousands, except percentages)	Nine Months Ended September 30, 2011	2010	Increase/ (Decrease)	% Increase/ (Decrease)
	(unaudited)			
Revenue:				
Product revenue	$ 19,966	$ —	$ 19,966	—
Service and other revenue	728	—	728	—
Grant revenue	725	1,394	(669)	(48%)
Total revenue	21,419	1,394	20,025	1437%
Cost of Revenue:				
Cost of product revenue	9,083	—	9,083	—
Cost of service and other revenue	839	—	839	—
Total cost of revenue	9,922	—	9,922	—
Gross profit	11,497	1,394	10,103	725%
Operating Expense:				
Research and development	63,665	85,279	(21,614)	(25%)
Sales, general and administrative	34,899	19,760	15,139	77%
Total operating expense	98,564	105,039	(6,475)	(6%)
Operating loss	(87,067)	(103,645)	(16,578)	(16%)
Other income (expense), net	502	(102)	604	592%
Net loss	$ (86,565)	$ (103,747)	$(17,182)	(17%)

Revenue

Our total revenue for the nine-month period ended September 30, 2011 totaled $21.4 million compared to $1.4 million in the nine-month period ended September 30, 2010. Product revenue for the nine-month period ended September 30, 2011 consisted of approximately $19.4 million from sales of our PacBio *RS* instruments and approximately $0.6 million from sales of consumables. The instrument revenue stemmed from 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 $0.7 million for the nine-month period ended September 30, 2011 was primarily derived from product maintenance agreements sold in conjunction with sales of PacBio *RS* instruments.

Grant revenue earned is dependent on the grant received, the amount of the grant and subsequent work performed pursuant to the grant. For the nine-month period ended September 30, 2011, grant revenue decreased $0.7 million compared to the nine-month period ended September 30, 2010. The decrease was driven primarily by a decrease in the amount of work performed pursuant to the grants.

Cost of Revenue

Gross profit of $11.5 million for the nine-month period ended September 30, 2011 reflects the sale of 31 PacBio *RS* instruments. Cost of product revenue of $9.1 million for the same period reflects the cost of components and manufacturing overhead incurred subsequent to September 30, 2010 for the 31 instruments delivered and installed during the period. Cost of service and other revenue of $0.8 million for the period reflect the costs of personnel and support infrastructure necessary to support the installed base of PacBio RS instruments. We did not realize product costs during 2010 as revenue was derived solely from government grants.

Research and Development Expense

For the nine-month period ended September 30, 2011, research and development expenses decreased $21.6 million, or 25%, compared to the nine-month period ended September 30, 2010. The decrease was driven primarily by a $16.7 million decrease in supplies, development materials, and prototype related expense and a $3.8 million decrease related to expensed instrument components accounted for as development expense. The 2011 results also reflect the capitalization of $6.1 million of manufacturing overhead into inventory. The decreases noted were partially offset by a $3.8 million increase in personnel related expense relating to increased manufacturing headcount and a $0.8 million increase in facility and technology expenses. Included in research and development expenses for the nine-month period ended September 30, 2011 is $3.5 million of restructuring costs.

Research and development expense included stock-based compensation expense of $4.9 million and $4.3 million during the nine-month periods ended September 30, 2011 and 2010, respectively.

Sales, General and Administrative Expense

For the nine-month period ended September 30, 2011, selling, general and administrative expenses increased $15.1 million, or 77%, compared to the nine-month period ended September 30, 2010. The increase was driven primarily by a $10.8 million increase in personnel related expense, including stock-based compensation, resulting from increased headcount, a $2.6 million increase in professional services primarily related to public company compliance and legal matters, a $1.1 million increase in expense relating to our facilities and a $0.6 million increase in expenses for customer support activities. Sales, general and administrative expense included stock-based compensation expense of $4.1 million and $2.0 million during the nine-month periods ended September 30, 2011 and 2010, respectively. Included in sales, general and administrative expenses for the nine-month period ended September 30, 2011 is $1.4 million of restructuring costs.

Other Income (Expense), Net

For the nine-month period ended September 30, 2011, interest income increased $0.6 million, or 592%, compared to the nine-month period ended September 30, 2010. The increase was primarily a result of higher average investment balances in 2011 as a result of our IPO as compared to 2010.

Liquidity and Capital Resources

Since our inception we have financed our operations primarily through the issuance of convertible preferred stock resulting in $364.2 million in net proceeds and the issuance of common stock through our initial public offering resulting in $210.8 million in net proceeds. As of September 30, 2011, we had cash, cash equivalents and investments of $193.7 million, a decrease of $90.0 million compared to December 31, 2010, reflecting approximately $88.2 million of cash used during the period to fund operations. We believe that existing cash, cash equivalents and investments will be sufficient to fund our projected operating requirements for at least 12 months. This expectation is based on our current operating and financing plans, which are subject to change, and therefore we could require additional funding. Factors that may cause us to require additional funding may include, but are not limited to, 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 effectiveness of product commercialization activities and arrangements; the purchase of patent licenses; and other factors.

To the extent capital resources are insufficient to meet future capital requirements; we will have to raise additional funds to continue our commercial operations and develop new products. There can be no assurance that such funds will be available on favorable terms, or at all. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of such securities could result in dilution to our stockholders. 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.

The following table summarizes our cash flows activities for the periods indicated.

	Nine-Month Periods Ended September 30,	
	2011	2010
	(in thousands)	
Net cash used in operating activities	$(88,202)	$ (82,949)
Net cash used in investing activities	(9,354)	(50,738)
Net cash provided by financing activities	7,486	107,172
Net decrease increase in cash and cash equivalents	$(90,070)	$ (26,515)

Operating Activities

Our primary uses of cash from operating activities are for personnel-related expenditures and equipment and supplies related to research and development activities and recently for the purchase of inventory. The net cash used for the nine-month periods ended September 30, 2011 and 2010 primarily reflects the net loss for those periods, 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 $88.2 million for the nine-month period ended September 30, 2011 as compared to $82.9 million for the nine-month period ended September 30, 2010, due primarily to net losses of $86.6 million and $103.7 million, respectively, offset by depreciation and stock-based compensation of $13.4 million and $10.0 million, respectively. In addition, cash used in operating activities increased for the nine-month period ended September 30, 2011 as compared to the same period last year as a result of increased inventory levels and an increased accounts receivable balance resulting from the commercialization of our products in the second quarter of 2011.

Investing Activities

Our investing activities consist primarily of net investment purchases, maturities and sales and capital expenditures. Net cash used in investing activities was $9.4 million for the nine-month period ended September 30, 2011, comprised of $7.8 million of purchases of property and equipment and net purchases of investments of $1.5 million. Net cash used in investing activities during the same period in 2010 totaled $50.7 million comprised of net purchases of investments of $46.7 million and purchases of property and equipment of $4.0 million.

Financing Activities

For the nine-month period ended September 30, 2011, we received $7.5 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, 2010, our sale of Series F convertible preferred stock provided $105.9 million.

Off-Balance Sheet Arrangements

As of September 30, 2011 we did not have any off-balance sheet arrangements.

In the ordinary course of business, we enter into standard indemnification arrangements. 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.

Recent Accounting Pronouncements

In June of 2011, Accounting Standards Codification Topic 220, *Comprehensive Income* was amended to increase the prominence of items reported in other comprehensive income. Accordingly, we can present all non-owner changes in stockholders' equity either in a single continuous statement of comprehensive income or in two separate but consecutive statements. We plan to adopt this guidance as of January 1, 2012 on a retrospective basis and do not expect the adoption thereof to have a material effect on our consolidated financial statements.

In May of 2011, Accounting Standards Update No. 2011-04 ("ASU 2011-04"), *Fair Value Measurements* was amended. ASU 2011-04 clarifies the application of existing fair value measurement requirements and results in common measurement and disclosure requirements in U.S. GAAP and International Financial Reporting Standards ("IFRS"). ASU 2011-04 also expands the disclosures for fair value measurements that are estimated using significant unobservable (Level 3) inputs. This new guidance is to be applied prospectively for reporting periods beginning on or after December 15, 2011. We plan to adopt this guidance as of January 1, 2012 on a prospective basis and do not expect the adoption thereof to have a material effect on our consolidated financial statements.

Item 3. Quantitative and Qualitative Disclosures About 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 one year. 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 securities of high credit quality. 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.

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, 2011 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.

On August 27, 2010, we were named as a defendant in a complaint filed by Helicos Biosciences Corporation ("Helicos") in the United States District Court for the District of Delaware (Case No. 1:10-CV-00735 SLR). In the complaint, Helicos alleges that we are infringing, inducing others to infringe, and contributing to the infringement by others of two patents in-licensed by Helicos and two patents owned by Helicos, by making, using, and selling our SMRT technology for single molecule sequencing of DNA and teaching customers how to use the SMRT technology and PacBio *RS* sequencing platform. The four patents asserted by Helicos are U.S. Patent Nos. 7,645,596 and 7,037,687 (each titled "Method of Determining the Nucleotide Sequence of Oligonucleotides and DNA Molecules"), 7,169,560 (titled "Short Cycle Methods for Sequencing Polynucleotides"), and 7,767,400 (titled "Paired-end Reads in Sequencing by Synthesis"). Helicos seeks a permanent injunction enjoining us from further infringement of the asserted patents, and unspecified monetary damages, including enhanced damages under 35 U.S.C. §284, costs, attorneys' fees and other relief as the court deems just and proper. On October 22, 2010, Helicos filed an amended complaint naming additional defendants in the lawsuit. On November 8, 2010, we filed our response to Helicos' complaint denying Helicos' allegations that our products infringe any valid claims of the patents in suit, asserting affirmative defenses of noninfringement, invalidity and unenforceability of the claims of the patents in suit, and asserting counterclaims for declaratory judgment that our products do not infringe the claims of the patents in suit, and that those claims are invalid and unenforceable. On January 27, 2011, we filed requests that the USPTO order re-examination of all of the claims of each of the asserted patents. The USPTO granted our request for re-examination of each of the asserted patents, and rejected all of the claims of the asserted patents as being unpatentable over prior art. On October 20, 2011, the USPTO issued actions closing prosecution in three of the asserted patents, maintaining the rejection of all claims of each of these patents as unpatentable over the prior art, and has not yet issued a further action in the fourth asserted patent. Despite our defenses and counterclaims, we cannot guarantee any outcome of this lawsuit.

On October 21, 2011 and October 24, 2011 we and certain of our officers and directors were named in two identical purported class action lawsuits filed in the Superior Court of the State of California, County of San Mateo (Young v. Pacific Biosciences, et al. Case No. CIV509210 and Sandnas v. Pacific Biosciences, et al., Case No. CIV 509259). Plaintiffs have brought claims alleging violation of several provisions of federal securities laws in connection with the Company's August 16, 2010 registration statement (as amended, effective as of October 26, 2010). The complaints seek, among other things, compensatory damages, rescission, and attorney's fees and costs. 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 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.

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. Although the results of litigation and claims cannot be predicted with certainty, we currently believe that the final outcome of these matters will not have a material adverse effect on our business. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

An estimate of the possible loss or possible range of loss associated with the resolution of these contingencies cannot be provided with certainty or confidence, and therefore no estimate is provided and we have not recorded a liability.

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 23, 2011, 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.

We recently launched our first commercial product and as such, we have limited historical financial data upon which to base our projected revenue. We have limited historical financial data upon which to base our 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;
- comply with evolving regulatory requirements applicable to our products;
- anticipate and adapt to changes in our market;
- focus our research and development efforts in areas that generate returns on these efforts;
- maintain and develop strategic relationships with vendors and manufacturers to acquire necessary materials for the production of our products;
- implement an effective marketing strategy to promote awareness 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;
- provide appropriate levels of customer training and support for our products;
- 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 have generated limited revenue from product sales to date. 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. 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 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 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 fails to develop or 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.

Our products are highly complex, with unknown 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. If our products have reliability or other quality issues or require unexpected levels of support, our reputation and business could be harmed. We ship our Pac Bio *RS* instruments with one year of service included in the purchase price with an option to purchase an additional year of service. If service and support costs are more than we anticipate, our business and operations may be adversely affected.

We may not be able to produce instruments with the specifications required by our customers.

We have established performance standards for our commercial products that we may not consistently achieve using our current design and manufacturing processes. If the actual performance of the commercial instrument deviates substantially from our target specifications or is below the performance mandated by our customers, 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 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 commercialize and derive revenue from our products, we will 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. 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 will suffer and we may have write-offs associated with excess or obsolete inventory.

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, including SMRT Kinetic Detection, SMRT Transcription, SMRT RNA Sequencing, SMRT Translation and SMRT Ligand Binding. These 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 commercialize 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. Although sales and marketing personnel have considerable industry experience and have engaged in marketing activities 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 commercialize and gain market acceptance for our technology;
- the time and cost of establishing 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 commercialization 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 is 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 meet the volume and quality requirements necessary to be successful in the market. Manufacturing and product quality issues may arise as we increase 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 could diminish our ability to develop or 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 semiconductor chips, optics, lasers and cameras. 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 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 recent 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 employee 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. Furthermore, if the third-party carriers damage or destroy our instrument, it could take significant time to repair or replace the instrument. 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 our growth, and these difficulties could impair our profitability.

We expect to experience rapid and substantial growth, which will place a strain on our human and capital resources. If we are unable to manage this 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, including an expansion of our executive management team. 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 commercialize our technology successfully. Failure to attract and retain sufficient numbers of talented employees will further strain our human resources and could impede our growth.

Hugh Martin, our Chief Executive Officer, has been diagnosed with a form of cancer, and the impact of this condition on his ability to lead the company in the future may be uncertain.

Mr. Martin has informed us that he has been diagnosed with multiple myeloma, a form of cancer. Although his condition has not had any impact on Mr. Martin's performance in his role as Chief Executive Officer or on the overall management of the company, we can provide no assurance that his condition will not affect his ability to perform the role of Chief Executive Officer in the future. If Mr. Martin becomes unable to continue to perform his role as Chief Executive Officer, we would need to select a new Chief Executive Officer which we may not be able to do easily, and may require other senior management to divert part of their attention from their primary duties, which could have a material adverse effect on our business or operations.

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. 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.

We may need additional financing to fund our existing operations. Securities we issue to fund our operations could dilute your ownership.

We may decide to 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. We may delay, limit or eliminate some or all of our proposed operations and research and development if adequate funds are not available.

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 may make it difficult for us 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. These fluctuations also mean that investors will 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 market acceptance or expansion, 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 90 days from the date of delivery or by the shelf life date or "use by" date, if earlier. 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.

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 used for 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.

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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 controls, 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 have in the past discovered, and may in the future discover, areas of our internal financial and accounting controls and procedures that need improvement. The rapid growth of our operations and our IPO created a need for additional resources within the accounting and finance functions in order to produce timely financial information and to ensure the level of segregation of duties 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.

We will be required to comply with Section 404 of the Sarbanes-Oxley Act in connection with our annual report on Form 10-K for the year ending December 31, 2011. We expect to expend significant resources in developing the necessary documentation and testing procedures required by Section 404. We cannot be certain that the actions we will be taking to improve our internal control over financial reporting will be sufficient, or that we will be able to implement our planned processes and procedures in a timely manner. 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.

The requirements of being a public company may strain our resources, divert management's attention and affect our ability to attract and retain qualified board members.

As a public company, we incur additional accounting, legal and other expenses associated with our public company reporting requirements. We will also incur costs associated with corporate governance requirements, including requirements under the Sarbanes-Oxley Act of 2002, the Dodd-Frank Act of 2010, as well as rules and regulations implemented by the SEC and The NASDAQ Stock Market. We expect these rules and regulations to increase our legal and financial compliance costs and to make some activities more time-consuming and costly. Furthermore, these rules and regulations could make it more difficult or more costly for us to obtain certain types of insurance, including director and officer liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers. We are currently evaluating and monitoring developments with respect to these rules and regulations, and we cannot predict or estimate the amount of additional costs we may incur or the timing of such costs.

New laws and regulations as well as changes to existing laws and regulations affecting public companies, including the provisions of the Sarbanes-Oxley Act of 2002 and rules adopted by the SEC and the NASDAQ, would likely result in increased costs to us as we respond to their requirements.

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, some of which are outside of our control, 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. 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 are presently, and 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. We are presently involved in a lawsuit filed by Helicos Biosciences Corporation that alleges that our products infringe patents owned and in-licensed by Helicos (see "Legal Proceedings"). In defending this lawsuit, we expect to incur substantial costs, and experience diversion of attention of our management and technical personnel. An unfavorable outcome in this lawsuit could result in our having to pay damages, royalties or both to Helicos, and could prevent us from selling some or all of our products. 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 Affymetrix, Inc., 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 II, Item 1 “Legal Proceedings”) 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.

The holders of a significant number of shares of our common stock will be 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. We 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 will 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.

Use of Proceeds

Our initial public offering of common stock was effected through a Registration Statement on Form S-1 (File No. 333-168858) that was declared effective by the Securities and Exchange Commission on October 26, 2010, which registered an aggregate of 14,375,000 shares of our common stock. On November 1, 2010, we sold 12,500,000 shares of common stock at an initial public offering price of $16.00 per share, for aggregate gross proceeds of $200 million. The underwriters of the offering were J.P. Morgan Securities Inc., Morgan Stanley & Co. Incorporated, Deutsche Bank Securities Inc. and Piper Jaffray & Co. On November 4, 2010, in connection with the exercise of the underwriters' over-allotment option, 1,875,000 additional shares of common stock were sold on our behalf at the initial public offering price of $16.00 per share, for aggregate gross proceeds of $30 million.

We paid to the underwriters underwriting discounts totaling approximately $16.1 million in connection with the offering. In addition, we incurred expenses of approximately $3.1 million in connection with the offering, which when added to the underwriting discounts paid by us, amount to total expenses of approximately $19.2 million. Thus, the net offering proceeds to us, after deducting underwriting discounts and offering expenses, were approximately $210.8 million. No offering expenses were paid directly or indirectly to any of our directors or officers (or their associates) or persons owning ten percent or more of any class of our equity securities or to any other affiliates.

There was no material change in the use of proceeds from our initial public offering as described in our final prospectus filed with the SEC pursuant to Rule 424(b).

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 14, 2011

By: /s/ SUSAN K. BARNES
Susan K. Barnes
Executive Vice President
And
Chief Financial Officer

Date: November 14, 2011

By: /s/ BRIAN B. DOW
Brian B. Dow
Vice President
And
Principal Accounting Officer

Exhibit Index

Exhibit Number	Exhibit Description
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.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, Hugh Martin, 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) 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

c) 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 14, 2011

/s/ Hugh Martin

Hugh Martin
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) 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

c) 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 14, 2011

/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, 2011, as filed with the Securities and Exchange Commission on the date hereof, I, Hugh Martin, 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, 2011 (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 14, 2011

/s/ Hugh Martin

Hugh Martin
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, 2011, 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, 2011 (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 14, 2011

/s/ Susan Barnes

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