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

Form 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2021

Or

o **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 **(State or other jurisdiction of incorporation or organization)**	**16-1590339** **(I.R.S. Employer Identification No.)**
1305 O'Brien Drive **Menlo Park, CA** **(Address of principal executive offices)**	**94025** **(Zip Code)**

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.001 per share	PACB	The NASDAQ Stock Market LLC

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 T No o

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files). Yes T No o

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

Large accelerated filer	o	Accelerated filer	o
Non-accelerated filer	T	Smaller reporting company	T
Emerging growth company	o		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o

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

Number of shares outstanding of the issuer's common stock as of October 31, 2021: 220,598,363.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Condensed Consolidated Balance Sheets
(Unaudited)

(in thousands, except per share amounts)	September 30, 2021	December 31, 2020
Assets		
Current assets		
Cash and cash equivalents	$ 425,388	$ 81,611
Investments	654,502	237,203
Accounts receivable	23,946	16,837
Inventory	18,276	14,230
Prepaid expenses and other current assets	7,193	4,870
Short-term restricted cash	500	836
Total current assets	1,129,805	355,587
Property and equipment, net	31,119	24,899
Operating lease right-of-use assets, net	45,862	29,951
Long-term restricted cash	4,560	3,500
Intangible assets, net	411,206	—
Goodwill	411,533	—
Other long-term assets	70	43
Total assets	$ 2,034,155	$ 413,980
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 4,960	$ 3,579
Accrued expenses	30,820	17,350
Deferred revenue, current	9,773	8,722
Operating lease liabilities, current	7,128	4,332
Other liabilities, current	2,927	4,519
Total current liabilities	55,608	38,502
Deferred revenue, non-current	18,447	1,568
Contingent consideration liability, non-current	168,574	—
Operating lease liabilities, non-current	49,954	37,667
Convertible senior notes, net, non-current	895,915	—
Other liabilities, non-current	4,850	752
Total liabilities	1,193,348	78,489
Commitments and contingencies		
Stockholders' equity		
Preferred stock, $0.001 par value:		
Authorized 50,000 shares; No shares issued or outstanding	—	—
Common stock, $0.001 par value:		
Authorized 1,000,000 shares; issued and outstanding 220,547 shares and 192,294 shares at September 30, 2021 and December 31, 2020, respectively	221	192
Additional paid-in capital	1,989,322	1,372,083
Accumulated other comprehensive income	27	85
Accumulated deficit	(1,148,763)	(1,036,869)
Total stockholders' equity	840,807	335,491
Total liabilities and stockholders' equity	$ 2,034,155	$ 413,980

See accompanying notes to the condensed consolidated financial statements.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Condensed Consolidated Statements of Operations and Comprehensive Income (Loss)
(Unaudited)

(in thousands, except per share amounts)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Revenue:				
Product revenue	$ 30,502	$ 15,749	$ 82,338	$ 41,798
Service and other revenue	4,385	3,333	12,156	9,959
Total revenue	34,887	19,082	94,494	51,757
Cost of revenue:				
Cost of product revenue	15,530	9,228	41,449	22,874
Cost of service and other revenue	3,870	2,790	10,828	7,718
Amortization of intangible assets	123	—	123	—
Total cost of revenue	19,523	12,018	52,400	30,592
Gross profit	15,364	7,064	42,094	21,165
Operating expense:				
Research and development	27,508	16,467	70,323	46,727
Sales, general and administrative	31,606	14,772	86,804	54,846
Merger-related expenses	30,726	—	30,726	—
Total operating expense	89,840	31,239	187,853	101,573
Operating loss	(74,476)	(24,175)	(145,759)	(80,408)
Gain (loss) from Continuation Advances	—	—	(52,000)	34,000
Interest expense	(3,673)	—	(9,051)	(267)
Other income (expense), net	(133)	467	92	1,143
Loss before benefit from income taxes	(78,282)	(23,708)	(206,718)	(45,532)
Benefit from income taxes	(94,824)	—	(94,824)	—
Net income (loss)	16,542	(23,708)	(111,894)	(45,532)
Other comprehensive income (loss):				
Unrealized income (loss) on investments	33	(125)	(58)	113
Comprehensive income (loss)	$ 16,575	$ (23,833)	$ (111,952)	$ (45,419)
Net income (loss) per share:				
Basic	$ 0.08	$ (0.14)	$ (0.56)	$ (0.29)
Diluted	$ 0.08	$ (0.14)	$ (0.56)	$ (0.29)
Weighted average shares outstanding used in computing net income (loss) per share				
Basic	202,194	166,862	198,545	158,195
Diluted	215,127	166,862	198,545	158,195

See accompanying notes to the condensed consolidated financial statements.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Condensed Consolidated Statements of Stockholders' Equity

(Unaudited)

(in thousands)	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
For the three months ended September 30, 2021						
Balance at June 30, 2021	198,917	$ 199	$ 1,423,357	$ (6)	$ (1,165,305)	$ 258,245
Net income	—	—	—	—	16,542	16,542
Other comprehensive income	—	—	—	33	—	33
Issuance of common stock in conjunction with equity plans	1,503	2	4,809	—	—	4,811
Issuance of common stock in Private Placement, net of issuance costs	11,215	11	294,834	—	—	294,845
Issuance of common stock in acquisition of Omniome	8,912	9	237,875	—	—	237,884
Stock-based compensation expense	—	—	28,447	—	—	28,447
Balance at September 30, 2021	220,547	$ 221	$ 1,989,322	$ 27	$ (1,148,763)	$ 840,807
For the three months ended September 30, 2020						
Balance at June 30, 2020	154,318	$ 154	$ 1,129,091	$ 243	$ (1,088,096)	$ 41,392
Net loss	—	—	—	—	(23,708)	(23,708)
Other comprehensive loss	—	—	—	(125)	—	(125)
Issuance of common stock in conjunction with equity plans	3,274	3	13,344	—	—	13,347
Issuance of common stock from underwritten public equity offering, net of issuance costs	22,345	23	93,575	—	—	93,598
Stock-based compensation expense	—	—	4,992	—	—	4,992
Balance at September 30, 2020	179,937	$ 180	$ 1,241,002	$ 118	$ (1,111,804)	$ 129,496
For the nine months ended September 30, 2021						
Balance at December 31, 2020	192,294	$ 192	$ 1,372,083	$ 85	$ (1,036,869)	$ 335,491
Net loss	—	—	—	—	(111,894)	(111,894)
Other comprehensive loss	—	—	—	(58)	—	(58)
Issuance of common stock in conjunction with equity plans	8,126	9	30,113	—	—	30,122
Issuance of common stock in Private Placement, net of issuance costs	11,215	11	294,834	—	—	294,845
Issuance of common stock in acquisition of Omniome	8,912	9	237,875	—	—	237,884
Stock-based compensation expense	—	—	54,417	—	—	54,417
Balance at September 30, 2021	220,547	$ 221	$ 1,989,322	$ 27	$ (1,148,763)	$ 840,807
For the nine months ended September 30, 2020						
Balance at December 31, 2019	153,119	$ 153	$ 1,120,999	$ 5	$ (1,066,240)	$ 54,917
Net loss	—	—	—	—	(45,532)	(45,532)
Other comprehensive income	—	—	—	113	—	113
Adoption effect of Topic 326	—	—	—	—	(32)	(32)
Issuance of common stock in conjunction with equity plans	4,473	4	14,170	—	—	14,174
Issuance of common stock from underwritten public equity offering, net of issuance costs	22,345	23	93,575	—	—	93,598
Stock-based compensation expense	—	—	12,258	—	—	12,258
Balance at September 30, 2020	179,937	$ 180	$ 1,241,002	$ 118	$ (1,111,804)	$ 129,496

See accompanying notes to the condensed consolidated financial statements

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Condensed Consolidated Statements of Cash Flows
(Unaudited)

(in thousands)	Nine Months Ended September 30, 2021	2020
Cash flows from operating activities		
Net loss	$ (111,894)	$ (45,532)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities		
Loss (gain) from Continuation Advances	52,000	(34,000)
Depreciation	4,943	4,827
Amortization of intangible assets	154	—
Amortization of operating lease right-of-use assets	2,403	2,127
Amortization of debt discount and financing costs	381	129
Stock-based compensation	54,417	12,258
Amortization (accretion) from investment premium (discount)	3,107	(141)
Deferred income taxes	(94,824)	—
Changes in assets and liabilities		
Accounts receivable	(6,871)	3,428
Inventory	(5,453)	(2,988)
Prepaid expenses and other assets	(1)	216
Accounts payable	196	(2,955)
Accrued expenses	10,267	1,646
Deferred revenue	17,930	(818)
Operating lease liabilities	(3,231)	(2,791)
Other liabilities	(2,996)	360
Deferred gain from Reverse Termination Fee	—	98,000
Net cash provided by (used in) operating activities	(79,472)	33,766
Cash flows from investing activities		
Purchase of property and equipment	(3,089)	(972)
Cash paid for purchase of Circulomics, net of cash acquired	(28,560)	—
Cash paid for purchase of Omniome, net of cash acquired	(291,233)	—
Purchase of investments	(857,421)	(234,555)
Sales of investments	212,734	—
Maturities of investments	223,285	114,700
Net cash used in investing activities	(744,284)	(120,827)
Cash flows from financing activities		
Continuation Advances	(52,000)	34,000
Notes payable principal payoff	—	(16,000)
Proceeds from issuance of Convertible Senior Notes, net of issuance costs	895,536	—
Proceeds from issuance of common stock under equity offerings, net of issuance costs	294,846	93,788
Proceeds from issuance of common stock from equity plans	30,121	14,174
Other	(246)	—
Net cash provided by financing activities	1,168,257	125,962
Net increase in cash and cash equivalents and restricted cash	344,501	38,901
Cash and cash equivalents and restricted cash at beginning of period	85,947	33,627
Cash and cash equivalents and restricted cash at end of period	$ 430,448	$ 72,528
Cash and cash equivalents at end of period	$ 425,388	$ 69,028
Restricted cash at end of period	5,060	3,500
Cash and cash equivalents and restricted cash at end of period	$ 430,448	$ 72,528
Supplemental disclosure of non-cash investing and financing activities		
Issuance of common stock in acquisition of Omniome	$ 237,884	$ —

See accompanying notes to the condensed consolidated financial statements.

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Notes to Condensed Consolidated Financial Statements
(Unaudited)

NOTE 1. OVERVIEW

We design, develop and manufacture sequencing systems to help scientists and clinical researchers resolve genetically complex problems. Our products address several applications based on our novel Single Molecule, Real-Time (SMRT®) sequencing technology, including human germline sequencing, plant and animal sciences, infectious disease and microbiology, oncology, and other emerging applications.

Across these applications, customers use our technology in a wide range of sequencing methods, including whole genome sequencing and de novo genome assembly, long-range phasing, targeted sequencing, full-length RNA and single-cell sequencing, methylation and epigenetic characterization, and others. Our technology provides high accuracy, long reads, uniform coverage, and the ability to detect epigenetic changes simultaneously. PacBio® sequencing systems, including consumables and software, offer a simple and fast end-to-end workflow for SMRT sequencing.

In addition to our SMRT sequencing technology, we are developing a highly accurate short-read sequencing platform based on the novel Sequencing by Binding (SBB®) technology. Upon launch, we expect SBB to address adjacent applications and complement our existing long-read sequencing technology.

References in this report to “PacBio,” “we,” “us,” the “Company,” and “our” refer to Pacific Biosciences of California, Inc. and its consolidated subsidiaries.

NOTE 2. BUSINESS ACQUISITIONS

Omniome, Inc.

On September 20, 2021, we completed our acquisition of Omniome, Inc. (“Omniome”), a San Diego-based company developing a highly differentiated, proprietary short-read DNA sequencing platform capable of delivering high accuracy.

In connection with the acquisition, all outstanding equity securities of Omniome were cancelled in exchange for consideration of $714.8 million, which consisted of approximately $315.7 million in cash, 8,911,580 shares of our common stock with a fair value of $249.4 million and contingent consideration with a fair value of $168.6 million. The fair value of the 8,911,580 common shares issued was determined based on the closing market price of PacBio’s common shares on the acquisition date.

Out of the total consideration, approximately $18.9 million, comprised of $7.4 million of cash, 226,811 shares of our common stock with a fair value of $6.3 million, and $5.2 million related to contingent consideration, was accounted for as a one-time post acquisition stock-based compensation expense. This stock-based compensation expense was due to accelerated vesting of Omniome stock awards in connection with the acquisition.

The contingent consideration of $200 million (composed of $100 million in cash and $100 million in shares of our common stock) is due upon the achievement of a milestone, defined as the first commercial shipment to a customer of a nucleotide sequencing platform, comprising both an instrument and related consumables, that utilizes Omniome’s sequencing by binding technology. The number of shares of stock to be issued will be determined using the volume-weighted average of the trading prices of our common stock for the twenty trading days ending with and including the trading day that is two days immediately prior to the achievement of the milestone. Of the $100 million in shares of our common stock to be issued as part of the milestone, $4.1 million is attributable to stock options issued by PacBio in replacement of Omniome’s unvested options as part of the transaction.

The total consideration transferred for the acquisition is as follows (in thousands):

Total cash paid	$	315,703
Fair value of share consideration		249,435
Fair value of contingent consideration		168,574
Less: Stock-based compensation expense excluded from consideration transferred		(18,923)
Total consideration transferred	$	714,789

The contingent consideration is accounted for as a liability at fair value, with changes during each reporting period recognized in our consolidated statements of operations and comprehensive income (loss). The fair value of the contingent consideration liability is based on a scenario-based method which considers a range of possible outcomes and their assigned probabilities of occurrence. The potential outcomes are discounted to present value at a discount rate equal to the sum of the term-matched risk-free-interest rate plus PacBio's credit spread.

The acquisition was accounted for as a business combination and, accordingly, the total fair value of the consideration transferred was allocated to the tangible and intangible assets acquired and liabilities assumed based on their fair values on the acquisition date. The major classes of assets and liabilities to which we have allocated the total fair value of the consideration transferred were as follows (in thousands):

Cash and cash equivalents	$	15,338
Property and equipment, net		6,123
Operating lease right-of-use assets, net		18,095
In-process research and development ("IPR&D")		400,000
Goodwill		392,224
Other assets		3,203
Deferred income tax liability		(93,373)
Liabilities assumed		(26,821)
Total consideration transferred	$	714,789

The purchase price allocation is preliminary. We continue to collect information with regard to certain estimates and assumptions, including potential liabilities and contingencies. We will record adjustments to the fair value of the assets acquired, liabilities assumed and goodwill within the twelve months measurement period, if necessary. The goodwill recognized was primarily attributable to the assembled workforce and synergies that are expected to occur from the integration of Omniome and is not deductible for income tax purposes.

We have allocated $400 million of the purchase price to acquired in-process research and development. The fair value of the IPR&D was determined, with the assistance of a third-party valuation firm, using an income approach based on a forecast of expected future cash flows. The IPR&D will remain on our consolidated balance sheet as an indefinite-lived intangible asset until the completion or abandonment of the associated research and development activities. During the development period following the acquisition, IPR&D will not be amortized, but instead will be tested for impairment annually and more frequently if events or changes in circumstances indicate that it is more likely than not that the asset is impaired.

We incurred costs related to the Omniome acquisition of approximately $11.6 million during the nine months ended September 30, 2021, which are included in merger-related costs on the Condensed Consolidated Statement of Operations and Comprehensive Income (Loss).

Separately, in connection with the Omniome acquisition, on September 20, 2021, we issued and sold 11,214,953 shares of common stock in a private placement transaction at a price of $26.75 per share, for aggregate proceeds of approximately $294.8 million, net of issuance costs of approximately $5.2 million. We were also required to register the private placement shares for resale with the SEC following the closing of the merger.

The following unaudited pro forma financial information presents combined results of operations for each of the periods presented as if Omniome had been acquired as of the beginning of the comparable fiscal year prior to the year of acquisition, giving effect on a pro forma basis to the purchase accounting adjustments such as $11.6 million of PacBio acquisition-related costs, $18.9 million of stock-based compensation expense related to acceleration of certain Omniome stock options not attributable to pre-combination service, and a $92.2 million one-time income tax benefit from the reduction of our deferred tax asset valuation allowance resulting from the Omniome acquisition, as well as a pro forma adjustment to reflect $16.7 million of Omniome's acquisition-related costs. The unaudited pro forma information presented below is for informational purposes only and is not necessarily indicative of the consolidated results of the combined business had the acquisition actually occurred at the beginning of the fiscal year 2020 or the results of future operations of the combined business.

The following table summarizes the unaudited pro forma financial information for the periods presented (in thousands):

(in thousands, except per share amounts)	Three Months Ended September 30, 2021	Three Months Ended September 30, 2020	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 2020
Pro forma total revenue	$ 34,887	$ 19,082	$ 94,494	$ 51,757
Pro forma net loss	$ (54,802)	$ (38,473)	$ (213,715)	$ (42,892)
Pro forma net loss per share - basic and diluted	$ (0.25)	$ (0.21)	$ (0.97)	$ (0.24)

Our condensed consolidated financial statements include the results of operations for Omniome beginning September 20, 2021. Since the date of acquisition, revenues of $0 and a net loss of $1.6 million from the acquired Omniome business have been included in our Condensed Consolidated Statement of Operations for the three and nine months ended September 30, 2021.

Circulomics, Inc.

On July 20, 2021, we acquired Circulomics Inc. (“Circulomics”), a Maryland-based biotechnology company focused on delivering highly differentiated sample preparation products that enable genomic workflows.

We paid $29.5 million in cash in exchange for all outstanding shares of common stock of Circulomics. We allocated the consideration transferred to the identifiable assets acquired and liabilities assumed based on their respective fair values at the date of the completion of the acquisition. The major classes of assets and liabilities to which we have allocated the total fair value of the consideration transferred were as follows (in thousands):

Cash and cash equivalents	$ 987
Property and equipment, net	214
Intangible assets	11,360
Goodwill	19,309
Other assets	467
Deferred income tax liability	(2,672)
Liabilities assumed	(118)
Total consideration transferred	$ 29,547

The excess of the value of consideration paid over the aggregate fair value of those net assets has been recorded as goodwill. We recognized goodwill of $19.3 million, which is primarily attributable to the synergies expected from capabilities in extraction and sample preparation and is not deductible for income tax purposes.

We recorded $11.4 million for the fair value of acquired intangible assets, which consist of developed technology and customer relationships. The purchase price allocation is preliminary as we continue to collect information with regard to certain estimates and assumptions. We will record adjustments to the fair value of the assets acquired, liabilities assumed and goodwill within the twelve month measurement period, if necessary.

Deferred income taxes

A benefit for income taxes of $94.8 million for the three and nine months ended September 30, 2021, is related to the release of the valuation allowance for deferred tax assets due to the recognition of deferred tax liabilities in connection with the Omniome and Circulomics acquisitions. We maintain a full valuation allowance on the net deferred tax assets of our U.S. entities as we have concluded that it is more likely than not that we will not utilize our deferred tax assets.

NOTE 3. INVITAE COLLABORATION

On January 12, 2021 we entered into a multi-year Development and Commercialization Agreement (the “Development Agreement”) with Invitae Corporation (“Invitae”). Pursuant to the Development Agreement, Invitae is providing certain funding to us to develop products relating to production-scale high-throughput sequencing (“Program Products”). If and when Program Products become commercially available for sale, Invitae may purchase the Program Products. In addition to selling the Program Products to Invitae, we will have the right to broadly commercialize Program Products for sale to other customers.

The funding Invitae will provide to us will equal certain development costs we incur in connection with the Program Products (“Program Development Costs”). Under the Development Agreement, we will be responsible for conducting a program to develop the Program Products, and subsequently for manufacturing the Program Products. We will make general

decisions regarding the development program jointly with Invitae but we are responsible for all research and development activities. The entire development program is expected to last approximately sixty months, but may be shorter or longer.

As the primary benefit of its contribution, Invitae will be entitled to preferred pricing on the Program Products if and when they are available for commercial sale. Each Program Product will have a preferential pricing period, which will not exceed four years from the date of the first delivery of that Program Product ("Preferential Pricing Period"). During the Preferential Pricing Period for each Program Product, Invitae may purchase the Program Product at a substantially reduced margin until it has recouped a multiple of its contribution as defined in the Development Agreement. For a specified period after the end of the Preferential Pricing Period, Invitae has the right to purchase the Program Product at a higher price, determined by a formula, than the price during the Preferential Pricing Period ("Extended Pricing Period"). The Extended Pricing Periods will terminate early if Invitae does not meet certain volume minimums.

We and Invitae may terminate the Development Agreement if the other party remains in material breach of the Development Agreement following a cure period to remedy the material breach. In addition, the Development Agreement includes certain other circumstances for termination by each party, including circumstances where Invitae may terminate for delays, IP concerns, our change in control, or without cause.

In certain termination circumstances, (i) we will be obligated to refund all or a portion of the development costs advanced by Invitae and/or (ii) we will owe Invitae a share of the revenue that may be generated from the sale of the Program Products to third parties if and when they are commercialized, until such time as Invitae has recouped the amounts reimbursed to us, and in certain circumstances, a mutually agreed return.

We expect to incur significant development costs over the duration of the Development Agreement. There can be no assurances that the development program will be successful or that the Program Products will become ready for commercial sale.

We determined that the primary benefit from the arrangement to Invitae is the ability to procure the Program Products during the Preferential Pricing Period at substantial discounts. As we expect the Program Products to be available for Invitae to purchase in the future, we concluded the arrangement is within the scope of Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers.* In addition, Invitae is not expected to substantially benefit from the intellectual property developed under the arrangement, or benefit from other goods or services during the development period. We are responsible for performing the research and development activities.

Accordingly, the amounts received by the Company from Invitae during the development period represent significant discounts toward future supplies of the Program Products during the Preferential Pricing Period, and will be accounted as material rights in accordance with ASC Topic 606. Proportionate amounts of these material rights will be recognized in revenue when Invitae places purchase orders for Program Products and the associated goods or services are delivered to Invitae. To the extent the discounts are not expected to be used, they will be recognized consistent with the guidance in Topic 606 relating to breakage, in proportion to the expected purchases by Invitae. Any remaining unused discounts will be recognized when they expire.

All amounts received from Invitae are initially deferred and accumulated in deferred revenue, non-current. As of September 30, 2021, we have recognized payments received from Invitae of $16.8 million of deferred revenue, non-current, on the Condensed Consolidated Balance Sheet.

Costs incurred to develop the Program Products are research and development costs and are expensed as incurred. There were no capitalized origination or fulfilment costs related to the arrangement with Invitae that are eligible to be capitalized.

NOTE 4. TERMINATION OF MERGER WITH ILLUMINA

On November 1, 2018, we entered into an Agreement and Plan of Merger (as amended, the "Illumina Merger Agreement") with Illumina, Inc. ("Illumina") and FC Ops Corp., a wholly owned subsidiary of Illumina ("Illumina Merger Sub"). On January 2, 2020, we, Illumina and Illumina Merger Sub, entered into an agreement to terminate the Merger Agreement (the "Termination Agreement").

Continuation Advances from Illumina

As part of the Termination Agreement, Illumina paid us cash payments ("Continuation Advances") of $18.0 million during the fourth quarter of 2019 and $34.0 million during the first quarter of 2020. We recorded the $34.0 million as part of other income in the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) for the nine months ended September 30, 2020.

Up to the full $52.0 million of Continuation Advances paid to us were repayable without interest to Illumina if, within two years of March 31, 2020, we entered into, or consummated a Change of Control Transaction or raised at least $100 million in a single equity or debt financing (that may have multiple closings), with the amount repayable dependent on the amount raised by us.

Resulting from the issuance and sale of $900 million of 1.50% Convertible Senior Notes due February 15, 2028, $52.0 million of Continuation Advances were paid without interest to Illumina in February 2021 and recorded as other expense in the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) for the nine months ended September 30, 2021. Please refer to Note 5. *Summary of Significant Accounting Policies* for the accounting treatment of the Continuation Advances.

Reverse Termination Fee from Illumina

As part of the Termination Agreement, Illumina paid us a $98.0 million termination fee (the "Reverse Termination Fee"), from which we paid our financial advisor associated fees of $6.0 million in April 2020.

Pursuant to the Termination Agreement, in the event that, on or prior to September 30, 2020, we entered into a definitive agreement providing for, or consummated, a Change of Control Transaction, then we may have been required to repay the Reverse Termination Fee (without interest) to Illumina in connection with the consummation of such Change of Control Transaction. As indicated in ASC 450, *Contingencies*, a gain contingency usually is not recognized in the financial statements until the period in which all contingencies are resolved and the gain is realizable. As such, we deferred the gain from the Reverse Termination Fee from Illumina until the date when the associated contingency lapsed. On October 1, 2020, the contingency clauses lapsed and we recorded the $98.0 million as a part of other income in the fourth quarter of 2020.

NOTE 5. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Consolidation

The accompanying unaudited condensed consolidated financial statements, which include the accounts of Pacific Biosciences and the accounts of our wholly-owned subsidiaries, have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). Certain information and footnote disclosures typically included in our audited financial statements have been condensed or omitted. The accompanying unaudited condensed consolidated financial statements have been prepared on a consistent basis with the December 31, 2020 audited consolidated financial statements and include all adjustments, consisting of only normal recurring adjustments, necessary to fairly state our financial position, results of operations, comprehensive income (loss), and cash flows for the period, but are not necessarily indicative of the results to be expected for the entire year or any future periods. All intercompany transactions and balances have been eliminated.

The financial statements should be read in conjunction with the audited consolidated financial statements and notes included in our Annual Report on Form 10-K for the year ended December 31, 2020.

COVID-19

We are subject to risks and uncertainties as a result of the novel coronavirus pandemic ("COVID-19"). The extent of the impact of the COVID-19 pandemic on our business is highly uncertain as responses to the pandemic can change quickly and information is continuing to evolve, including the effects of the Delta variant. We considered the impact of COVID-19 on the assumptions and estimates used to determine the results reported and asset valuations as of September 30, 2021.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes to the financial statements. On an ongoing basis, management evaluates its significant estimates including, but not limited to, the valuation of inventory, the determination of stand-alone selling prices for revenue recognition, the fair value of contingent consideration, the valuation of acquired intangible assets, the fair value of certain equity awards, the useful lives assigned to long-lived assets, the computation of provisions for income taxes, the borrowing rate used in calculating the operating lease right-of-use assets and operating lease liabilities, and the valuations related to our convertible senior notes. Actual results could differ materially from these estimates.

Fair Value of Financial Instruments

Fair value is the exchange price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The fair value hierarchy established under GAAP requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The three levels of inputs that may be used to measure fair value are as follows:

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

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

We classify our cash deposits and money market funds within Level 1 of the fair value hierarchy because they are valued using bank balances or quoted market prices. We classify our investments as Level 2 instruments based on market pricing and other observable inputs. We did not classify any of our investments within Level 3 of the fair value hierarchy.

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

The carrying amount of our accounts receivable, prepaid expenses, other current assets, accounts payable, accrued expenses and other liabilities, current, approximate fair value due to their short maturities.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The following table sets forth the fair value of our financial assets and liabilities that were measured on a recurring basis as of September 30, 2021 and December 31, 2020 respectively:

	September 30, 2021				December 31, 2020			
(in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets								
Cash and cash equivalents:								
Cash and money market funds	$ 364,020	$ —	$ —	$ 364,020	$ 43,040	$ —	$ —	$ 43,040
Commercial paper	—	61,368	—	61,368	—	32,537	—	32,537
U.S. government & agency securities	—	—	—	—	—	170	—	170
U.S. Treasury security	—	—	—	—	—	5,864	—	5,864
Total cash and cash equivalents	364,020	61,368	—	425,388	43,040	38,571	—	81,611
Investments:								
Commercial paper	—	255,817	—	255,817	—	112,644	—	112,644
Corporate debt securities	—	13,595	—	13,595	—	17,456	—	17,456
U.S. government & agency securities	—	385,090	—	385,090	—	107,103	—	107,103
Total investments	—	654,502	—	654,502	—	237,203	—	237,203
Short-term restricted cash:								
Cash	500	—	—	500	836	—	—	836
Long-term restricted cash:								
Cash	4,560	—	—	4,560	3,500	—	—	3,500
Total assets measured at fair value	$ 369,080	$ 715,870	$ —	$ 1,084,950	$ 47,376	$ 275,774	$ —	$ 323,150
Liabilities								
Continuation Advances	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Contingent consideration	—	—	168,574	168,574	—	—	—	—
Total liabilities measured at fair value	$ —	$ —	$ 168,574	$ 168,574	$ —	$ —	$ —	$ —

We classify contingent consideration, which was incurred in connection with the acquisition of Omniome, within Level 3 as factors used to develop the estimate of fair value include unobservable inputs that are not supported by market activity and are significant to the fair value. We estimate the fair value of the contingent consideration liability by discounting the probability-weighted outcomes to present value using an estimate of our borrowing rate and the risk-free rate. The potential outcomes of milestone achievement dates are within the period from December 31, 2022 to June 30, 2025, with the highest probability of achieving the milestone in the middle of this period. The discount rates used are the sum of the U.S. risk-free rate and the estimated subordinated credit spread for CCC+ and B- credit rating, which ranges from 4.3% to 4.8%.

As of December 31, 2020, we classified the Continuation Advances, which were incurred in connection with the Illumina Merger Agreement and were subject to repayment under certain circumstances, as a financial liability and were reported at fair value. The estimated fair value of the liability related to the Continuation Advances was determined using Level 3 inputs, or significant unobservable inputs. Management assessed the fair value of this financial instrument to be zero at December 31, 2020.

We were first approached by SB Northstar LP during the quarter ended March 31, 2021 regarding a potential convertible debt transaction. As discussed further below in Note 8. *Convertible Senior Notes*, in February 2021, we entered into an investment agreement with SB Northstar LP for the issuance and sale of $900 million of 1.50% Convertible Senior Notes due February 15, 2028. As a result, $52.0 million of Continuation Advances were repaid without interest to Illumina in February 2021 and recorded as other expense in the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) for the nine months ended September 30, 2021. There was no further liability exposure for Continuation Advances as of September 30, 2021.

For the quarter ended September 30, 2021, there were no transfers between Level 1, Level 2, or Level 3 assets or liabilities reported at fair value on a recurring basis and our valuation techniques did not change compared to the prior year. As discussed above, we recorded a contingent consideration liability in connection with our acquisition of Omniome during the quarter ended September 30, 2021.

Net Income (Loss) per Share

Basic net income (loss) per share is computed by dividing net income (loss) by the weighted average number of shares of common stock outstanding during the period. Diluted net income (loss) per share is computed using the weighted average number of shares of common stock outstanding and potential shares assuming the dilutive effect of the convertible senior notes, using the if-converted method, and outstanding stock options, restricted stock units and common stock issuable pursuant to our employee stock purchase plan, or ESPP, using the treasury stock method.

The following table presents the calculation of the basic and diluted net income (loss) per share amounts presented in the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) (in thousands, except per share amounts):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Numerator:				
Net income (loss)	$ 16,542	$ (23,708)	$ (111,894)	$ (45,532)
Denominator:				
Basic				
Weighted average shares used in computing net income (loss) per share, basic	202,194	166,862	198,545	158,195
Net income (loss) per share, basic	$ 0.08	$ (0.14)	$ (0.56)	$ (0.29)
Diluted				
Weighted average shares used in computing net income (loss) per share, basic	202,194	166,862	198,545	158,195
Add: Weighted average stock options	7,754	—	—	—
Add: Weighted average restricted stock units	3,598	—	—	—
Add: Weighted average shares issuable pursuant to ESPP	1,581	—	—	—
Weighted average shares used in computing net income (loss) per share, diluted	215,127	166,862	198,545	158,195
Net income (loss) per share, diluted	$ 0.08	$ (0.14)	$ (0.56)	$ (0.29)

The following outstanding shares issuable upon conversion of the convertible senior notes, common stock options, restricted stock units (“RSUs”), with time-based vesting, RSUs with performance-based vesting and ESPP shares expected to be purchased, 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. See Note 10. *Stockholders’ Equity* for detailed information on RSUs with time-based vesting and RSUs with performance-based vesting.

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2021	2020	2021	2020
Shares issuable upon conversion of convertible senior notes	20,690	—	17,203	—
Options to purchase common stock	2,326	19,921	12,703	19,921
RSUs with time-based vesting	2,006	5,971	6,835	5,971
RSUs with performance-based vesting	—	94	—	94
ESPP shares	126	2,890	1,564	2,890

Concentration and Other Risks

For the three and nine months ended September 30, 2021, Gene Company Limited accounted for approximately 17% and 15%, respectively, of our total revenue during the period with no other customer exceeding 10% during those periods. For the three and nine months ended September 30, 2020, Gene Company Limited accounted for approximately 18% and 14%, respectively, of our total revenue with no other customer exceeding 10% during those periods. Gene Company Limited is our primary distributor in China.

Recent Accounting Pronouncements

Recently Adopted Accounting Standards

In August 2020, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity.* This guidance simplifies the accounting for convertible instruments primarily by eliminating the existing cash conversion and beneficial conversion models within Subtopic 470-20, which will result in fewer embedded conversion options being accounted for separately from the debt host. The guidance also amends and simplifies the calculation of earnings per share relating to convertible instruments. This guidance is effective for annual periods beginning after December 15, 2021, including interim periods within that reporting period, excluding smaller reporting companies. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, including interim periods within that reporting period, using either a full or modified retrospective approach. We adopted ASU 2020-06 on January 1, 2021. Because we had no convertible instruments within the scope of ASU 2020-06 at the time of adoption, there was no impact of adoption on our condensed consolidated financial statements. In February 2021 we issued $900 million of 1.50% Convertible Senior Notes due February 15, 2028, as described in Note 8. *Convertible Senior Notes*, which are accounted for under ASU 2020-06.

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic* 740*): Simplifying the Accounting for Income Taxes*. This ASU simplifies the accounting for income taxes by clarifying and amending existing guidance related to the recognition of franchise tax, the evaluation of a step up in the tax basis of goodwill, and the effects of enacted changes in tax laws or rates in the effective tax rate computation, among other clarifications. The standard is effective for our annual reporting periods beginning after December 15, 2020, including interim reporting periods within those fiscal years. We adopted ASU 2019-12 on January 1, 2021, and the adoption did not have a material impact on our condensed consolidated financial statements.

Significant Accounting Policies

Except for the adoption of ASU 2020-06 as discussed above and in Note 8. *Convertible Senior Notes* and the accounting for the acquisition of Omniome and Circulomics as described in Note 2. *Business Acquisitions* and Note 7. *Balance Sheet Components*, there have been no new or material changes to the significant accounting policies discussed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

NOTE 6. CASH, CASH EQUIVALENTS AND INVESTMENTS

The following tables summarize our cash, cash equivalents and investments as of September 30, 2021 and December 31, 2020 (in thousands):

	As of September 30, 2021			
	Amortized Cost	Gross unrealized gains	Gross unrealized losses	Fair Value
Cash and cash equivalents:				
Cash and money market funds	$ 364,020	$ —	$ —	$ 364,020
Commercial paper	61,369	—	(1)	61,368
U.S. government & agency securities	—	—	—	—
Total cash and cash equivalents	425,389	—	(1)	425,388
Investments:				
Commercial paper	255,817	8	(8)	255,817
Corporate debt securities	13,564	31	—	13,595
U.S. government & agency securities	385,092	52	(54)	385,090
Total investments	654,473	91	(62)	654,502
Total cash, cash equivalents and investments	$ 1,079,862	$ 91	$ (63)	$ 1,079,890
Short-term restricted cash:				
Cash	$ 500	$ —	$ —	$ 500
Long-term restricted cash:				
Cash	$ 4,560	$ —	$ —	$ 4,560

	As of December 31, 2020			
	Amortized Cost	Gross unrealized gains	Gross unrealized losses	Fair Value
Cash and cash equivalents:				
Cash and money market funds	$ 43,040	$ —	$ —	$ 43,040
Commercial paper	32,538	—	(1)	32,537
U.S. government & agency securities	170	—	—	170
U.S. Treasury security	5,864	—	—	5,864
Total cash and cash equivalents	81,612	—	(1)	81,611
Investments:				
Commercial paper	112,648	4	(8)	112,644
Corporate debt securities	17,360	96	—	17,456
U.S. government & agency securities	107,109	6	(12)	107,103
Total investments	237,117	106	(20)	237,203
Total cash, cash equivalents and investments	$ 318,729	$ 106	$ (21)	$ 318,814
Short-term restricted cash:				
Cash	$ 836	$ —	$ —	$ 836
Long-term restricted cash:				
Cash	$ 3,500	$ —	$ —	$ 3,500

The following table summarizes the contractual maturities of our cash equivalents and available-for-sale investments, excluding money market funds, as of September 30, 2021 (in thousands):

	Fair Value
Due in one year or less	$ 404,995
Due after one year through 5 years	310,875
Total investments	$ 715,870

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

NOTE 7. BALANCE SHEET COMPONENTS

Short-term restricted cash

As of September 30, 2021, the short-term restricted cash balance of $0.5 million was comprised of security deposits for the credit cards of employees. As of December 31, 2020, the short-term restricted cash balance of $0.8 million was comprised of $0.5 million for a customer deposit and $0.3 million for a security deposit for the credit cards of employees. In connection with the acquisition of Omniome in September 2021, we acquired $0.2 million of short-term restricted cash consisting of a security deposit for credit cards of Omniome employees.

Inventory

As of September 30, 2021 and December 31, 2020, our inventory consisted of the following components:

(in thousands)	September 30, 2021	December 31, 2020
Purchased materials	$ 5,511	$ 3,531
Work in process	8,762	6,651
Finished goods	4,003	4,048
Inventory	$ 18,276	$ 14,230

Long-term restricted cash

For our facility located at 1305 O'Brien Drive, Menlo Park, California (the "O'Brien Lease"), we were required to establish a letter of credit for the benefit of the landlord and to submit $4.5 million as a deposit for the letter of credit in October 2015. Subsequently, pursuant to the terms of the O'Brien Lease, beginning on May 1, 2019, the amount of the letter of credit was reduced by $0.5 million each year thereafter on May 1. As such, $3.0 million and $3.5 million was recorded in long-term restricted cash related to the O'Brien Lease in the Condensed Consolidated Balance Sheets as of September 30, 2021 and December 31, 2020, respectively.

In connection with the acquisition of Omniome in September 2021, we acquired $1.6 million of long-term restricted cash related to a letter of credit established for a facility lease.

Intangible assets and goodwill

Intangible assets include acquired in-process research and development (IPR&D) of $400 million as a result of the Omniome acquisition in September 2021. We capitalize IPR&D as an indefinite-lived intangible asset and either begin to amortize it over the life of the product upon commercialization or record an impairment charge if the project is abandoned.

In addition to IPR&D, we had the following definite-lived intangible assets from business acquisitions as of September 30, 2021 (in thousands, except years):

	Estimated Useful Life (in years)	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Developed technology	15	$ 11,000	$ (123)	$ 10,877
Customer relationships	2	360	(31)	329
Total		$ 11,360	$ (154)	$ 11,206

The estimated future amortization expense of acquisition-related intangible assets with definite lives is estimated as follows:

		(in thousands)
2021	$	227
2022		913
2023		838
2024		733
2025		733
2026 and thereafter		7,762
Total	$	11,206

We review definite-lived intangible assets for impairment on an annual basis or when indication of potential impairment exists, such as a significant reduction in cash flows associated with the assets.

Goodwill is reviewed for impairment at least annually during the second quarter, or more frequently if an event occurs indicating the potential for impairment. Changes to goodwill during the nine months ended September 30, 2021 were as follows (in thousands):

Balance as of December 31, 2020	$	-
Acquisition of Omniome		392,224
Acquisition of Circulomics		19,309
Balance as of September 30, 2021	$	411,533

Deferred revenue

As of September 30, 2021, we had a total of $28.2 million of deferred revenue, $9.8 million of which was recorded as deferred revenue, current and primarily relates to deferred service contract revenues to be recognized over the next year and the remaining $18.4 million was recorded as deferred revenue, non-current. Of the deferred revenue, non-current balance, $16.8 million relates to payments received under the Invitae collaboration described in Note 3 and $1.6 million primarily relates to deferred service contract revenues and is scheduled to be recognized in the next 5 years. Revenue recorded in the nine months ended September 30, 2021 includes $7.4 million of previously deferred revenue that was included in deferred revenue, current as of December 31, 2020. Contract assets as of September 30, 2021 and December 31, 2020 were not material.

As of September 30, 2021, we had a total of $0.7 million of deferred commissions included in prepaid expenses and other current assets which is recognized as sales, general and administrative expense as the related revenue is recognized. Costs to obtain a contract are expensed as incurred if the amortization period would have been a year or less.

Term loans

In connection with the acquisition of Omniome, we acquired $1.3 million in short-term debt and $3.0 million in long-term debt relating to a term loan facility that Omniome obtained in April 2020. Borrowings on the term loan facility were used to fund Omniome's purchases of equipment, which serves as collateral. Each term loan has a term of 43 months and bears a fixed interest rate of approximately 17% annually. The fee for the elective option to prepay all, but not less than all, of the borrowed amounts at any time after the 24th month and before the 43rd month after the commencement date, is 4% of the outstanding loan balance. Payments are made in equal monthly installments including principal and interest. The following table presents the future principal payments on the term loans (in thousands):

Remainder of 2021	$	361
2022		1,608
2023		1,842
2024		490
Total	$	4,301

NOTE 8. CONVERTIBLE SENIOR NOTES

On February 9, 2021, we entered into an investment agreement (the "Investment Agreement") with SB Northstar LP (the "Purchaser"), a subsidiary of SoftBank Group Corp., relating to the issuance and sale to the Purchaser of $900 million in aggregate principal amount of our 1.50% Convertible Senior Notes due February 15, 2028 (the "Notes"). The Notes were issued on February 16, 2021.

The Notes are governed by an indenture (the "Indenture") between the Company and U.S. Bank National Association, as trustee. The Notes bear interest at a rate of 1.50% per annum. Interest on the Notes is payable semi-annually in arrears on February 15 and August 15 and commenced on August 15, 2021. The Notes will mature on February 15, 2028, subject to earlier conversion, redemption or repurchase.

The Notes are convertible at the option of the holder at any time until the second scheduled trading day prior to the maturity date, including in connection with a redemption by the Company. The Notes are convertible into shares of our common stock based on an initial conversion rate of 22.9885 shares of common stock per $1,000 principal amount of the Notes (which is equal to an initial conversion price of $43.50 per share), in each case subject to customary anti-dilution and other adjustments as a result of certain extraordinary transactions. Upon conversion of the Notes, we may elect to settle such conversion obligation in shares, cash or a combination of shares and cash.

On or after February 20, 2026, the Notes will be redeemable by the Company in the event that the closing sale price of our common stock has been at least 150% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide the redemption notice at a redemption price of 100% of the principal amount of such Notes, plus accrued and unpaid interest up to, but excluding, the redemption date.

With certain exceptions, upon a change of control of the Company or the failure of our common stock to be listed on certain stock exchanges (a "Fundamental Change"), the holders of the Notes may require that we repurchase all or part of the principal amount of the Notes at a purchase price of par plus unpaid interest up to, but excluding, the maturity date.

The Indenture includes customary "events of default," which may result in the acceleration of the maturity of the Notes under the Indenture. The Indenture also includes customary covenants for convertible notes of this type.

To the extent we elect, the sole remedy for an event of default relating to our failure to comply with certain of our reporting obligations shall, for the first 360 calendar days after the occurrence of such an event of default, consist exclusively of the right to receive additional interest on the Notes at a rate equal to (i) 0.25% per annum of the principal amount of the Notes outstanding for each day during the first 180 calendar days of the 360-day period after the occurrence of such an event of default during which such event of default is continuing (or, if earlier, the date on which such event of default is cured or waived) and (ii) 0.50% per annum of the principal amount of the Notes outstanding for each day from, and including, the 181st calendar day to, and including, the 360th calendar day after the occurrence of such an event of default during which such event of default is continuing (or, if earlier, the date on which such event of default is cured or waived as provided for in the Indenture). On the 361st day after such event of default (if the event of default relating to our failure to comply with its obligations is not cured or waived prior to such 361st day), the Notes shall be subject to acceleration as provided for in the Indenture.

The notes are accounted for in accordance with the authoritative guidance for convertible debt instruments that may be settled in cash upon conversion. Under ASU 2020-06, the guidance requires that debt with an embedded conversion feature is accounted for in its entirety as a liability and no portion of the proceeds from the issuance of the convertible debt instrument is accounted for as attributable to the conversion feature unless the conversion feature is required to be accounted for separately as an embedded derivative or the conversion feature results in a substantial premium. The conversion feature of the Notes is not accounted for as an embedded derivative because it is considered to be indexed to our common stock, and the Notes were not issued at a premium; therefore, the Notes are accounted for in their entirety as a liability. Because we may elect to settle any conversions entirely in shares, and because settlement in shares is the default settlement method, the liability is classified as non-current.

The requirement to repurchase the Notes including unpaid interest to the maturity date in the event of a Fundamental Change is considered a put option for certain periods requiring bifurcation under ASC 815 – *Derivatives and Hedging.* However, given the low probability of a Fundamental Change occurring during the applicable periods, the value of the embedded derivative is immaterial.

The additional interest feature in the event of our failure to comply with certain reporting obligations is also considered an embedded derivative requiring bifurcation under ASC 815. However, due to the nature and terms of the reporting obligations, the value of the embedded derivative is immaterial.

We incurred issuance costs related to the Notes of approximately $4.5 million, which were recorded as debt issuance cost and are presented as a reduction to the Notes on our Condensed Consolidated Balance Sheets and are amortized to interest expense using the effective interest method over the term of the Notes, resulting in an effective interest rate of 1.6%. As of September 30, 2021, the net carrying amount of the liability for the Notes is recorded as convertible senior notes, net in the Condensed Consolidated Balance Sheets as follows (in thousands):

Principal amount	$	900,000
Unamortized debt issuance costs		(4,085)
Net carrying amount	$	895,915

For the three and nine months ended September 30, 2021, interest expense for the Notes was as follows (in thousands):

	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2021
Contractual interest expense	$ 3,375	$ 8,438
Amortization of debt issuance costs	152	379
Total interest expense	$ 3,527	$ 8,817

As of September 30, 2021, the estimated fair value (Level 2) of the Notes was $886.5 million. The fair value of the Notes is estimated using a pricing model that is primarily affected by the trading price of our common stock and market interest rates.

NOTE 9. COMMITMENTS AND CONTINGENCIES

Leases

We record an operating lease right-of-use assets and liabilities on our Condensed Consolidated Balance Sheets for all leases with a term of more than 12 months. In connection with the acquisition of Omniome, we acquired $18.1 million in right-of-use assets and liabilities on our Condensed Consolidated Balance Sheets. The operating lease right-of-use assets and liabilities are calculated as the present value of remaining minimum lease payments over the remaining lease term using our estimated secured incremental borrowing rates at the commencement date. Lease payments included in the measurement of the lease liability comprise the base rent per the term of the Lease. Lease expense for these leases is recognized on a straight-line basis over the lease term, with variable lease payments, such as common area maintenance fees, recognized in the period incurred.

The following table presents information as to the amount and timing of cash flows arising from our operating leases as of September 30, 2021:

Maturity of Lease Liabilities	**Amount**
Years ending December 31,	**(in thousands)**
Remainder of 2021	$ 2,714
2022	11,030
2023	11,163
2024	11,401
2025	11,689
Thereafter	21,941
Total undiscounted operating lease payments	69,938
Less: imputed interest	(12,856)
Present value of operating lease liabilities	$ 57,082
Balance Sheet Classification	
Operating lease liabilities, current	$ 7,128
Operating lease liabilities, non-current	49,954
Total operating lease liabilities	$ 57,082

We use our incremental borrowing rate to determine the present value of lease payments, as the implicit rates in our leases are not readily determinable. The weighted average discount rate used to measure our operating lease liabilities was 6.8%. The weighted average remaining lease term for our operating leases as of September 30, 2021 was 6.0 years.

Cash Flows

Cash paid for amounts included in the present value of operating lease liabilities was $1.8 million and $5.5 million, respectively, for the three and nine months ended September 30, 2021 and included in operating cash flow.

Operating Lease Costs

Operating lease costs were $1.6 million and $4.7 million, respectively, for the three and nine months ended September 30 of both 2021 and 2020.

Contingencies

We may become involved in legal proceedings, 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.

Legal

U.S. District Court Proceedings

On March 15, 2017, we filed a complaint in the U.S. District Court for the District of Delaware against ONT Inc. for patent infringement (C.A. No. 17-cv-275) (the “275 Action”). The complaint is based on our U.S. Patent No. 9,546,400 (the “’400 Patent”) which covers novel methods for nanopore sequencing of nucleic acid molecules using the signals from multiple monomeric units. We are seeking remedies including injunctive relief, damages and costs. On August 23, 2018, we filed an amended complaint, adding allegations of willful infringement and adding ONT Ltd. as a defendant in the 275 Action, which was granted on August 15, 2019.

On September 25, 2017, we filed a second complaint in the U.S. District Court for the District of Delaware against ONT Inc. for patent infringement (C.A. No. 17-cv-1353) (the “1353 Action”). The complaint is based on our U.S. Patent No. 9,678,056 (the “’056 Patent”) and U.S. Patent No. 9,738,929. We are seeking remedies including injunctive relief, damages and costs. On March 28, 2018, we added a claim for infringement of our U.S. Patent No. 9,772,323 (the “’323 Patent”). On August 23, 2018 we filed an amended complaint, adding allegations of willful infringement and adding ONT Ltd. as a defendant in the 1353 Action, which was granted on August 15, 2019.

A trial for the U.S. District Court matters was held from March 9 through March 18, 2020. The jury determined that ONT Inc. and ONT Ltd. infringed the ‘056 Patent, the ‘400 Patent, and the ‘323 Patent, but the jury declined to find these patents valid based on enablement and, in the case of the ’056 Patent, written description and indefiniteness. The jury declined to find valid or infringed U.S. Patent No. 9,738,929. Our appeal of the decision to the U.S. Court of Appeals for the Federal Circuit was denied on May 11, 2021.

Unrelated to the preceding matters, on September 26, 2019, Personal Genomics of Taiwan, Inc. (“PGI”) filed a complaint in the U.S. District Court for the District of Delaware against us for patent infringement (C.A. No. 19-cv-1810) (the “PGI District Court matter”). The matter from this complaint is based on PGI’s U.S. Patent No. 7,767,441 (the “‘441 Patent”). We plan to vigorously defend in this matter. On November 20, 2019, we filed our answer to the complaint, denying infringement and seeking a declaratory judgement of invalidity of the ‘441 Patent.

On June 22, 2020, we filed a petition requesting institution of an inter-partes review (IPR) to the Patent Trial and Appeals Board (the “Board”) at the United States Patent Office requesting the Board to find a set of claims in the ‘441 Patent invalid. On June 27, 2020, we filed a second petition requesting institution of an IPR requesting the Board to find another set of claims in the ‘441 Patent invalid. The two petitions (the “PacBio IPR Petitions”) requesting IPRs assert that all of the claims relevant to the PGI complaint are invalid. On January 19, 2021, the Board ordered that both PacBio IPR Petitions are instituted on all grounds presented.

On August 19, 2020, the court ordered a stay of the PGI District Court matter based on a joint stipulation by the parties. With the institution of the PacBio IPR Petitions described above, pursuant to the joint stipulation, the matter is now stayed pending a final written decision on the IPRs.

Proceedings in China

On May 12, 2020, PGI filed a complaint in the Wuhan Intermediate People’s Court in China alleging infringement of one or more claims of China patent No. CN101743321B (the “CN321 Patent”), which is related to the ‘441 Patent. We were served on January 20, 2021 and plan to vigorously defend in this matter. On November 23, 2020 we filed an Invalidation Petition at the China National Intellectual Property Administration (CNIPA) demonstrating the invalidity of the claims in the CN321 Patent on grounds of insufficient disclosure, and the lack of support, essential technical features, clarity, novelty, and inventiveness. A hearing in the invalidation proceeding at the CNIPA was held on April 29, 2021. On September 2, 2021, the CNIPA issued its decision on the Invalidation Petition and determined that all claims (1-61) of the CN321 patent were invalid. We have filed a petition with the Wuhan Intermediate People’s court requesting dismissal of the infringement action, which we anticipate will be granted.

Other Proceedings

From time to time, we may also be involved in a variety of other claims, lawsuits, investigations and proceedings relating to securities laws, product liability, patent infringement, contract disputes, employment and other matters that arise in the normal course of our business. In addition, third parties may, from time to time, assert claims against us in the form of letters and other communications. We record a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. We currently do not believe that the ultimate outcome of any of the matters described above is probable or reasonably estimable, or that these matters will have a material adverse effect on our business; however, the results of litigation and claims are inherently unpredictable. Regardless of the outcome, litigation can have an adverse impact on us because of litigation and settlement costs, diversion of management resources and other factors.

Indemnification

Pursuant to Delaware law and agreements entered into with each of our directors and officers, we may have obligations, under certain circumstances, to hold harmless and indemnify each of our directors and officers against losses suffered or incurred by the indemnified party in connection with their service to us, and judgements, fines, settlements and expenses related to claims arising against such directors and officers to the fullest extent permitted under Delaware law, our bylaws and our certificate of incorporation. We also enter and have entered into indemnification agreements with our directors and officers that may require us to indemnify them against liabilities that arise by reason of their status or service as directors or officers, except as prohibited by applicable law. In addition, we may have obligations to hold harmless and indemnify third parties involved with our fundraising efforts and their respective affiliates, directors, officers, employees, agents or other representatives against any and all losses, claims, damages and liabilities related to claims arising against such parties pursuant to the terms of agreements entered into between such third parties and us in connection with such fundraising efforts. To the extent that any such indemnification obligations apply to the lawsuits described above, any associated expenses incurred are included within the related accrued litigation expense amounts. No additional liability associated with such indemnification obligations has been recorded as of September 30, 2021.

NOTE 10. STOCKHOLDERS' EQUITY

Equity Plans

At March 31, 2020, we had three active equity compensation plans: the 2010 Equity Incentive Plan ("2010 Plan"), the 2010 Outside Director Equity Incentive Plan ("2010 Director Plan") and the 2010 Employee Stock Purchase Plan ("ESPP"). Our 2010 Plan and 2010 Director Plan expired on July 29, 2020.

On August 4, 2020, stockholders approved our new 2020 Equity Incentive Plan (the "2020 Plan") and reserved 11,000,000 shares of our common stock for issuance pursuant to equity awards granted under the 2020 Plan.

On December 2, 2020, the Board of Directors (the "Board") adopted the 2020 Inducement Equity Incentive Plan (the "Inducement Plan") and reserved 2,500,000 shares of our common stock for issuance pursuant to equity awards granted under the Inducement Plan. On April 18, 2021, the Board amended the Inducement Plan to reserve an additional 750,000 shares of our common stock for issuance pursuant to equity awards granted under the Inducement Plan.

On September 20, 2021, in connection with the acquisition of Omniome, we adopted the Omniome Equity Incentive Plan of Pacific Biosciences of California, Inc. (the "Omniome Plan"). Under the Omniome Merger Agreement, each unvested option to purchase Omniome common stock, granted under the Omniome Plan held by employees continuing with us, were assumed by PacBio and converted into an option to purchase shares of our common stock. The terms and conditions of the converted options are substantially the same (including vesting and exercisability), except that (A) the assumed options cover shares of PacBio's common stock; (B) the number of shares of our common stock subject to the assumed option is equal to the product of (i) the number of shares of Omniome common stock subject to the corresponding unvested option, multiplied by (ii) the exchange ratio (as defined below), with any resulting fractional share rounded down to the nearest whole share; and (C) the exercise price per share of the assumed options is equal to the quotient of (i) the exercise price per share of the corresponding unvested option to purchase shares of Omniome common stock, divided by (ii) the exchange ratio (as defined below), with any resulting fractional cent rounded up to the nearest whole cent. The exchange ratio was equal to 0.259204639. We reserved 2,494,128 shares of our common stock for issuance pursuant to equity awards under the Omniome Plan.

Stock Options

Time-based stock options

The following table summarizes stock option activity for time-based awards under all our stock option plans for the nine months ended September 30, 2021 (in thousands, except per share amounts):

	Stock Options Outstanding		
	Number of shares	Exercise price	Weighted average exercise price
Outstanding at December 31, 2020	14,638	$ 1.16 – 20.90	$ 5.53
Granted	2,329	23.39 – 46.37	34.40
Assumed Omniome options	339	2.05 – 4.90	4.43
Exercised	(4,406)	1.16 – 15.98	5.37
Canceled	(501)	2.54 – 46.37	5.28
Outstanding at September 30, 2021	12,399	$ 1.16 – 46.37	$ 10.99

Performance-based stock options

The following table summarizes stock option activity for performance-based awards under all our stock option plans for the nine months ended September 30, 2021 (in thousands, except per share amounts):

	Stock Options Outstanding		
	Number of shares	Exercise price	Weighted average exercise price
Outstanding at December 31, 2020	—	$ —	$ —
Granted	—	—	—
Assumed Omniome options	304	4.71 - 4.90	4.71
Exercised	—	—	—
Canceled	—	—	—
Outstanding at September 30, 2021	304	$ 4.71 - 4.90	$ 4.71

For the three and nine months ended September 30, 2021, we recognized stock-based compensation expense of $23.0 million and $29.0 million, respectively, related to options.

Restricted Stock Units ("RSUs")

Time-based RSUs

The following table summarizes the time-based RSUs activity for the nine months ended September 30, 2021 (in thousands, except per share amounts):

	Number of shares	Weighted average grant date fair value
Outstanding at December 31, 2020	5,919	$ 5.25
Granted	3,030	37.92
Released	(1,759)	4.83
Forfeited	(355)	14.05
Outstanding at September 30, 2021	6,835	$ 19.39

For the three and nine months ended September 30, 2021, we recognized stock-based compensation expense of $7.7 million and $19.6 million, respectively, for time-based RSUs.

Performance-based RSUs

The following table summarizes the performance-based RSUs ("PSUs") activity for the nine months ended September 30, 2021 (in thousands, except per share amounts):

	Number of shares	Weighted average grant date fair value
Outstanding at December 31, 2020	94	$ 2.63
Granted	—	—
Released	—	—
Forfeited	(94)	2.63
Outstanding at September 30, 2021	—	$ —

For the three and nine months ended September 30, 2021, we recognized stock-based compensation expense of $0 for the performance-based RSUs.

As of September 30, 2021, we had a total of 7.1 million shares of common stock available for future issuance under the 2020 Plan, the Inducement Plan and the Omniome Plan.

Employee Stock Purchase Plan ("ESPP")

Shares issued under our ESPP were 1,913,968 and 834,677 during the nine months ended September 30, 2021 and 2020, respectively. In January 2021, an additional 3.8 million shares were reserved under the ESPP. As of September 30, 2021, 7,810,673 shares of our common stock remain available for issuance under our ESPP.

For the three and nine months ended September 30, 2021, we recognized stock-based compensation expense of $5.1 million and $13.1 million, respectively, for the ESPP.

Stock-Based Compensation

The following table summarizes stock-based compensation expense (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Cost of revenue	$ 1,837	$ 735	$ 4,734	$ 1,714
Research and development	5,162	2,105	12,519	5,297
Sales, general and administrative	9,897	2,152	25,613	5,247
Merger-related expenses - stock-settled	6,349	—	6,349	—
Merger-related expenses - milestone	5,202	—	5,202	—
Stock-based compensation	28,447	4,992	54,417	12,258
Merger-related expenses - cash-settled	7,373	—	7,373	—
Total stock-based compensation	$ 35,820	$ 4,992	$ 61,790	$ 12,258

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

The assumptions used for the specified periods and the resulting estimates of weighted-average fair value per share for shares to be issued upon exercise of our stock options were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
Stock Option	2021	2020	2021	2020
Expected term in years	2.1 - 4.6	5.1	2.1 - 4.6	5.1
Expected volatility	67% - 80%	71%	67% - 80%	57% - 71%
Risk-free interest rate	0.05% – 0.71%	0.30%	0.05% – 0.74%	0.3% - 1.2%
Dividend yield	—	—	—	—
Weighted average grant date fair value per share	$5.97	$3.85	$15.63	$3.82

We estimate the value of employee stock purchase rights on the grant date using the Black-Scholes option pricing model. The assumptions used for the specified reporting periods and the resulting estimates of weighted-average fair value per share for stock to be issued under the ESPP were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
ESPP	2021	2020	2021	2020
Expected term in years	0.5 - 2.0	0.5 - 2.0	0.5 - 2.0	0.5 - 2.0
Expected volatility	67%	71%	67% - 68%	57% - 71%
Risk-free interest rate	0.06% - 0.20%	0.1%	0.06% - 0.20%	0.1% - 1.0%
Dividend yield	—	—	—	—
Weighted average fair value per share	$16.73	$3.13	$25.07	$1.87

NOTE 11. REVENUE

A summary of our revenue by geographic location for the three and nine months ended September 30, 2021 and 2020 is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
North America	$ 19,368	$ 8,971	$ 45,872	$ 25,189
Europe (including the Middle East and Africa)	6,347	4,339	21,166	11,925
Asia Pacific	9,172	5,772	27,456	14,643
Total	$ 34,887	$ 19,082	$ 94,494	$ 51,757

A summary of our revenue by category for the three and nine months ended September 30, 2021 and 2020 is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2021	2020	2021	2020
Instrument revenue	$ 15,926	$ 7,727	$ 45,147	$ 20,685
Consumable revenue	14,576	8,022	37,191	21,113
Product revenue	30,502	15,749	82,338	41,798
Service and other revenue	4,385	3,333	12,156	9,959
Total revenue	$ 34,887	$ 19,082	$ 94,494	$ 51,757

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

You should read the following discussion and analysis of our financial condition and results of operations together with our condensed consolidated financial statements and the related notes included in this Quarterly Report on Form 10-Q and those in our Annual Report on Form 10-K for the year ended December 31, 2020. Some of the information contained in this discussion and analysis or set forth elsewhere in this report, including statements related to our expectations regarding the potential impacts of the COVID-19 pandemic on our business, financial condition, and results of operations, expectations regarding sales of products in future periods that reflect increased commercial presence and customer demand, expectations regarding the impact of our recently completed Circulomics and Omniome acquisitions, and information with respect to our products, plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties, including statements regarding our expected financial results in future periods. The words "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "might," "plans," "potential," "predicts," "projects," "seeks," "should," "target," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. You should read the "Risk Factors" section of this Quarterly Report on Form 10-Q for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. We do not assume any obligation to update any forward-looking statements.

Business Overview

We design, develop and manufacture sequencing systems to help scientists and clinical researchers resolve genetically complex problems. Our products address several applications based on our novel Single Molecule, Real-Time (SMRT®) sequencing technology, including human germline sequencing, plant and animal sciences, infectious disease and microbiology, oncology, and other emerging applications.

Across these applications, customers use our technology in a wide range of sequencing methods, including whole genome sequencing and de novo genome assembly, long-range phasing, targeted sequencing, full-length RNA and single-cell sequencing, methylation and epigenetic characterization, and others. Our technology provides high accuracy, long reads, uniform coverage, and the ability to detect epigenetic changes simultaneously. PacBio® sequencing systems, including consumables and software, offer a simple and fast end-to-end workflow for SMRT sequencing.

In addition to our SMRT sequencing technology, we are developing a highly accurate short-read sequencing platform based on the novel Sequencing by Binding (SBB®) technology. Upon launch, we expect SBB to address adjacent applications and complement our existing long-read sequencing technology.

Strategic Objectives

We outlined the following strategic objectives for 2021:

- Expand our commercial reach;
- Accelerate our product development pipeline; and
- Drive market leadership in whole-genome clinical sequencing.

Expanding our commercial reach includes hiring senior level team members with extensive commercial experience. We employed 44 quota-carrying field sales personnel as of September 30, 2021 and we expect to more than double our number of quota-carrying field sales personnel by the end of 2021 as compared to the 22 representatives that we employed at the end of 2020. In addition, we plan to expand our commercial support activities and invest in more sales tools. We also intend to invest more heavily in marketing programs to increase the awareness of our products to a broader number of potential customers. As a result of these commercial expansion activities, we expect our sales, general, and administrative expense to increase significantly in 2021 as compared to 2020.

Accelerating our product development pipeline includes significantly expanding our research and development team in an effort to accelerate the development of multiple new products. In association with the collaboration we entered into in January 2021 with Invitae Corporation ("Invitae"), a leader in medical genetic testing, we plan to develop a new platform with production-scale high-throughput capability to complement the other new products we already have in development. In addition, with our acquisition of Omniome, Inc. ("Omniome"), we expect to continue to invest in the development of a short-read sequencing platform. As a result, we expect our research and development expense to increase significantly in 2021 as compared to 2020.

We believe that with the capabilities of our SMRT technology, we can be a market leader in whole-genome clinical sequencing. Leading institutions such as Children's Mercy Kansas City, Invitae, the HudsonAlpha Institute for Biotechnology and Stanford University have adopted our products to study rare and inherited disease. We believe the market opportunity for clinical sequencing is significant, and could drive substantial revenue growth for the company. In addition to our collaboration with Invitae, who has the desire to sequence hundreds of thousands of genomes annually with our technology, we continue to pursue additional partnerships to further drive the adoption of whole-genome clinical sequencing.

Recent Business Developments

On January 12, 2021, we entered into a multi-year Development and Commercialization Agreement (the "Development Agreement") with Invitae to develop a production-scale high-throughput sequencing platform that leverages the power of our highly accurate HiFi sequencing to expand Invitae's whole genome testing capabilities.

On February 16, 2021, we issued convertible senior notes to SB Northstar LP, a subsidiary of SoftBank Group Corp., pursuant to an investment agreement with SB Northstar LP, for $900 million at 1.50% interest rate, due February 15, 2028.

On July 22, 2021, we acquired Circulomics Inc ("Circulomics"), a leader in high molecular weight DNA extraction to enable a path toward an end-to-end automated workflow.

On September 20, 2021, we completed our acquisition of Omniome, a San Diego-based company developing a highly differentiated, proprietary short-read DNA sequencing platform capable of delivering high accuracy results, for total consideration transferred of $714.8 million. This amount consisted of approximately $315.7 million in cash, 8,911,580 shares of our common stock with a fair value of $249.4 million and contingent consideration with a fair value of $168.6 million. Out of the total payment, approximately $18.9 million, comprised of $7.4 million of cash, 226,811 shares of PacBio common stock with a fair value of $6.3 million and $5.2 million of contingent consideration, was accounted for as a one-time post acquisition stock-based compensation expense.

On September 20, 2021, in connection with the acquisition of Omniome, we issued and sold 11,214,953 shares of common stock in a private placement transaction at a price of $26.75 per share, for aggregate proceeds of approximately $294.8 million, net of issuance costs of approximately $5.2 million.

COVID-19 Update

The COVID-19 pandemic and efforts to control its spread have significantly curtailed the movement of people, goods, and services worldwide, including in the regions in which we sell our products and services and conduct our business operations. A significant number of our customer sites that shut down due to COVID-19 have now re-opened. However, a significant number of customers delayed purchases or had difficulties obtaining funding for capital expenditures due to the negative impact of the pandemic on their businesses. Due to the uncertain scope and duration of the pandemic, we cannot reasonably estimate the future impact to our operations and financial results.

In response to local stay-at-home orders and in alignment with CDC recommendations, we have limited our manufacturing and commercial operations based in Menlo Park, California. We will, however, continue to provide consumables, instruments and support to scientists at government, academic, and commercial labs that remain open. To aid in containing the spread of COVID-19, we have implemented remote-work options and are limiting employee travel as much as possible. We are monitoring this rapidly evolving situation, including all developments surrounding the Delta variant of COVID-19.

Even after the COVID-19 pandemic has subsided, we may continue to experience an adverse impact to our business as a result of the global economic impact of the pandemic, including any recession that has occurred or may occur in the future. Specifically, difficult macroeconomic conditions, decreases in discretionary capital spending, increased and prolonged unemployment or a decline in consumer confidence as a result of the COVID-19 pandemic could have a continuing adverse effect on the demand for some of our products. Such economic disruption could have a material adverse effect on our business, results of operations and liquidity. The degree of impact of COVID-19 on our business will depend on several factors, such as the duration and the extent of the pandemic, as well as actions taken by governments, businesses and consumers in response to the pandemic, all of which continue to evolve and remain uncertain at this time. See the Risk Factors section for further discussion of the possible impact of the COVID-19 pandemic on our business.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations are based upon our unaudited condensed consolidated financial statements, which have been prepared in accordance with the rules and regulations of the SEC. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. We evaluate our critical accounting policies and estimates on an ongoing basis. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

All changes to critical accounting policies and estimates are discussed in Note 5, "Significant Accounting Policies" of the unaudited condensed consolidated financial statements.

Results of Operations

Comparison of the three months ended September 30, 2021 and 2020

(in thousands, except percentages)	Three Months Ended September 30, 2021	2020	$ Change	% Change
	(unaudited)			
Revenue:				
Product revenue	$ 30,502	$ 15,749	$ 14,753	94%
Service and other revenue	4,385	3,333	1,052	32%
Total revenue	34,887	19,082	15,805	83%
Cost of revenue:				
Cost of product revenue	15,530	9,228	6,302	68%
Cost of service and other revenue	3,870	2,790	1,080	39%
Amortization of intangible assets	123	—	123	100%
Total cost of revenue	19,523	12,018	7,505	62%
Gross profit	15,364	7,064	8,300	117%
Operating expense:				
Research and development	27,508	16,467	11,041	67%
Sales, general and administrative	31,606	14,772	16,834	114%
Merger-related expenses	30,726	—	30,726	100%
Total operating expense	89,840	31,239	58,601	188%
Operating loss	(74,476)	(24,175)	(50,301)	(208%)
Interest expense	(3,673)	—	(3,673)	(100%)
Other income (expense), net	(133)	467	(600)	(128%)
Loss before benefit from income taxes	(78,282)	(23,708)	(54,574)	(230%)
Benefit from income taxes	(94,824)	—	(94,824)	(100%)
Net income (loss)	$ 16,542	$ (23,708)	$ 40,250	170%

Revenue

Revenue increased $15.8 million, or 83%, to $34.9 million for the three months ended September 30, 2021 as compared to $19.1 million for the three months ended September 30, 2020, driven primarily by an increase in instrument and consumable revenue.

Instrument revenue increased $8.2 million, or 106%, to $15.9 million for the three months ended September 30, 2021, as compared to the three months ended September 30, 2020, primarily due to an increase in the instruments sold. During the three months ended September 30, 2021, we placed 44 Sequel II and Sequel IIe systems compared to the 20 systems placed in the three months ended September 30, 2020. Consumables revenue increased $6.6 million, or 82%, to $14.6 million for the three months ended September 30, 2021, as compared to the three months ended September 30, 2020. The increase in our consumables revenue is primarily attributable to the growth in the instrument installed base. Instrument and consumables revenues were adversely impacted by customer site closures and lower utilization of the installed base of instruments due to the impact of the COVID-19 pandemic during the three months ended September 30, 2020.

Service and other revenue increased $1.1 million, or 32%, to $4.4 million for the three months ended September 30, 2021, primarily due to higher product maintenance agreements sold on the growing installed base.

Cost of revenue, gross profit and gross margin

Cost of product revenue increased by $6.3 million, or 68%, to $15.5 million for the three months ended September 30, 2021, compared to $9.2 million for the three months ended September 30, 2020. The increase in cost of product revenue was primarily due to higher sales.

Cost of service and other revenue increased by $1.1 million, or 39%, to $3.9 million compared to $2.8 million for the three months ended September 30, 2020, primarily due to higher service volumes from our growing installed base and increased stock-based compensation expense.

Gross profit increased $8.3 million, or 117%, to $15.4 million for the three months ended September 30, 2021, compared to the three months ended September 30, 2020. Gross margin was 44.0% for the three months ended September 30, 2021 compared to gross margin of 37.0% for the same period during 2020. The improved gross margin percentage was primarily due to higher volumes and increased factory utilization during the three months ended September 30, 2021, compared to the same period of 2020, which was adversely impacted by the impact of the COVID-19 pandemic.

Research and Development Expense

Research and development expense increased by $11.0 million, or 67%, to $27.5 million for the three months ended September 30, 2021, compared to the three months ended September 30, 2020. The increase was primarily driven by an increase of $7.5 million in personnel expenses, including $3.1 million in stock-based compensation expense due to increase in headcount, and an increase of $2.2 million in product development costs compared to the same period of 2020. Research and development expense included stock-based compensation expense of $5.2 million and $2.1 million during the three months ended September 30, 2021, and 2020, respectively.

We expect research and development expenses to increase significantly in 2021, due to the acquisition of Omniome and our intent to continue to hire a significant number of additional personnel in research and development. We estimate costs associated with the Invitae collaboration to total approximately $20 million for 2021.

Sales, General and Administrative Expense

Sales, general and administrative expense increased by $16.8 million, or 114%, to $31.6 million for the three months ended September 30, 2021, compared to the three months ended September 30, 2020. The increase in sales, general and administrative expense was primarily attributable to a $14.8 million increase in compensation expense, including $7.7 million in stock-based compensation expense, and a $0.7 million increase in legal and other professional expenses during the three months ended September 30, 2021 compared to the three months ended September 30, 2020. The increase in compensation expense is primarily due to increase in headcount, as well as planned personnel additions as we execute on our plan to more than double our quota-carrying sales representatives during 2021. Sales, general and administrative expense included stock-based compensation expense of $9.9 million and $2.2 million during the three months ended September 30, 2021 and 2020, respectively.

Sales, general and administrative expense is planned to increase significantly in 2021, as we expect to more than double our quota-carrying sales representatives, increase headcount as part of our business expansion and incur incremental costs in connection with the acquisition of Omniome. Stock-based compensation included in sales, general, and administrative expense is expected to increase significantly in 2021.

Merger-related expenses

Merger-related expenses of $30.7 million during the three months ended September 30, 2021 consist of $11.8 million of transaction costs arising from the acquisitions of Omniome and Circulomics and $18.9 million of stock-based compensation expense resulting from the acceleration of certain equity awards in connection with the Omniome merger. We recognized $18.9 million of stock-based compensation expense for the acceleration that was not attributable to pre-combination services, consisting of $6.3 million that was settled in shares of our common stock, $7.4 million that was settled in cash and $5.2 million related to contingent consideration.

Interest Expense

Interest expense for the three months ended September 30, 2021 was $3.7 million compared to none in the same period in 2020, primarily due to $3.5 million of interest incurred on the $900 million of 1.50% Convertible Senior Notes due February 15, 2028 that we issued on February 16, 2021.

Benefit from Income Taxes

A deferred income tax benefit of $94.8 million for the three and nine months ended September 30, 2021, is related to the release of the valuation allowance for deferred tax assets due to the recognition of deferred tax liabilities in connection with the Omniome and Circulomics acquisitions. We maintain a full valuation allowance on the net deferred tax assets of our U.S. entities as we have concluded that it is more likely than not that we will not realize our deferred tax assets. Accordingly, this benefit from income taxes is reflected on our Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) for the three months ended September 30, 2021.

Comparison of the nine months ended September 30, 2021 and 2020

(in thousands, except percentages)	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 2020	$ Change	% Change
	(unaudited)			
Revenue:				
Product revenue	$ 82,338	$ 41,798	$ 40,540	97%
Service and other revenue	12,156	9,959	2,197	22%
Total revenue	94,494	51,757	42,737	83%
Cost of revenue:				
Cost of product revenue	41,449	22,874	18,575	81%
Cost of service and other revenue	10,828	7,718	3,110	40%
Amortization of intangible assets	123	—	123	100%
Total cost of revenue	52,400	30,592	21,808	71%
Gross profit	42,094	21,165	20,929	99%
Operating expense:				
Research and development	70,323	46,727	23,596	50%
Sales, general and administrative	86,804	54,846	31,958	58%
Merger-related expenses	30,726	—	30,726	100%
Total operating expense	187,853	101,573	86,280	85%
Operating loss	(145,759)	(80,408)	(65,351)	(81%)
Gain (loss) from Continuation Advances from Illumina	(52,000)	34,000	(86,000)	(253%)
Interest expense	(9,051)	(267)	(8,784)	(3290%)
Other income, net	92	1,143	(1,051)	(92%)
Loss before benefit from income taxes	(206,718)	(45,532)	$ (161,186)	(354%)
Benefit from income taxes	(94,824)	—	(94,824)	(100%)
Net loss	$ (111,894)	$ (45,532)	$ (66,362)	(146%)

Revenue

Revenue increased $42.7 million, or 83%, to $94.5 million for the nine months ended September 30, 2021, as compared to $51.8 million for the nine months ended 2020, driven primarily by an increase in instrument and consumable revenue.

Instrument revenue increased $24.5 million, or 118%, to $45.1 million for the nine months ended September 30, 2021 as compared to the nine months ended September 30, 2020, due primarily to an increase in the instruments sold. During the nine months ended September 30, 2021 we placed 123 Sequel II/IIe systems compared to 54 for the nine months ended September 30, 2020. We expect the number of Sequel II/IIe placements to continue to grow during the remainder of 2021, reflecting our increased commercial presence and customer demand. Consumables revenue increased $16.1 million, or 76%, to $37.2 million for the nine months ended September 30, 2021, as compared to the nine months ended September 30, 2020. The increase in consumable sales was primarily attributable to higher Sequel II/IIe consumables sales as the installed base of Sequel II/IIe systems has grown, as well as lower utilization of the installed base of instruments due to the impact of the COVID-19 pandemic during the nine months ended September 30, 2020.

Service and other revenue increased $2.2 million, or 22%, to $12.2 million for the nine months ended September 30, 2021, due primarily to a higher number of product maintenance agreements sold on our growing installed base.

Cost of revenue, gross profit, and gross margin

Cost of product revenue increased $18.6 million, or 81%, to $41.4 million for the nine months ended September 30, 2021, compared to $22.9 million for the nine months ended September 30, 2021. The increase in cost of product revenue was primarily due to higher sales.

Cost of service and other revenue increased $3.1 million, or 40%, to $10.8 million for the nine-months ended September 30, 2021, compared to $7.7 million for the nine months ended September 30, 2020, due primarily to higher service volumes due to the growing installed base and increased stock-based compensation expense.

Gross profit increased $20.9 million, or 99%, to $42.1 million for the nine-month period ended September 30, 2021 compared to the nine months ended September 30, 2020. Gross margin was 44.5%, for the nine months ended September 30, 2021, compared to gross margin of 40.9% for the nine months ended September 30, 2020. The improved gross margin percentage was primarily due to higher sales volumes and increased factory utilization during the nine months ended September 30, 2021, compared to the same period of 2020, which was adversely impacted by the impact of the COVID-19 pandemic.

Research and Development Expense

Research and development expense increased by $23.6 million, or 50%, to $70.3 million for the nine months ended September 30, 2021, compared to the nine months ended September 30, 2020. The increase in research and development expense was primarily driven by an increase of $14.8 million in personnel expenses, including $7.2 million in stock-based compensation expense, and an increase of $6.1 million in product development costs compared to the same period of 2020. Research and development expense included stock-based compensation expense of $12.5 million and $5.3 million during the nine months ended September 30, 2021 and 2020, respectively.

We expect research and development expenses to continue to grow in 2021, due to the acquisition of Omniome and our intent to hire a significant number of additional personnel in research and development. We estimate costs associated with the Invitae collaboration to total approximately $20 million for 2021.

Sales, General and Administrative Expense

Sales, general and administrative expense increased by $32.0 million, or 58%, to $86.8 million for the nine months ended September 30, 2021, compared to the nine months ended September 30, 2020. The increase in sales, general and administrative expense was primarily attributable to an increase of $38.4 million in compensation expense, including $20.3 million in stock-based compensation expense, partially offset by a $6.0 million financial advisory fee during the nine months ended September 30, 2020 related to the terminated merger with Illumina. The increase in compensation expense is primarily attributable to executive hiring related to senior management transitions during the second half of 2020 and first half of 2021, as well as planned personnel additions as we execute on our plan to more than double our quota-carrying sales representatives during 2021. During the nine months ended September 30, 2021, we added 22 quota-carrying sales representatives, bringing our total to 44. Sales, general and administrative expense included stock-based compensation expense of $25.6 million and $5.2 million during the nine-month periods ended September 30, 2021 and 2020, respectively.

Sales, general and administrative expense is planned to increase significantly in 2021, as we expect to more than double our quota-carrying sales representatives, increase headcount as part of our business expansion and incur incremental costs in connection with the acquisition of Omniome.

Merger-related expenses

Merger-related expenses of $30.7 million during the nine months ended September 30, 2021 consist of $11.8 million of transaction costs arising from the acquisitions of Omniome and Circulomics and $18.9 million of stock-based compensation expense resulting from the acquisition of Omniome. We recognized $18.9 million of stock-based compensation expense for the acceleration that was not attributable to pre-combination services, consisting of $6.3 million that was settled in shares of our common stock, $7.4 million that was settled in cash and $5.2 million related to contingent consideration.

Gain (loss) from Continuation Advances from Illumina

As part of the Termination Agreement, Illumina paid us Continuation Advances of $18.0 million during the fourth quarter of 2019 and $34.0 million during the first quarter of 2020. We recorded the $34.0 million as part of other income in the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) for the nine months ended September 30, 2020.

Up to the full $52.0 million of Continuation Advances paid to us were repayable without interest to Illumina if, within two years of March 31, 2020, we entered into, or consummated a Change of Control Transaction or raised at least $100 million in a single equity or debt financing (that may have multiple closings), with the amount repayable dependent on the amount raised by us.

Resulting from the issuance and sale of $900 million of 1.50% Convertible Senior Notes due February 15, 2028, $52.0 million of Continuation Advances were paid without interest to Illumina in February 2021 and recorded as other expense in the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) for the nine months ended September 30, 2021.

Interest Expense

Interest expense for the nine months ended September 30, 2021, increased by $8.8 million compared to the same period in 2020, primarily due to $8.8 million of interest incurred on the $900 million of 1.50% Convertible Senior Notes that were issued February 16, 2021.

Benefit from Income Taxes

A deferred income tax benefit of $94.8 million for the three and nine months ended September 30, 2021, is related to the release of the valuation allowance for deferred tax assets due to the recognition of deferred tax liabilities in connection with the Omniome and Circulomics acquisitions. We maintain a full valuation allowance on the net deferred tax assets of our U.S. entities as we have concluded that it is more likely than not that we will not realize our deferred tax assets. Accordingly, this benefit from income taxes is reflected on our Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) for the nine months ended September 30, 2021.

Liquidity and Capital Resources

Liquidity

As of September 30, 2021, we had $1.08 billion in cash, cash equivalents and investments, compared to $318.8 million at December 31, 2020. The increase was attributable to the net proceeds from our issuance of $900 million of 1.50% Convertible Senior Notes on February 16, 2021 and $300 million of common stock in a private placement. This increase was partially offset by the payment of $319.8 million, net of cash acquired, in the acquisitions of Omniome and Circulomics in the third quarter of 2021 and repayment of $52 million of Continuation Advances to Illumina in the first quarter of 2021. We have historically incurred, and expect to continue to incur, operating losses and generate negative cash flows from operations on an annual basis due to the investments we intend to make as described in "—Results of Operations" above, and as a result, we may require additional capital resources to execute on our strategic initiatives to grow our business. We believe that our existing cash, cash equivalents and investments will be sufficient to fund our projected operating requirements for at least the next 12 months from the date of filing of this Quarterly Report on Form 10-Q for the quarter ended September 30, 2021.

Factors that may affect our capital needs include, but are not limited to, the pace of adoption of our products, which affects the sales of our products and services; our ability to obtain new collaboration and customer arrangements; the progress of our research and development programs; initiation or expansion of research programs and collaborations; the purchase of patent licenses; future acquisitions; manufacturing costs; service costs; the impact of product quality; litigation costs, including the costs involved in preparing, filing, prosecuting, defending and enforcing intellectual property rights; costs of developing new and enhanced products; acquisitions of complementary businesses, technologies or assets; and other factors. There can be no assurance that funds will be available on favorable terms, or at all.

Operating Activities

Our primary uses of cash in operating activities are for the development of ongoing product enhancements and future products, manufacturing, and support functions related to our sales, general and administrative activities.

We used $79.5 million of cash in operating activities for the nine months ended September 30, 2021, compared to cash provided by operating activities of $33.8 million for the same period in 2020.

Cash used in operating activities for the nine months ended September 30, 2021 was due primarily to a $111.9 million net loss, which includes a $94.8 million deferred income tax benefit, that was partially offset by a loss of $52.0 million from Continuation Advances repaid to Illumina that is considered a financing activity, non-cash items such as stock-based compensation of $54.4 million and depreciation of $4.9 million and a net cash inflow from changes in operating assets and liabilities of $9.8 million. The change in net operating assets and liabilities was primarily attributable to increases of $17.9 million in deferred revenue and $10.3 million in accrued expenses, partially offset by an increase of $5.5 million in inventory, an increase of $6.9 million in accounts receivable, a decrease of $3.2 million in operating lease liabilities and a decrease of $3.0 million in other liabilities.

Cash provided by operating activities for the nine months ended September 30, 2020 was due to the $98.0 million Reverse Termination Fee received from Illumina, non-cash items such as stock-based compensation of $12.3 million and depreciation of $4.8 million, partially offset by a net loss of $45.5 million and a gain from Continuation Advances from Illumina of $34.0 million, which is considered to be a financing activity.

Investing Activities

Our investing activities consist primarily of business acquisitions, capital expenditures and investment purchases, sales and maturities. We used $744.3 million of cash for investing activities for the nine months ended September 30, 2021, compared to $120.8 million for the same period in 2020.

Cash used in investing activities for the nine months ended September 30, 2021 was due primarily to net purchases of investments of $421.4 million, cash paid, net of cash acquired, of $319.8 million for the acquisitions of Omniome and Circulomics and purchases of property and equipment of $3.1 million.

Cash used in investing activities for the nine months ended September 30, 2020 was due primarily to net purchases of investments of $119.9 million and purchases of property and equipment of $1.0 million.

Financing Activities

Cash provided by financing activities was $1.17 billion and $126.0 million for the nine months ended September 30, 2021 and 2020, respectively.

Cash provided by financing activities during the nine months ended September 30, 2021 resulted from the net proceeds of $895.5 million from our February 2021 issuance of $900 million of 1.50% Convertible Senior Notes after deducting debt issuance costs, net proceeds of $294.8 million from our September 2021 private placement of common stock after deducting issuance costs and proceeds of $30.1 million from the issuance of common stock through our equity compensation plans, partially offset by $52.0 million of Continuation Advances repaid to Illumina.

Cash provided by financing activities during the nine months ended September 30, 2020 consisted of net proceeds of $93.8 million from our August 2020 underwritten public equity offering after deducting underwriter commissions and paid offering expenses, $34.0 million of Continuation Advances received from Illumina and proceeds of $14.2 million from the issuance of common stock through our equity compensation plans, partially offset by $16.0 million we repaid for the remaining outstanding principal upon the maturity of a credit facility agreement.

Private Placement of Common Stock

On July 19, 2021, we entered into a purchase agreement with certain qualified institutional buyers and institutional accredited investors, pursuant to which we agreed to sell an aggregate of 11,214,953 shares of common stock, at a price of $26.75 per share, for aggregate gross proceeds of approximately $300 million. The transaction closed on September 20, 2021. We registered the private placement shares for resale with the SEC following the closing of the merger.

Issuance and Sale of 1.50% Convertible Senior Notes due February 15, 2028

On February 16, 2021, we issued convertible senior notes to SB Northstar LP, a subsidiary of SoftBank Group Corp., pursuant to an investment agreement with SB Northstar LP, for $900 million at 1.50% interest rate, due February 15, 2028.

The Notes are governed by an indenture (the “Indenture”) between the Company and U.S. Bank National Association, as trustee. The Notes bear interest at a rate of 1.50% per annum. Interest on the Notes is payable semi-annually in arrears on February 15 and August 15 and commenced on August 15, 2021. The Notes will mature on February 15, 2028, subject to earlier conversion, redemption or repurchase.

The Notes are convertible at the option of the holder at any time until the second scheduled trading day prior to the maturity date, including in connection with a redemption by the Company. The Notes are convertible into shares of our common stock based on an initial conversion rate of 22.9885 shares of common stock per $1,000 principal amount of the Notes (which is equal to an initial conversion price of $43.50 per share), in each case subject to customary anti-dilution and other adjustments as a result of certain extraordinary transactions. Upon conversion of the Notes, we may elect to settle such conversion obligation in shares, cash or a combination of shares and cash.

On or after February 20, 2026 and prior to the 31st scheduled trading day immediately preceding the maturity date of the Notes, the Notes will be redeemable by the Company in the event that the closing sale price of our common stock has been at least 150% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide the redemption notice at a redemption price of 100% of the principal amount of such Notes, plus accrued and unpaid interest up to, but excluding, the redemption date.

With certain exceptions, upon a change of control of the Company or the failure of our common stock to be listed on certain stock exchanges, the holders of the Notes may require that we repurchase all or part of the principal amount of the Notes at a purchase price of par plus unpaid interest up to, but excluding, the maturity date.

The Indenture includes customary "events of default," which may result in the acceleration of the maturity of the Notes under the Indenture. The Indenture also includes customary covenants for convertible notes of this type.

Off-Balance Sheet Arrangements

As of September 30, 2021, 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 any trade secret, copyright, patent or other intellectual property infringement claim by any third party with respect to its technology, or from claims relating to our performance or non-performance under a contract, any defective products supplied by us, or any 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 after the execution of the agreement. The maximum potential amount of future payments we could be required to make under these agreements is not determinable because it involves claims that may be made against us in future periods but have not yet been made. To date, we have not incurred costs to defend lawsuits or settle claims related to these indemnification agreements.

We also enter and have entered into indemnification agreements with our directors and officers that may require us to indemnify them against liabilities that arise by reason of their status or service as directors or officers, except as prohibited by applicable law. In addition, we may have obligations to hold harmless and indemnify third parties involved with our fundraising efforts and their respective affiliates, directors, officers, employees, agents or other representatives against any and all losses, claims, damages and liabilities related to claims arising against such parties pursuant to the terms of agreements entered into between us and such third parties in connection with such fundraising efforts. To the extent that such indemnification obligations apply to the lawsuits described in Note 9. *Commitments and Contingencies* in Part I, Item 1 of this Form 10-Q, any associated expenses incurred are included within the related accrued litigation expense amounts. No additional liability associated with such indemnification agreements has been recorded as of September 30, 2021.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate and Market Risk

We carry our convertible senior notes at the principal amount, less unamortized debt issuance costs, on our Condensed Consolidated Balance Sheets. Because the notes have a fixed annual interest rate of 1.50%, we do not have any economic interest rate exposure or financial statement risk associated with changes in interest rates. The fair value of the notes, however, may fluctuate when interest rates and the market price of our stock changes. See Note 8. *Convertible Senior Notes* in Part I, Item 1 of this Form 10-Q for additional information.

There have been no other material changes in market risk from the information provided in our Annual Report on Form 10-K for the year ended December 31, 2020.

Item 4. Controls and Procedures

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 Securities and Exchange Commission'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.

Changes in Internal Control Over Financial Reporting

As a result of Omniome and Circulomics acquisitions, we implemented internal controls over accounting and financial reporting for business combinations during the quarter ended September 30, 2021. There were no other changes in our internal control over financial reporting that occurred during the quarter ended September 30, 2021 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

Please see Note 9. *Commitments and Contingencies* in Part I, Item 1 of this Form 10-Q.

Item 1A. Risk Factors

You should consider carefully the risks and uncertainties described below, together with all of the other information in our public filings with the Securities and Exchange Commission, 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. In addition, the impact of COVID-19 and any worsening of the economic environment may exacerbate the risks described below, any of which could have a material impact on us. This situation is changing rapidly and additional impacts may arise that we are not aware of currently.

Summary Risk Factors

The following is a summary of the principal risks that could adversely affect our business, operations and financial results. Such risks are discussed more fully below and include, but are not limited to, risks related to:

- The potential adverse impact of health epidemics, including the ongoing COVID-19 pandemic;
- Our ability to successfully market, commercialize, and sell current and future products and related maintenance services;
- Our ability to achieve profitability for our business;
- Our ability to successfully leverage and integrate our acquisitions and future acquisitions;
- Our ability to successfully research, develop and timely manufacture our current and future products;

- Management of new product introductions and transitions, resultant costs, and ability of new products to generate promised performance;
- Recent significant changes to our leadership team and resultant disruptions to our business;
- Retention, recruitment, and training of senior management, key personnel, scientists and engineers;
- Our ability to further penetrate nucleic acid sequencing applications, as well as grow product demand;
- Our reliance on outsourcing to other companies for manufacturing certain components and sub-assemblies, some of which are sole sourced;
- Our ability to consistently manufacture our instruments and consumables to meet customers' specifications, quantity, cost, or performance requirements;
- The high amount of competition we face in our industry;
- Our ability to attract customers and increase sales of current and future products;
- Reliance on a limited number of customers for a significant portion of our revenues, including academic, research and government institutions;
- The complexity of our products giving rise to defects or errors;
- Our unpredictable and lengthy sales cycle;
- Securing and maintaining patent or other intellectual property protection for our products and related improvements;
- Current and future legal proceedings filed against us claiming intellectual property infringement;
- Governmental regulations that burden operations or narrow the market for our products;
- Evolving ethical, legal, privacy, social, and regulatory concerns regarding genetic testing;
- Volatility of the price of our common stock; and
- Our stock price falling as a result of future offerings or sales.

Risks Related to Our Business

Our business may be adversely affected by health epidemics, including the ongoing COVID-19 pandemic.

Our business could be adversely impacted by the effects of COVID-19 or other epidemics or pandemics. As a result of COVID-19, our 2020 financial results were impacted negatively as our customers in multiple regions around the world suspended their normal operations in efforts to curb the spread of the COVID-19 pandemic. While a significant number of our customer sites that shut down due to COVID-19 have re-opened, a significant number of our customers had delayed purchases of capital assets due to the negative impact of the pandemic on their businesses. This dynamic continues to negatively impact the recognition of revenue related to the sale of our Sequel and Sequel II/IIe instruments and the associated consumables and software. The inability to receive or accept shipments of orders for our products on a timely basis, or at all, the delay or possible cancellation of orders for our products or related maintenance and support services, and the reduced utilization of our products has negatively affected and may negatively affect in the future our operations and revenues. In response to local stay-at-home orders and in alignment with CDC recommendations, we have limited our manufacturing and commercial operations based in Menlo Park, California. We will, however, continue to provide consumables and support to scientists at government, academic, and commercial labs that remain open. To aid in containing the spread of COVID-19, we have implemented remote-work options and are limiting employee travel. We are continuing to monitor this evolving situation.

Our manufacturing partners and suppliers could also be disrupted by conditions related to COVID-19 or other epidemics or pandemics, possibly resulting in disruption to the production of our products. If our manufacturing partners or suppliers are unable or fail to fulfill their obligations to us for any reason, we may not be able to manufacture our products and satisfy customer demand or our obligations under sales agreements in a timely manner, and our business could be harmed as a result. There is significant uncertainty relating to the long-term effect of COVID-19 on our business. Infections may resurge or become more widespread and the limitation on our ability to travel and timely sell and distribute our

products, as well as any closures or supply disruptions, may be extended for longer periods of time, which could have a negative impact on our business, financial condition and operating results. For example, because our semiconductor manufacturers are located in a region that has low immunization rates, the more contagious Delta variant of COVID-19, as well as any future variants that evolve, could impact workforce availability at those locations and disrupt supply.

Even after the COVID-19 pandemic has subsided, we may continue to experience an adverse impact to our business as a result of its global economic impact, including any recession that has occurred or may occur in the future. Specifically, difficult macroeconomic conditions, such as decreases in discretionary capital expenditure spending, changes to the government funding environment, increased and prolonged unemployment or a decline in consumer confidence as a result of the COVID-19 pandemic, as well as limited or significantly reduced points of access of our products, could have a continuing adverse effect on the demand for some of our products and, consequently, related maintenance and support services. The degree of impact of COVID-19 on our business will depend on several factors, such as the duration and the extent of the pandemic, as well as actions taken by governments, businesses and consumers in response to the pandemic, all of which continue to evolve and remain uncertain at this time.

We have limited commercial sales to date and the commercialization and sales of our current or future products may be unsuccessful or less successful than anticipated.

Our first commercial product launched in 2011 and we have had limited sales to date, especially with respect to our current Sequel II/IIe systems. As such, we have limited historical financial data upon which to base our projected revenue and planned operating expenses or upon which to evaluate our company and our commercial prospects. In September 2015, we launched the PacBio Sequel® System, and concurrently began phasing out production of PacBio RS II instruments, and, in April 2019 we announced the commercial launch of the Sequel II System. In October 2020, we launched the Sequel IIe System, which has increased computational capacity, and is designed to enable customers to generate PacBio HiFi reads more efficiently. In April 2021, we released a new HiFi sequencing workflow allowing for more accurate HiFi reads with limited sample quantities. We placed 44 Sequel II/IIe systems during the three months ended September 30, 2021 and we expect the number of Sequel II/IIe placements to continue to grow during the remainder of 2021. However, based on our limited experience in developing and marketing our existing products and launching new products, we may not be able to effectively:

- manage the timeliness of our new product introductions and the rate at which sales of our new products may cannibalize sales of our older products;
- drive adoption of our current and future products, including the Sequel II/IIe Systems;
- attract and retain customers for our products;
- provide appropriate levels of customer training and support for our products;
- implement an effective marketing strategy to promote awareness of our products;
- develop and implement an effective sales and distribution strategy for our current and future products;
- develop, manufacture and commercialize new products or achieve an acceptable return on our manufacturing or research and development efforts and expenses;
- comply with regulatory requirements applicable to our products;
- anticipate and adapt to changes in our market;
- accommodate customer expectations and demands with respect to our products, increase product adoption by our existing customers or develop new customer relationships;
- grow our share by marketing and selling our products for new and additional applications;
- maintain and develop strategic relationships with vendors, manufacturers and other industry partners to acquire necessary materials for the production of, and to develop, manufacture and commercialize, our existing or future products;
- adapt or scale our manufacturing activities to meet performance specifications and potential demand at a reasonable cost;
- avoid infringement and misappropriation of third-party intellectual property;
- obtain and maintain any necessary licenses to third-party intellectual property on commercially reasonable terms;
- obtain valid and enforceable patents that give us a competitive advantage or enforce existing patents;
- protect our proprietary technology; and
- attract, retain and motivate qualified personnel.

The risks noted above, especially with respect to the marketing, sales, and commercialization of our products, may be heightened by the impact of the COVID-19 pandemic. 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, we could suffer a material adverse effect on our business, financial conditions, results of operations and prospects.

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.

Except for the quarters ended September 30, 2015 (as a result of a one-time gain on lease amendments), March 31, 2020 (as a result of the recognition of a gain relating to the Continuation Advances), December 31, 2020 (as a result of recognition of gain relating to the Reverse Termination Fee), September 30, 2021, (as a result of the recognition of a one-time income tax benefit from business acquisitions) and the year ended December 31, 2020 (as a result of recognition of gain relating to the Reverse Termination Fee and gain relating to the Continuation Advances), we have incurred net losses since inception and we cannot be certain if or when we will produce sufficient revenue from our operations to support our costs. Even if profitability is achieved in the future, we may not be able to sustain profitability on a consistent basis. Excluding the recognition in October 2020 of gain relating to the Reverse Termination Fee and the recognition in the first quarter of 2020 of gain relating to the Continuation Advances, we expect to continue to incur substantial losses and negative cash flow from operations for the foreseeable future.

Our net losses since inception and our expectation of incurring substantial losses and negative cash flow for the foreseeable future could:

- make it more difficult for us to satisfy our obligations;
- increase our vulnerability to general adverse economic and industry conditions;
- limit our ability to fund future working capital, capital expenditures, research and development and other business opportunities;
- increase the volatility of the price of our common stock;
- limit our flexibility to react to changes in our business and the industry in which we operate;
- place us at a disadvantage to other companies that offer nucleic acid sequencing equipment or consumables; and
- limit our ability to borrow additional funds.

Any or all of the foregoing may have a material adverse effect on our business, operations, financial condition, and prospects.

We are not cash flow positive and may not have sufficient cash to fund our long-term planned operations.

Our operations have consumed substantial amounts of cash since inception, and we expect to continue to incur substantial losses and negative cash flow from operations for the foreseeable future. We believe that our growth will depend, in part, on our ability to fund our commercialization efforts and our efforts to develop new products, including any improvements to the SMRT Cell 8M and Sequel II/IIe Systems. Our existing resources may require us to delay, or even not allow us to conduct any or all of these activities that we believe would be beneficial for our future growth. We may need to raise additional funds through public or private debt or equity financing or alternative financing arrangements, which may include collaborations or licensing arrangements. If we are unable to raise funds on favorable terms, or at all, we may have to reduce our cash burn rate and may not be able to support our commercialization efforts and launching of new products, operations or to increase or maintain the level of our research and development activities.

Additional funds may not be available on terms acceptable to us or at all. We have incurred and may further incur additional debt, including the debt recently incurred through issuance of $900.0 million in aggregate principal amount of 1.50% Convertible Senior Notes due 2028. We may not have sufficient cash to make required payments under the terms of this debt, and should this occur, debt holders have rights senior to common stockholders to make claims on our assets. We may not be able to issue equity securities due to unacceptable terms and conditions to us in the capital markets. To the extent that we intend to raise additional funds through the sale of our common stock, downward fluctuations in our stock price could adversely affect such fundraising efforts. Furthermore, equity financings normally involve shares sold at a discount to the current market price, and fundraising through sales of additional shares of common stock or other equity securities will have a dilutive effect on our existing investors. The shares may also be sold at a time when the market price for our common stock is low because we are in need of the funds, which will further dilute existing holders more than if the market price for our common stock was higher.

If we are unable to generate sufficient cash flows or to raise adequate funds to finance our forecasted expenditures, we may have to make significant changes to our operations, including delaying or reducing the scope of, or eliminating some or all of, our development programs. We also may have to reduce sales, marketing, engineering, customer support or other resources devoted to our existing or new products, or we may need to cease operations. Any of these actions could

materially impede our ability to achieve our business objectives and could materially harm our operating results. If our cash, cash equivalents and investments are insufficient to fund our projected operating requirements and we are unable to raise capital, it could have a material adverse effect on our business, financial condition and results of operations and prospects.

We have made acquisitions and, in the future, may continue to acquire businesses, technologies or assets, form joint ventures or make other strategic investments with companies that could harm our operating results, dilute our stockholders' ownership, or cause us to incur debt or significant expense.

As part of our business strategy, we have acquired and expect to continue to pursue acquisitions of complementary businesses, technologies or assets. We may also pursue technology license arrangements, strategic alliances or investments that complement our business. For example, we entered into a multi-year Development and Commercialization Agreement with Invitae, whereby Invitae provides us with funding to develop certain products relating to production-scale high-throughput sequencing. In July 2021 we acquired Circulomics and in September 2021, we acquired Omniome.

Acquisitions involve numerous risks, any of which could harm our business and negatively affect our financial condition and results of operations, including:

- intense competition for suitable acquisition targets, which could increase prices and adversely affect our ability to consummate deals on favorable or acceptable terms;
- failure or material delay in closing a transaction;
- transaction-related lawsuits or claims;
- difficulties in integrating the technologies, operations, existing contracts, and personnel of an acquired company;
- difficulties in retaining key employees or business partners of an acquired company;
- difficulties in retaining suppliers, partners or customers of an acquired company;
- challenges with integrating the brand identity of an acquired company with our own;
- diversion of financial and management resources from existing operations or alternative acquisition opportunities;
- failure to realize the anticipated benefits or synergies of a transaction;
- failure to identify the problems, liabilities, or other shortcomings or challenges of an acquired company or technology, including issues related to intellectual property, regulatory compliance practices, litigation, revenue recognition or other accounting practices, or employee or user issues;
- risks that regulatory bodies may enact new laws or promulgate new regulations that are adverse to an acquired company or business;
- risks that regulatory bodies do not approve our acquisitions or business combinations or delay such approvals;
- theft of our trade secrets or confidential information that we share with potential acquisition candidates;
- risk that an acquired company or investment in new services cannibalizes a portion of our existing business; and
- adverse market reaction to an acquisition.

To finance any acquisitions or other strategic investments, we may raise additional funds, which could adversely affect our existing stockholders and our business. If the price of our common stock is low or volatile, we may not be able to acquire other companies for stock. In addition, our stockholders may experience substantial dilution as a result of additional securities we may issue for acquisitions. Open market sales of substantial amounts of our common stock issued to stockholders of companies we acquire could also depress our stock price. Additional funds may not be available on terms that are favorable to us, or at all.

If we fail to address the foregoing risks or other problems encountered in connection with past or future acquisitions of businesses, new technologies, services, and other assets and strategic investments, or if we fail to successfully integrate such acquisitions or investments, our business, financial condition, and results of operations could be adversely affected.

If we are unable to successfully develop and timely manufacture our current and future products, including with respect to the Sequel System, the SMRT Cell 8M and Sequel II/IIe Systems and related products, our business may be adversely affected.

In light of the highly complex technologies involved in our products, there can be no assurance that we will be able to manufacture and commercialize our current and future products on a timely basis or continue providing adequate support for our existing products. The commercial success of our products, including the Sequel and Sequel II/IIe Systems, depends on a number of factors, including performance and reliability of the system, our anticipating and effectively addressing

customer preferences and demands, the success of our sales and marketing efforts, effective forecasting and management of product demand, purchase commitments and inventory levels, effective management of manufacturing and supply costs, and the quality of our products, including consumables such as SMRT Cells and reagents. Should we face delays in or discover unexpected defects during the further development or manufacturing process of instruments or consumables related to our products, including with respect to the SMRT Cell 8M, reagents and Sequel II/IIe Systems, and including any delays or defects in software development or product functionality, the timing and success of the continued rollout and scaling of our products may be significantly impacted, which may materially and negatively impact our revenue and gross margin. The ability of our customers to successfully utilize our products will also depend on our ability to deliver high quality SMRT Cells and reagents, including with respect to the SMRT Cell 8M. We have designed SMRT Cells and other consumables specifically for the Sequel and Sequel II/IIe Systems, and may need to develop in the future, other customized SMRT Cells and consumables for our future products, including the SMRT Cell 8M for the Sequel II/IIe Systems. Our production of the SMRT Cells for the Sequel and Sequel II/IIe Systems has been and may in the future be below desired levels and yields, and we have experienced and may experience in the future manufacturing delays, product or quality defects, SMRT Cell variability, and other issues. For example, the COVID–19 pandemic has impacted and could result in more pronounced impacts to our manufacturing and our ability to supply products. The performance of our consumables is critical to our customers' successful utilization of our products, and any defects or performance issues with our consumables would adversely affect our business. All of the foregoing could materially negatively impact our ability to sell our products or result in other material adverse effects on our business, operations, financial condition, operations and prospects.

The development of our products is complex and costly. Problems in the design or quality of our products may have a material and adverse effect on our brand, business, financial condition, and operating results, and could result in us losing our certifications from the International Organization for Standardization ("ISO"). If we were to lose ISO certification, then our customers might choose not to purchase products from us and this could adversely impact our ability to develop products approved for clinical uses. Unanticipated problems with our products could divert substantial resources, which may impair our ability to support our new and existing products and could substantially increase our costs. If we encounter development challenges or discover errors in our products late in our development cycle, we may be forced to delay product shipments or the scaling of manufacturing or supply. In particular, if the continued rollout of our current and future products, including with respect to the SMRT Cell 8M and Sequel II/IIe Systems, is delayed or is not successful or less successful than anticipated, then we may not be able to achieve an acceptable return, if any, on our substantial research and development efforts, and our business may be materially and adversely affected. The expenses or losses associated with delayed or unsuccessful product development or lack of market acceptance of our existing and new products, including the SMRT Cell 8M and Sequel II/IIe Systems, could materially and adversely affect our business, operations, financial condition, and prospects.

Our research and development efforts may not result in the benefits that we anticipate, and our failure to successfully market, sell, and commercialize our current and future products could have a material adverse effect on our business, financial condition and results of operations.

We have dedicated significant resources to developing our current products, including sequencing systems and consumables based on our proprietary SMRT sequencing technology and our Sequel and Sequel II/IIe Systems. We are also engaged in substantial and complex research and development efforts, which, if successful, may result in the introduction of new products in the future, including with respect to the SMRT Cell 8M and the Sequel II/IIe Systems. Our research and development efforts are complex and require us to incur substantial expenses. We may not be able to develop, manufacture and commercialize new products, obtain regulatory approval if necessary, or achieve an acceptable return, if any, on our research and development efforts and expenses or joint research and development efforts with partners. Our joint research and development efforts with partners require significant management attention and operational resources. If we are unable to successfully manage such joint research and development efforts, our future results may be adversely impacted. In January 2021, we entered into a multi-year collaboration with Invitae to begin development of a production-scale high-throughput sequencing platform; in certain termination circumstances of this collaboration, we may be obligated to refund all or a portion of the development funds advanced by Invitae and/or we may owe Invitae a share of the revenue generated from the sale of the program products. Furthermore, we need to continue to expand our internal capabilities or seek new partnerships or collaborations, or both, in order to successfully develop, market, sell and commercialize our products for and in the markets we seek to reach. If we are unable to do so or are delayed, then this could materially and adversely affect our business, operations, financial condition and prospects.

We must successfully manage new product introductions and transitions, including with respect to the SMRT Cell 8M and Sequel II/IIe Systems, we may incur significant costs during these transitions, and they may not result in the benefits we anticipate.

If our products and services fail to deliver the performance, scalability or results expected by our current and future customers, or are not delivered on a timely basis, our reputation and credibility may suffer, our current and future sales and revenue may be materially harmed and our business may not succeed. For instance, if we are not able to realize the benefits we anticipate from the development and commercialization of the SMRT Cell 8M and Sequel II/IIe Systems and also any future products that may be developed for medical and clinical uses, it could have a material adverse effect on our business, financial condition and results of operations. In addition, the introduction of future products, including with respect to the SMRT Cell 8M and Sequel II/IIe Systems, has and may in the future lead to our limiting or ceasing development of further enhancements to our existing products as we focus our resources on new products, and has resulted and could in the future result in reduced marketplace acceptance and loss of sales of our existing products, materially adversely affecting our revenue and operating results. The introduction of new products has had and may in the future also have a negative impact on our revenue in the near-term as our current and future customers have delayed or cancelled and may in the future delay or cancel orders of existing products in anticipation of new products and we may also be pressured to decrease prices for our existing products. Further, we have experienced, and may in the future experience, difficulty in managing or forecasting customer reactions, purchasing decisions or transition requirements with respect to newly launched products. We have incurred and may continue to incur significant costs in completing these transitions, including costs of write-downs of our products, as current or future customers' transition to new products. If we do not successfully manage these product transitions, including with respect to the SMRT Cell 8M and Sequel II/IIe System, our business, operations, financial condition, and prospects may be materially and adversely affected.

Recent significant changes to our leadership team and the resulting management transitions might harm our future operating results.

We have recently experienced significant changes to our leadership team. Our President and Chief Executive Officer Christian O. Henry was appointed effective September 14, 2020, succeeding Dr. Michael Hunkapiller who retired on December 31, 2020. Our Chief Financial Officer Susan G. Kim was appointed effective September 28, 2020, succeeding Susan K. Barnes who retired on August 7, 2020. Our Chief Operating Officer, Mark Van Oene, and our Chief Commercial Officer, Peter Fromen, were each appointed effective January 8, 2021. Also, our Vice President and Chief Accounting Officer Michele Farmer was appointed effective May 17, 2021, and our Chairman of the Board Dr. John F. Milligan was appointed effective September 14, 2020.

Although we believe these leadership transitions are in the best interest of our stakeholders, these transitions may result in the loss of personnel with deep institutional or technical knowledge. Further, the transition could potentially disrupt our operations and relationships with employees, suppliers, partners and customers due to added costs, operational inefficiencies, decreased employee morale and productivity and increased turnover. We must successfully recruit and integrate our new leadership team members within our organization to achieve our operating objectives; as such, the leadership transition may temporarily affect our business performance and results of operations while the new members of our leadership team become familiar with our business. In addition, our competitors may seek to use this transition and the related potential disruptions to gain a competitive advantage over us. Furthermore, these changes increase our dependency on the other members of our leadership team that remain with us, who are not contractually obligated to remain employed with us and may leave at any time. Any such departure could be particularly disruptive given that we are already experiencing leadership transitions and, to the extent we experience additional management turnover, competition for top management is high such that it may take some time to find a candidate that meets our requirements. Our future operating results depend substantially upon the continued service of our key personnel and in significant part upon our ability to attract and retain qualified management personnel. If we are unable to mitigate these or other similar risks, our business, results of operations and financial condition may be materially and adversely affected.

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, engineers, sales personnel and other employees, our ability to maintain, develop and commercialize our products could be harmed and we may be unable to achieve our goals.

Our 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 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. In addition, we will need to continue to recruit, hire and retain sales

personnel to support the commercialization of our products. Our employees could leave our company with little or no prior notice and would be free to work for a competitor. In addition, changes to U.S. immigration policies, particularly to H-1B and other visa programs, could restrain the flow of technical and professional talent into the U.S. and may inhibit our ability to hire qualified personnel. 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 any inability to attract or retain qualified personnel, including scientists, engineers, sales personnel and others, could prevent us from pursuing collaborations and materially and adversely affect our support of existing products, product development and introductions, business growth prospects, results of operations and financial condition.

Our success is highly dependent on our ability to further penetrate nucleic acid sequencing applications as well as on the growth and expansion of the demand for our products. If our products fail to achieve and sustain sufficient market acceptance, we will not generate expected revenue and our business may not succeed.

Although nucleic acid sequencing technology is well-established, our SMRT Sequencing technology is relatively new and evolving. We cannot be sure that our current or future products will gain acceptance in the marketplace at levels sufficient to support our costs. Our success depends, in part, on our ability to expand overall demand for nucleic acid sequencing to include new applications that are not practicable with other current technologies and to introduce new products that capture a larger share of growing overall demand for sequencing. To accomplish this, we must successfully commercialize, and continue development of, our proprietary SMRT Sequencing technology for use in a variety of life science and other applications, including uses by academic, government and clinical laboratories, as well as pharmaceutical, diagnostic, biotechnology and agriculture companies, among others. However, we may be unsuccessful in these efforts and the sale and commercialization of the SMRT Cell 8M and Sequel II/IIe Systems, and related products may not grow sufficiently to cover our costs.

There can be no assurance that we will be successful in adding new products or securing additional customers for our current and future products, including with respect to the SMRT Cell 8M and Sequel II/IIe Systems and products related to our recent Circulomics and Omniome acquisitions. If we are unable to sell Circulomics or Omniome products we may fail to achieve our strategic commercial initiatives in connection with the planned release of new products and anticipated entry into new markets. Our ability to further penetrate existing applications and any new applications depends on a number of factors, including the cost, performance and perceived value associated with our products, as well as customers' willingness to adopt a different approach to nucleic acid sequencing. Potential customers may have already made significant investments in other sequencing technologies and may be unwilling to invest in new technologies. We are experiencing pricing pressures caused by industry competition and increased demand for lower-priced instruments and lower operational costs. We have limited experience commercializing and selling products outside of the academic and research settings, and thus cannot guarantee success in acquiring additional customers. Furthermore, we cannot guarantee that our products will be satisfactory to potential customers or that our products will perform in accordance with customer expectations.

These applications are new and dynamic, and there can be no assurance that they will develop as quickly as we anticipate, that they will reach their full potential or that they will be receptive to any of our products. 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 applications more quickly. We may also need to delay full-scale commercial deployment of new products as we develop them in order to perform quality control and early access user testing, including with respect to the SMRT Cell 8M and Sequel II/IIe Systems. Even if we are able to implement our technology successfully, we and/or our sales and distribution partners may fail to achieve or sustain market acceptance of our current or future products across the full range of our intended life science and other applications. We need to continue to expand and update our internal capabilities or to collaborate with other partners, or both, in order to successfully expand sales of our products in the applications that we seek to reach, which we may be unable to do at the scale required to support our business.

If the demand for our products grows more slowly than anticipated, if we are unable to successfully scale or otherwise ensure sufficient manufacturing capacity for new products to meet demand, if we are not able to successfully market and sell our products, if competitors develop better or more cost-effective products, if our product launches and commercialization are not successful, or if we are unable to further grow our customer base or do not realize the growth with existing customers that we are expecting, our current and future sales and revenue may be materially and adversely harmed and our business may not succeed.

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

Our products are complex and involve a large number of unique components, many of which require precise manufacturing. The nature of our products requires customized components that are currently available only from a limited number of sources, and in some cases, single sources. We have chosen to source certain critical components from a single source, including suppliers for our SMRT Cells, reagents and instruments. We cannot assure you that product supplies will not be limited or interrupted, especially with respect to our sole source third-party manufacturing and supply collaborators, or that product supplies will be of satisfactory quality or continue to be available at acceptable prices. In particular, any replacement of our manufacturers could require significant effort and expertise because there may be a limited number of qualified replacements. We may be unable to negotiate binding agreements with our current and future sole source third-party manufacturing and supply collaborators or, in the event that such collaborators' services become interrupted for any reason, find replacement manufacturers to support our development and commercial activities at commercially reasonable terms. We do not always have arrangements in place for a redundant or second-source supply for our sole source vendors in the event they cease to provide their products or services to us or fail to provide sufficient quantities in a timely manner. If we are required to purchase these components from alternative sources, 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 on a timely basis, or if these components do not meet our expectations or specifications for quality and functionality, our operations and manufacturing would be materially and adversely affected, we could be unable to meet customer demand and our business and results of operations may be materially and adversely affected.

The operations of our third-party manufacturing partners and suppliers could be disrupted by conditions unrelated to our business or operations or that are beyond our control, including but not limited to international trade restrictions and conditions related to COVID-19 or other epidemics. If our manufacturing partners or suppliers are unable or fail to fulfill their obligations to us for any reason, we may not be able to manufacture our products and satisfy customer demand or our obligations under sales agreements in a timely manner, and our business could be harmed as a result. For example, a global shortage of semiconductors, which has been reported since early 2021, has caused challenges in our supply chain and resulted in some cost increases. In addition, because our semiconductor suppliers are in regions that have low vaccination rates, the more contagious Delta variant of COVID-19, or any variants that evolve in the future, could lead to increased infections among workers that could further disrupt the supply chain. Our current manufacturing process is characterized by long lead times between the placement of orders for and delivery of our products. If we have received insufficient components to manufacture our products on a timely basis to meet customer demand, our sales and our gross margin may be adversely affected and our business could be materially harmed. If we are unable to reduce our manufacturing costs and establish and maintain reliable, high-volume manufacturing suppliers as we scale our operations, our business, operations, financial condition, and prospects could be materially and adversely harmed.

We may be unable to consistently manufacture our instruments and consumables, including SMRT Cells and reagents, to the necessary specifications or in quantities necessary to meet demand at an acceptable cost or at an acceptable performance level.

In order to successfully generate revenue from our products, we need to supply our customers with products that meet their expectations for quality and functionality in accordance with established specifications. Our customers have experienced variability in the performance of our products. We have experienced and may continue to experience delays, quality issues or other difficulties leading to customer dissatisfaction with our products. Our production of SMRT Cells and reagents involves a long and complex manufacturing process, and has been and may in the future be below desired yields and resulting output levels. We have experienced and may experience in the future manufacturing delays, product defects, variability in the performance of SMRT Cells and other products, inadequate reserves for inventory, or other issues.

There is no assurance that we will be able to manufacture our products so that they consistently achieve the product specifications and quality that our customers expect, including any products developed for clinical uses. Problems in the design or quality of our products, including low manufacturing yields of SMRT Cells, or sub-performing reagent lots may have a material adverse effect on our brand, business, financial condition, and operating results, and could result in us losing our ISO certifications. If we were to lose our ISO certifications, then our customers might choose not to purchase products from us. There is also no assurance that we will be able to increase manufacturing yields and decrease costs, or that we will be successful in forecasting customer demand or manufacturing and supply costs, or that product supplies, including reagents or integrated chips, will not be limited or interrupted, or will be of satisfactory quality or continue to be available at acceptable prices. Furthermore, while we are undertaking efforts to increase our manufacturing scale and capability, we may not be able to increase manufacturing to meet anticipated demand or may experience downtime in our manufacturing

facilities, including, for example, if we experience increased cases of COVID-19 among our employees, or if our suppliers are unable to meet our increased demand at a time when the supply chain is under duress due to potential dislocations and disruptions in product and employee availability due to COVID-19. An inability to manufacture products and components that consistently meet specifications, in necessary quantities and at commercially acceptable costs, will have a negative impact, and may have a material adverse effect on our business, product development timelines, financial condition and results of operations.

Rapidly changing technology in life sciences and diagnostics could make our products obsolete unless we continue to develop, manufacture and commercialize new and improved products and pursue new opportunities.

Our industry is characterized by rapid and significant technological changes, frequent new product introductions and enhancements and evolving industry standards. Our future success depends 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 opportunities. These new opportunities may be outside the scope of our proven expertise or in areas where demand is unproven, and new products and services developed by us may not gain market acceptance or may not adequately perform in order to capture market share. Our inability to develop and introduce new products and to gain market acceptance of our existing and new products could harm our future operating results. Unanticipated difficulties or delays in replacing existing products with new products or in commercializing our existing or new products in sufficient quantities and of acceptable quality to meet customer demand, including with respect to the SMRT Cell 8M and Sequel II/IIe Systems, could diminish future demand for our products and may materially and adversely harm our future operating results.

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

Our commercial success may depend in part upon the development of sample preparation and software and informatics tools by third parties for use with our products. We cannot guarantee that product supplies, including reagents, will not be limited or interrupted, or will be of satisfactory quality or continue to be available at acceptable prices, or that third parties will develop tools that our current and future customers will find useful with our products, or that customers will adopt such third-party tools on a timely basis or at all. A lack of complementary sample preparation and informatics tools, or delayed updates of such tools, may impede the adoption of our products and may materially and adversely impact our business.

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.

There are a significant number of companies offering nucleic acid sequencing products and/or services, including Illumina, BGI Genomics, Thermo, Oxford Nanopore Technologies Ltd. (“ONT Ltd.”), Roche, and Qiagen. Many of these companies currently have greater name recognition, more substantial intellectual property portfolios, longer operating histories, significantly greater financial, technical, research and/or other resources, more experience in new product development, larger and more established manufacturing capabilities and marketing, sales and support functions, and/or more established distribution channels to deliver products to customers than we do. These companies may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards or customer requirements.

There are also several companies that are in the process of developing or have already developed and commercialized new, competing or potentially competing technologies, products and/or services, including ONT Ltd. and its subsidiaries, against whom we have filed complaints for patent infringement in the U.S. District Court for the District of Delaware and, previously, with the U.S. International Trade Commission, in the High Court of England and Wales and in the District Court of Mannheim, Germany. ONT Ltd. previously filed claims against us in the High Court of England and Wales and the District Court of Mannheim, Germany, also for patent infringement, and its subsidiary, Oxford Nanopore Technologies, Inc. (“ONT Inc.”), filed counterclaims against us in the U.S. District Court for the District of Delaware seeking declaratory judgements of non-infringement, invalidity and unenforceability of the asserted patents, as well as antitrust, false advertising and unfair competition counterclaims that were subsequently dismissed by that court. Roche is developing potentially competing sequencing products. Increased competition may result in pricing pressures, which could harm our sales, profitability or market share. Our failure to further enhance our existing products and to introduce new products to compete effectively could materially and adversely affect our business, operations, financial condition and prospects.

We may be unable to successfully increase sales of our current products or market and sell our future products.

Our ability to achieve profitability depends on our ability to attract customers for our current and future products, and we may be unable to effectively market or sell our products, or find appropriate partners to do so. To perform sales, marketing, distribution and customer support functions successfully, we face a number of risks, including:

- our ability to attract, retain and manage qualified sales, marketing and service personnel necessary to expand market acceptance for our technologies;
- the performance and commercial availability expectations of our existing and potential customers with respect to new and existing products;
- availability of potential sales and distribution partners to sell our technologies, and our ability to attract and retain such sales and distribution partners;
- the time and cost of maintaining and growing a specialized sales, marketing and service force for a particular application, which may be difficult to justify in light of the revenue generated; and
- our sales, marketing and service force may be unable to execute successful commercial activities.

We have enlisted and may continue to enlist third parties to assist with sales, distribution and customer support. There is no guarantee that we will be successful in attracting desirable sales and distribution partners, that we will be able to enter into arrangements with such partners on terms favorable to us or that we will be able to retain such partners on a going-forward basis. If our sales and marketing efforts, or those of any of our third-party sales and distribution partners, are not successful, or our products do not perform in accordance with customer expectations, our technologies and products may not gain market acceptance, which could materially and adversely impact our business, operations, financial condition and prospects.

Large purchases by a limited number of customers represent a significant portion of our revenue, and any loss or delay of expected purchases has resulted, and in the future could result, in material quarter-to-quarter fluctuations of our revenue or otherwise adversely affect our results of operations.

We receive a significant portion of our revenue from a limited number of customers. For example, for the fiscal year ended December 31, 2020, 2019 and 2018, one of our customers, Gene Company Limited, accounted for approximately 14%, 17% and 26% of our total revenue, respectively. Gene Company Limited is our primary distributor in China. Many of these customers make large purchases on a purchase-order basis rather than pursuant to long-term contracts. As a consequence of the concentrated nature of our customer base and their purchasing behavior, our quarterly revenue and results of operations have fluctuated, and may fluctuate in the future, from quarter to quarter and are difficult to forecast. For example, the cancellation of orders or acceleration or delay in anticipated product purchases or the acceptance of shipped products by our larger customers has materially affected, and in the future could materially affect, our revenue and results of operations in any quarterly period. We have been, and may be in the future be, unable to sustain or increase our revenue from our larger customers, or offset any discontinuation or decrease of purchases by our larger customers with purchases by new or other existing customers. To the extent one or more of our larger customers experience significant financial difficulty, bankruptcy or insolvency, this could have a material adverse effect on our sales and our ability to collect on receivables, which could materially and adversely harm our financial condition and results of operations.

In addition, many of our customers, including some of our larger customers, have negotiated, or may in the future negotiate, volume-based discounts or other more favorable terms from us or our sales and distribution partners, which can and have had a negative effect on our gross margins or revenue.

We expect that such concentrated purchases will continue to contribute materially to our revenue for the foreseeable future and that our results of operations may fluctuate materially as a result of such larger customers' buying patterns. In addition, we may see consolidation of our customer base. The loss of one of our larger customers, a significant delay or reduction in its purchases, or any volume-based discount or other more favorable terms that we or our sales and distribution partner(s) may agree to provide in light of the aggregated purchase volume or buying power resulting from such consolidation, has harmed, and in the future could harm, our business, financial condition, results of operations and prospects.

Our products are highly complex, have recurring support requirements and could have unknown defects or errors, which may give rise to claims against us or divert application of our resources from other purposes.

Products using our SMRT sequencing technology are highly complex and may develop or contain undetected defects or errors. Our customers have experienced and may continue to experience reliability issues with our existing and

future products, including the Sequel System and the Sequel II/IIe Systems. Despite testing, defects or errors may arise in our products, which could result in a failure to obtain, maintain or increase market acceptance of our products, diversion of development resources, injury to our reputation and increased warranty, service and maintenance costs. New products, including the SMRT Cell 8M and Sequel II/IIe Systems, or enhancements to our existing products in particular may contain undetected errors or performance problems that are discovered only after delivery to customers. If our products have reliability or other quality issues or require unexpected levels of support in the future, the market acceptance and utilization of our products may not grow to levels sufficient to support our costs and our reputation and business could be harmed. Low utilization rates of our products could cause our revenue and gross margins to be adversely affected. We generally ship our sequencing instruments with one year of service included in the purchase price with an option to purchase one or more additional years of service. We also provide a warranty for our consumables, which is generally limited to replacing, or at our option, giving credit for any consumable with defects in material or workmanship. Defects or errors in our products may also discourage customers from purchasing our products. The costs incurred in correcting any defects or errors may be substantial and could materially and adversely affect our operating margins. If our service and support costs increase, our business and operations may be materially and adversely affected.

In addition, such defects or errors could lead to the filing of product liability claims against us or against third parties who we may have an obligation to indemnify against such claims, which could be costly and time-consuming to defend and result in substantial damages. Although we have product liability insurance, any product liability insurance that we have or procure in the future may not protect our business 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 have or obtain will be subject to deductibles and coverage limits. A product liability claim could have a material adverse effect on our business, financial condition and results of operations.

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

Our instruments represent significant capital expenditures for our customers. Current and potential customers for our current or future products include academic and government institutions, genome centers, medical research institutions, clinical laboratories, pharmaceutical, agricultural, biotechnology, diagnostic and chemical companies. Their spending budgets can have a significant effect on the demand for our products. Spending 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 and subject to change, the spending priorities among various types of research equipment, policies regarding capital expenditures during economically uncertain periods and the impact of COVID-19. Any decrease in capital spending or change in spending priorities of our current and potential customers could significantly reduce the demand for our products. Any delay or reduction in purchases by current or potential customers or our inability to forecast fluctuations in demand could materially and adversely harm our future operating results.

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 but have not been able to fulfill, and, accordingly, for which we have not yet recognized revenue. We may not receive revenue from these orders, and any 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, including the potential impacts from COVID-19 and our suppliers, especially our sole source suppliers, not being able to provide us with products or components. If we delay fulfilling customer orders or if customers reconsider their orders, those customers may seek to cancel or modify their orders with us. Customers may otherwise seek to cancel or delay their orders even if we are prepared to fulfill them. If our orders in backlog do not result in sales, our operating results may suffer.

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

The sales cycle for our sequencing instruments is lengthy because they represent a major capital expenditure and generally require the approval of our customers' senior management. This may contribute to substantial fluctuations in our quarterly or annual operating results, particularly during the periods in which our sales volume is low. Factors that may cause fluctuations in our quarterly or operating results include, without limitation, market acceptance for our products; our ability to attract new customers; publications of studies by us, competitors or third parties; the timing and success of new product introductions by us or our competitors or other changes in the competitive dynamics of our industry, such as consolidation; the amount and timing of our costs and expenses; changes in our pricing policies or those of our competitors; general economic, industry and market conditions; the effects of seasonality; the regulatory environment; expenses

associated with warranty costs or unforeseen product quality issues; the hiring, training and retention of key employees, including our ability to grow our sales organization; litigation or other claims against us for intellectual property infringement or otherwise; our ability to obtain additional financing as necessary; changes or trends in new technologies and industry standards; and the impact of COVID-19. Because of these fluctuations, it is likely that in some future quarters our operating results will fall below the expectations of securities analysts or investors. If that happens, the market price of our stock would likely decrease. Past fluctuations in our quarterly and annual operating results have resulted in decreases in our stock price. Such fluctuations also mean that investors may not be able to rely on our operating results in any particular period as an indication of future performance. Sales to existing customers and the establishment of a business relationship with other potential customers is a lengthy process, generally taking several months and sometimes longer. Following the establishment of the relationship, the negotiation of purchase terms can be time-consuming, and a potential customer may require an extended evaluation and testing period. In anticipation of product orders, we may incur substantial costs before the sales cycle is complete and before we receive any customer payments. As a result, in the event that a sale is not completed or is canceled or delayed, we may have incurred substantial expenses, making it more difficult for us to become profitable or otherwise negatively impacting our financial results. Furthermore, because of our lengthy sales cycle, the realization of revenue from our selling efforts may be substantially delayed, our ability to forecast our future revenue may be more limited and our revenue may fluctuate significantly from quarter to quarter.

Because some of our customers and suppliers are based in China, our business, financial condition and results of operations could be adversely affected by the political and economic tensions between the United States and China.

We are subject to risks associated with political conflicts between the U.S. and China. A significant portion of our revenue is generated from China. For example, for the fiscal year ended December 31, 2020, 2019 and 2018, Gene Company Limited, our primary distributor in China, accounted for approximately 14%, 17% and 26% of our total revenue, respectively. In addition, certain components, some of which are critical components, of our products are manufactured in China. These components are either sourced directly from companies in China or indirectly from third parties that source from companies in China.

The imposition of tariffs or other trade barriers between the U.S. and China, including the tariffs previously implemented and additional tariffs that have been proposed by the U.S. government on various imports from China and by the Chinese government on certain U.S. goods, the scope and duration of which, if implemented, remain uncertain. In September 2018, the U.S. Trade Representative (the "USTR") enacted various tariffs of 7.5%, 10%, 15% and 25% on the import of Chinese products, including non-U.S. components and materials that may be used in our products. Additionally, in November 2018, the U.S. Commerce Department's Bureau of Industry and Security ("BIS") released an advance notice of proposed rulemaking to control the export of emerging technologies. This notice included "[b]iotechnology, including nanobiology; synthetic biology; genomic and genetic engineering; or neurotech" as possible areas of increased export controls. Therefore, it is possible that our ability to export our products to China may be restricted in the future. China also has imposed tariffs on imports into China from the United States. These tariffs could raise our costs. Given the relatively fluid regulatory environment in China and the United States and uncertainty how the U.S. or foreign governments will act with respect to tariffs, international trade agreements and policies, there could be additional tax or other regulatory changes in the future. Any such changes could directly and adversely impact our financial results and results of operations.

Other risks could include:

- interruptions to operations in China as a result of the COVID-19 pandemic or other disease outbreaks and natural catastrophic events, which have in the past and can result in the future in business closures, transportation restrictions, import and export complications and cause shortages in the supply of raw materials or disruptions in manufacturing;
- product supply disruptions and increased costs as a result of heightened exposure to changes in the policies of the Chinese government, political unrest or unstable economic conditions in China; and
- the nationalization or other expropriation of private enterprises or intellectual property by the Chinese government.

Difficulties in this relationship may require us to take actions adverse to our business to comply with governmental restrictions on business and trade with China.

In addition, our consumable chips are partly manufactured by a company based in Taiwan. Accordingly, there is a risk that current political tensions between China and Taiwan may lead to circumstances that negatively affect the availability of such consumable chips to us, which could lead to an increase in our supply costs if we cannot find a similar cost alternative supplier, resulting in an adverse impact to our financial results and results of operations.

Seasonality may cause fluctuations in our revenue and results of operations.

We operate on a December 31st year-end and believe that there are significant seasonal factors which may cause sales of our products, and particularly our sequencing instruments, to vary on a quarterly or yearly basis, contribute to the lengthy sales cycle for our sequencing instruments, and increase the magnitude of quarterly or annual fluctuations in our operating results. We believe that this seasonality results from a number of factors, including the procurement and budgeting cycles of many of our customers, especially government-funded customers, which often coincide with government fiscal year ends. For example, the U.S. government's fiscal year-end occurs in our third quarter and may result in increased sales of our products during this quarter if government-funded customers have unused funds that may be forfeited, or future budgets that may be reduced if funds remain unspent at fiscal year-end. Furthermore, Lunar New Year celebrations, which occur during our first quarter and may last for a week or longer, resulting in closure of many of our customers' offices in China and across the Asia-Pacific region, have caused, and may in the future cause, decreased sales of our consumables during our first quarter. These factors have contributed, and may contribute in the future, to substantial fluctuations in our quarterly operating results. Because of these fluctuations, it is possible that in some 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, among other factors, also mean that our operating results in any particular period may not be relied upon as an indication of future performance. Seasonal or cyclical variations in our sales have in the past, and may in the future, become more or less pronounced over time, and have in the past materially affected, and may in the future materially affect, our business, financial condition, results of operations and prospects.

Our ability to use net operating losses to offset future taxable income may be subject to substantial limitations, and changes to U.S. tax laws may cause us to make adjustments to our financial statements.

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 ("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 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. Furthermore, the changes to deductions, credits and expense recognition resulting from the Tax Cuts and Jobs Act of 2018 enacted on December 22, 2017 have materially impacted the value of our deferred tax assets and liabilities, and could adversely affect our future taxable income and effective tax rate.

Our facilities in California are located near 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 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.

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 current 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;

- the scope of the patent protection we or our licensors obtain may not be sufficiently broad 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, are 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;
- our enforcement of patents and proprietary rights in other countries may be problematic or unpredictable;
- we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions;
- we or our partners 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 by country. 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 the patents that may be granted to us with certainty, 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. 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 would eliminate barriers against our competition. 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 or contract breach 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 be certain that we will be able to obtain such licenses or expanded rights on reasonable terms or at all. In the event a dispute with our licensors were to occur, our licensors may seek to renegotiate the terms of our licenses, increase the royalty rates that we pay to obtain and maintain those licenses, limit the field or scope of the licenses, or terminate the license agreements. In addition, we have limited rights to participate in the prosecution and enforcement of the patents and patent applications that we have licensed. If we fail to meet our obligations under these licenses, or if we have a dispute regarding the terms of the licenses, these third parties could terminate the licenses, which could subject us to claims of intellectual property infringement. 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 and enforce 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 and consultants to enter into confidentiality and assignment of inventions agreements, and by entering into confidentiality agreements with our third-party development, manufacturing, sales and distribution partners, who may also acquire, develop and/or commercialize alternative or competing products or provide services to our competitors. For example, Roche had certain access to our trade secrets and other proprietary information pursuant to our agreement with them, subject to the confidentiality provisions thereof (certain of which provisions survive the termination of the agreement); however, Roche is developing potentially competing sequencing products. There can be no assurance that our measures have provided or 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, are and may in the future be, subject to challenges by ONT Ltd., ONT Inc. and Metrichor, Ltd. (“Metrichor” and, together with ONT Ltd. and ONT Inc., “ONT”) in addition to other parties asserting prior invention by others or invalidity on various grounds, through proceedings, such as interferences, reexaminations or opposition proceedings. Addressing these challenges to our intellectual property has been, and any future challenges can be, costly and distract management’s attention and resources. For example, we previously incurred significant legal expenses to litigate and settle a complaint seeking review of a patent interference decision of the U.S. Patent and Trademark Office. Additionally, ONT previously requested that the U.S. Patent and Trademark Office institute *inter partes* reviews of certain patents that we have asserted against ONT Inc. and ONT Ltd. in litigation proceedings for patent infringement. While none of the *inter partes* reviews requested by ONT were instituted by the U.S. Patent and Trademark Office, challenges of this nature in the future could result in determinations that our patents or pending patent applications are unpatentable to us, invalidated or unenforceable in whole or in part and could require us to expend significant time, funds, and other resources in litigating such challenges. Accordingly, adverse rulings in such proceedings could negatively impact the scope of our intellectual property protection for our products and technology, and could materially and 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 such action is necessary to (i) achieve practical application of the U.S. government-funded technology, (ii) alleviate health or safety needs, (iii) meet requirements of federal regulations, or (iv) give preference to U.S. industry. In addition, U.S. government-funded inventions must be reported to the government and such government funding must be disclosed in any resulting patent applications. Furthermore, our rights in such inventions are subject to government license rights and foreign manufacturing restrictions. The U.S. government has generally denied requests to exercise its march-in rights, even to provide access to potentially life-saving medications; however, if the U.S. government were to exercise its march-in rights to our patent technologies funded by the U.S. government, particularly for the benefit of one of more of our competitors, that may have a material adverse effect on our business.

We are 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 have from time to time taken, and may in the future take, actions that we believe violate our patent rights. For example, we are involved in legal proceedings for patent infringement and related matters in the United States with ONT and with PGI, and we were previously involved in other legal proceedings with ONT and Harvard University in several United States and European jurisdictions. We have in the past received adverse rulings against us with respect to our complaint with the United States International Trade Commission for one of these proceedings. Legal actions to enforce our patent rights have been, and will continue to be, expensive, and may divert significant management time and resources. Adverse parties from previous legal actions have brought, and they and others may in the future bring, claims against us and/or our intellectual property. Litigation is a significant ongoing expense, recognized in sales, general and administrative expense, with an uncertain outcome, and has been, and may in the future be, a material expense for us. Our enforcement actions may not be successful, have given rise to legal claims against us and could result in some of our intellectual property rights being determined to be invalid or not enforceable. Furthermore, an adverse determination or judgement could lead to an award of damages against us, or the issuance of an injunction against us or our products that could prevent us from selling any products found to be infringing the intellectual property rights of another party.

We have been, are currently, 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 that belong 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 have claimed, and may in the future claim, that we infringe their patent rights and have filed, and may in the future file, lawsuits or engage in other proceedings against us to enforce their patent rights. For example, ONT Ltd. and Harvard University have, in the past, filed claims against us in the High Court of England and Wales and the District Court of Mannheim, Germany for patent infringement, and PGI has filed claims against us in the U.S. District Court for the District of Delaware and in the Wuhan People's Court in China. We are aware of other issued patents and patent applications owned by third parties that could be construed to read on our products, and related maintenance and support services. Although we do not believe that our products or services infringe any valid issued patents, the third-party owners of these patents and applications may in the future claim that we infringe their patent rights and file lawsuits against us. 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. Furthermore, parties making claims against us may be able to obtain injunctive or other relief, which effectively could block our ability to further develop or commercialize products or services and could result in the award of substantial damages against us. Patent litigation between competitors in our industry is common. Additionally, we have certain obligations to many of our customers and suppliers 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 have in the past incurred, and could in the future incur, to defend ourselves or our customers, substantial costs, and the attention of our management and technical personnel could be diverted. For example, we previously incurred significant legal expenses to litigate and settle a complaint alleging patent infringement. Even if we have an agreement that indemnifies 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 us to 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 that we misappropriated their technologies and incorporated those technologies into our products, even when we hope not. A determination that we illegally used the confidential or proprietary information or misappropriated technologies of others in our products could result in us paying substantial damage awards or being prevented from further developing or selling some or all of our products, which could materially and 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 the 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 or otherwise materially and adversely affect our business.

Risks Related to Regulation

We are, and may become, subject to governmental regulations 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 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. We have expanded and are continuing to expand the international jurisdictions into which we supply products, which increase the risks surrounding governmental regulations relating to our business. The failure to satisfy export control criteria or to obtain necessary clearances could delay or prevent shipment of products, which could materially and adversely affect our revenue and profitability. Moreover, the life sciences industry, which is expected to continue 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 regulations that may adversely affect 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.

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. Failure to comply with government 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 the cost of operating our business. In addition, changes to laws and government regulations could cause a material adverse effect on our business as we will need to adapt our business to comply with such changes. For example, a governmental prohibition on the use of human *in vitro* diagnostics would adversely impact our commercialization of products on which we have expended significant research and development resources, which would in turn have a material adverse impact on our business and prospects.

Our products could become subject to government regulation as medical devices by the U.S. Food and Drug Administration or other domestic and international regulatory agencies even if we do not elect to seek regulatory clearance or approval to market our products for diagnostic purposes, which could increase our costs and impede or 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 ("FDA") clearance or approval since they are not intended or labeled for use in the diagnosis, prevention, or treatment of any disease, and are labeled and promoted as research use only ("RUO") products. However, in the future, certain of our products or related applications, such as those that may be developed for clinical uses, could be subject to FDA regulation, or the FDA's regulatory jurisdiction could be expanded to include our products. Also, even if our products are labeled, promoted, and intended as

RUO, the FDA or comparable agencies of other countries could disagree with our conclusion that our products are intended for research use only or deem our sales, marketing and promotional efforts as being inconsistent with RUO products. For example, our customers may independently elect to use our RUO labeled products in their own laboratory developed tests ("LDTs") for clinical diagnostic use, which could subject our products to government regulation, and the regulatory clearance or approval and maintenance process for such products may be uncertain, expensive, and time-consuming. Regulatory requirements related to marketing, selling, and distribution of RUO products could change or be uncertain, even if clinical uses of our RUO products by our customers were done without our consent. If the FDA or other regulatory authorities assert that any of our RUO products are subject to regulatory clearance or approval, our business, financial condition, or results of operations could be adversely affected. In the event that we fail to obtain and maintain necessary regulatory clearances or approvals for products that we develop for clinical uses, or if clearances or approvals for future products and indications are delayed or not issued, our commercial operations may be materially harmed. Furthermore, even if we are granted regulatory clearances or approvals, they may include significant limitations on the indicated uses for the product, which may limit the market for the product. We do not have experience in obtaining FDA approvals and no assurance can be given that we will be able to obtain or to maintain such approvals. Furthermore, any approvals that we may obtain can be revoked if safety or efficacy problems develop.

The FDA has historically exercised enforcement discretion in not enforcing the medical device regulations against laboratories developing and offering LDTs. However, on October 3, 2014, the FDA issued two draft guidance documents that set forth the FDA's proposed risk-based framework for regulating LDTs, which are designed, manufactured, and used within a single laboratory. The draft guidance documents provide the anticipated details through which the FDA would propose to establish an LDT oversight framework, including premarket review for higher-risk LDTs, such as those that have the same intended use as FDA-approved or cleared companion diagnostic tests currently on the market. In January 2017, the FDA announced that it would not issue final guidance on the oversight of LDTs and manufacturers of products used for LDTs, but would seek further public discussion on an appropriate oversight approach, and give Congress an opportunity to develop a legislative solution. More recently, the FDA has issued warning letters to certain genomics labs for illegally marketing genetic tests that claim to predict patients' responses to specific medications, noting that the FDA has not created a legal "carve-out" for LDTs and retains discretion to take action when appropriate, such as when certain genomic tests raise significant public health concerns.

As manufacturers develop more complex diagnostic tests and diagnostic software, the FDA may increase its regulation of LDTs. Any future legislative or administrative rule making or oversight of LDTs, if and when finalized, may impact the sales of our products and how customers use our products, and may require us to change our business model in order to maintain compliance with these laws. We cannot predict how these various efforts will be resolved, how Congress or the FDA will regulate LDTs in the future, or how that regulatory system will impact our business. Changes to the current regulatory framework, including the imposition of additional or new regulations, including regulation of our products, could arise at any time during the development or marketing of our products, which may negatively affect our ability to obtain or maintain FDA or comparable regulatory approval of our products, if required. Further, sales of devices for diagnostic purposes may subject us to additional healthcare regulation and enforcement by the applicable government agencies. Such laws include, without limitation, state and federal anti-kickback or anti-referral laws, healthcare fraud and abuse laws, false claims laws, privacy and security laws, Physician Payments Sunshine Act and related transparency and manufacturer reporting laws, and other laws and regulations applicable to medical device manufacturers.

Additionally, on November 25, 2013, the FDA issued Final Guidance "Distribution of In Vitro Diagnostic Products Labeled for Research Use Only." The guidance emphasizes that the FDA will review the totality of the circumstances when it comes to evaluating whether equipment and testing components are properly labeled as RUO. The final guidance states that merely including a labeling statement that the product is for research purposes only will not necessarily render the device exempt from the FDA's clearance, approval, and other regulatory requirements if the circumstances surrounding the distribution, marketing and promotional practices indicate that the manufacturer knows its products are, or intends for its products to be, used for clinical diagnostic purposes. These circumstances may include written or verbal sales and marketing claims or links to articles regarding a product's performance in clinical applications and a manufacturer's provision of technical support for clinical applications.

Recently, as part of the Trump Administration's efforts to combat COVID-19 and consistent with the President's direction in Executive Orders 13771 and 13924, the Department of Health and Human Services ("HHS") announced rescission of guidance and other informal issuances of the FDA regarding premarket review of LDT absent notice-and-comment rulemaking, stating that, absent notice-and-comment rulemaking, those seeking approval or clearance of, or an emergency use authorization, for an LDT may nonetheless voluntarily submit a premarket approval application, premarket notification or an Emergency Use Authorization request, respectively, but are not required to do so. However, laboratories opting to use LDTs without FDA premarket review or authorization would not be eligible for liability protection under the Public Readiness and Emergency Preparedness Act. While this action by HHS is expected to reduce the regulatory burden

on clinical laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 that develop LDTs, it is unclear how this action as well as future legislation by federal and state governments and the FDA will impact the industry, including our business and that of our customers. Such HHS measure may compel the FDA to formalize earlier enforcement discretionary policies and informal guidance through notice-and-comment rulemaking and/or impose further restrictions on LDTs. HHS' rescission policy may change over time. Congress could also enact legislation restricting LDTs. Any restrictions on LDTs by the FDA, HHS, Congress, or state regulatory authorities may decrease the demand for our products. The adoption of new restrictions on RUO products, whether by the FDA or Congress, could adversely affect demand for our specialized reagents and instruments. Further, we could be required to obtain premarket clearance or approval before we can sell our products to certain customers.

If we elect to label and market our products for use as, or in the performance of, clinical diagnostics in the United States, thereby subjecting them to FDA regulation as medical devices, we would be required to obtain premarket 510(k) clearance or premarket approval from the FDA, unless an exception applies. It is possible, in the event we elect to submit 510(k) applications for certain of our products, that the FDA would take the position that a more burdensome premarket application, such as a premarket approval application ("PMA") or a *de novo* application is required for some of our products. If such applications were required, greater time and investment would be required to obtain FDA approval. Even if the FDA agreed that a 510(k) was appropriate, FDA clearance can be expensive and time consuming. It generally takes a significant amount of time to prepare a 510(k), including conducting appropriate testing on our products, and several months to years for the FDA to review a submission. Notwithstanding the effort and expense, FDA clearance or approval could be denied for some or all of our products for which we choose to market as a medical device or a clinical diagnostic device. Even if we were to seek and obtain regulatory approval or clearance, it may not be for the intended uses we request or that we believe are important or commercially attractive. There can be no assurance that future products for which we may seek premarket clearance or approval will be approved or cleared by FDA or a comparable foreign regulatory authority on a timely basis, if at all, nor can there be assurance that labeling claims will be consistent with our anticipated claims or adequate to support continued adoption of such products. Compliance with FDA or comparable foreign regulatory authority regulations will require substantial costs, and subject us to heightened scrutiny by regulators and substantial penalties for failure to comply with such requirements or the inability to market our products. The lengthy and unpredictable premarket clearance or approval process, as well as the unpredictability of the results of any required clinical studies, may result in our failing to obtain regulatory clearance or approval to market such products, which would significantly harm our business, results of operations, reputation, and prospects.

If we sought and received regulatory clearance or approval for certain of our products, we would be subject to ongoing FDA obligations and continued regulatory oversight and review, including the general controls listed above and the FDA's QSRs for our development and manufacturing operations. In addition, we would be required to obtain a new 510(k) clearance before we could introduce subsequent material modifications or improvements to such products. We could also be subject to additional FDA post-marketing obligations for such products, any or all of which would increase our costs and divert resources away from other projects. If we sought and received regulatory clearance or approval and are not able to maintain regulatory compliance with applicable laws, we could be prohibited from marketing our products for use as, or in the performance of, clinical diagnostics and/or could be subject to enforcement actions, including warning letters and adverse publicity, fines, injunctions, and civil penalties; recall or seizure of products; operating restrictions; and criminal prosecution.

Further, if we decide to seek regulatory clearance or approval for certain of our products in countries outside of the United States or if a foreign regulatory authority determines that our products are regulated as medical devices, we would be subject to extensive medical device laws and regulations outside of the United States. Sales of such products outside the United States will likely be subject to foreign regulatory requirements, which can vary greatly from country to country. As a result, the time required to obtain clearances or approvals outside the United States may differ from that required to obtain FDA clearance or approval and we may not be able to obtain foreign regulatory approvals on a timely basis or at all. In Europe, we would need to comply with the new Medical Device Regulation 2017/745 and In Vitro Diagnostic Regulation 2017/746, which became effective May 26, 2017, with application dates of May 26, 2021 (postponed from 2020) and May 26, 2022 respectively. This will increase the difficulty of regulatory approvals in Europe in the future. In addition, the FDA regulates exports of medical devices. The number and scope of these requirements are increasing. Unlike many of the other companies offering nucleic acid sequencing equipment or consumables, this is an area where we do not have expertise. We, or our other third-party sales and distribution partners, 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. Failure to comply with these regulatory requirements or obtain and maintain required approvals, clearances and certifications could impair our ability to commercialize our products for diagnostic use outside of the United States. Any action brought against us for violations of these laws or regulations, even if successfully defended, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business.

Enhanced trade tariffs, import restrictions, export restrictions, Chinese regulations or other trade barriers may materially harm our business.

We are continuing to expand our international operations as part of our growth strategy and have experienced an increasing concentration of sales in certain regions outside the U.S., especially the Asia-Pacific region. There is currently significant uncertainty about the future relationship between the United States and various other countries, most significantly China, with respect to trade policies, treaties, government regulations and tariffs. In September 2018, the U.S. Trade Representative (the "USTR") enacted various tariffs of 7.5%, 10%, 15% and 25% on the import of Chinese products, including non-U.S. components and materials that may be used in our products. Additionally, China also has imposed tariffs on imports into China from the United States. These tariffs could raise our costs. Furthermore, tariffs, trade restrictions, or trade barriers that have been, and may in the future be, placed on products such as ours by foreign governments, especially China, have raised, and could further raise, amounts paid for some or all of our products, which may result in the loss of customers and our business, and our financial condition and results of operations may be harmed. Further tariffs may be imposed that could cover imports of components and materials used in our products, or our business may be adversely impacted by retaliatory trade measures taken by China or other countries, including restricted access to components or materials used in our products or increased amounts that must be paid for our products, which could materially harm our business, financial condition and results of operations. Further, the continued threats of tariffs, trade restrictions and trade barriers could have a generally disruptive impact on the global economy and, therefore, negatively impact our sales. Given the relatively fluid regulatory environment in China and the United States and uncertainty how the U.S. or foreign governments will act with respect to tariffs, international trade agreements and policies, there could be additional tax or other regulatory changes in the future. Any such changes could directly and adversely impact our financial results and results of operations.

Additionally, in November 2018, the U.S. Commerce Department's Bureau of Industry and Security ("BIS") released an advance notice of proposed rulemaking to control the export of emerging technologies. This notice included "[b]iotechnology, including nanobiology; synthetic biology; genomic and genetic engineering; or neurotech" as possible areas of increased export controls. Therefore, it is possible that our ability to export our products may be restricted in the future, most notably China.

If we commercialize any of our products outside of the United States, our international business could expose us to business, regulatory, political, operational, financial, and economic risks associated with doing business outside of the United States.

Engaging in international business inherently involves a number of difficulties and risks, including:

- required compliance with existing and changing foreign regulatory requirements and laws that are or may be applicable to our business in the future, such as the European Union's General Data Protection Regulation ("GDPR") and other data privacy requirements, labor and employment regulations, anti-competition regulations, the U.K. Bribery Act of 2010 and other anti-corruption laws, regulations relating to the use of certain hazardous substances or chemicals in commercial products, and require the collection, reuse, and recycling of waste from products we manufacture;
- required compliance with U.S. laws such as the Foreign Corrupt Practices Act, and other U.S. federal laws and regulations established by the office of Foreign Asset Control;
- export requirements and import or trade restrictions;
- laws and business practices favoring local companies;
- foreign currency exchange, longer payment cycles and difficulties in enforcing agreements and collecting receivables through certain foreign legal systems;
- changes in social, economic, and political conditions or in laws, regulations and policies governing foreign trade, manufacturing, research and development, and investment both domestically as well as in the other countries and jurisdictions in which we operate and into which we may sell our products including as a result of the separation of the United Kingdom from the European Union (Brexit);
- potentially adverse tax consequences, tariffs, customs charges, bureaucratic requirements, and other trade barriers;
- difficulties and costs of staffing and managing foreign operations; and
- difficulties protecting, maintaining, enforcing or procuring intellectual property rights.

If one or more of these risks occurs, it could require us to dedicate significant resources to remedy such occurrence, and if we are unsuccessful in finding a solution, our financial results will suffer.

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. New laws or changes to existing laws may 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.

Ethical, legal, privacy, data protection and social concerns or governmental restrictions 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, privacy, data protection 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, and may consider or adopt such regulations or other restrictions. Such concerns or governmental restrictions could limit the use of our products or be costly and burdensome to comply with, and actual or perceived violations of any such restrictions may lead to the imposition of substantial fines and penalties, remediation costs, claims and litigation, regulatory investigations and proceedings, and other liability, and of which could have a material adverse effect on our business, financial condition and results of operations.

Regulations related to conflict minerals has caused us to incur, and will continue to cause us to incur, additional expenses and could limit the supply and increase the costs of certain materials used in the manufacture of our products.

We are subject to requirements under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 that require us to conduct diligence and report on whether or not our products contain conflict minerals. The implementation of these requirements could adversely affect the sourcing, availability and pricing of the materials used in the manufacture of components used in our products. Furthermore, the complex nature of our products requires components and materials that may be available only from a limited number of sources and, in some cases, from only a single source. We have incurred, and will continue to incur, additional costs to comply with the disclosure requirements, including costs related to conducting diligence procedures to determine the sources of conflict minerals that may be used or necessary to the production of our products and, if applicable, potential changes to components, processes or sources of supply as a consequence of such verification activities. We may face reputational harm if we determine that certain of our products contain minerals that are not determined to be conflict free or if we are unable to alter our processes or sources of supply to avoid using such materials. In such circumstances, the reputational harm could materially and adversely affect our business, financial condition or results of operations.

Risks Related to Owning Our Common Stock

The price of our common stock has been, is, and may continue to be, highly volatile, and you may be unable to sell your shares at or above the price you paid to acquire them.

The market price of our common stock is highly volatile, and we expect it to continue to be volatile for the foreseeable future in response to many risk factors listed in this section, and others beyond our control, including:

- actual or anticipated fluctuations in our financial condition and operating results;
- announcements of new products, technological innovations or strategic partnerships by us or our competitors;
- announcements by us, our customers, partners or suppliers relating directly or indirectly to our products, services or technologies;
- 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, capital commitments or achievement of significant milestones;
- 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 or 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;
- stock price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- reports, guidance and ratings issued by securities or industry analysts;
- operating results below the expectations of securities analysts or investors; and
- general economic and market conditions, which could be impacted by various events including COVID-19.

If any of the forgoing occurs, it would cause our stock price or trading volume to decline. Stock markets in general and the market for companies in our industry in particular have experienced price and volume fluctuations, which have been exacerbated by the COVID-19 pandemic, 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 have been a party to this type of litigation in the past and may be the target of this type of litigation again 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.

Sales of substantial amounts of our common stock in the public markets, or the perception that such sales might occur, could reduce the market price that our common stock might otherwise attain and may dilute your voting power and your ownership interest in us.

Sales of a substantial number of shares of our common stock in the public market, or the perception that such sales could occur, could adversely affect the market price of our common stock and may make it more difficult for existing stockholders to sell their common stock at a time and price that they deem appropriate and may dilute their voting power and ownership interest in us.

In addition, if our existing stockholders sell, or indicate an intent to sell, a large number of shares of our common stock in the public market, it could cause our stock price to fall. We may also issue shares of common stock or securities convertible into our common stock in connection with a financing, acquisition, our equity incentive plans, or otherwise. Any such issuances would result in dilution to our existing stockholders and the market price of our common stock may be adversely affected.

On September 20, 2021, in connection with the closing of the Omniome Merger, we completed a Private Placement for the sale of an aggregate of 11,214,953 shares of our common stock, at a price of $26.75 per share, for aggregate gross

proceeds of approximately $300 million. In connection with the Private Placement, we entered into a Registration Rights Agreement with the Private Placement investors, providing them, among other things, certain registration rights, including our obligation to register the Private Placement shares for resale with the SEC within 30 days following the closing of the Private Placement.

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

Our existing principal stockholders, executive officers, directors and their affiliates beneficially own a significant number of our outstanding shares of common stock. In addition, such parties may acquire additional control by purchasing stock that we issue in connection with our future fundraising efforts. Also, SB Northstar LP, a subsidiary of SoftBank Group Corp., purchased $900 million in aggregate principal amount of our 1.50% Convertible Senior Notes due 2028, convertible at the option of the holders at any time into shares of our common stock based on an initial conversion rate of 22.9885 shares of common stock per $1,000 principal amount of the Notes (which is equal to an initial conversion price of $43.50 per share). In addition, on September 20, 2021 in connection with the closing of the Omniome Merger, we completed a Private Placement for the sale of an aggregate of 11,214,953 shares of our common stock, at a price of $26.75 per share, for aggregate gross proceeds of approximately $300 million with certain qualified institutional buyers and institutional accredited investors, including approximately $60 million to SB Northstar LP. As a result, these current and future stockholders may now and in the future 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. Furthermore, our amended and restated bylaws provide that unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for: (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a breach of fiduciary duty owed by any of our current or former directors, officers or other employees to us or our stockholders; (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law; (iv) any action to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or our amended and restated bylaws; or (v) any action asserting a claim against us that is governed by the internal affairs doctrine, subject to the court having personal jurisdiction over the indispensable parties named as defendants therein. This provision is not intended to apply to actions arising under the Securities Act or the Exchange Act, or any claim for which the federal courts have exclusive jurisdiction. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital

stock shall be deemed to have notice of and consented to this provision. This exclusive-forum provision may discourage lawsuits against us or our directors, officers, and employees. 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 existing stockholders' 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 dividends on our common stock and do not intend to pay any 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.

Risks Related to Our Notes

We may not have the ability to raise the funds necessary to settle conversions of the Notes in cash or to repurchase the Notes upon a fundamental change, and our future debt may contain limitations on our ability to pay cash upon conversion or repurchase of the Notes.

In February 2021, we issued $900.0 million in aggregate principal amount of 1.50% Convertible Senior Notes due 2028, which we refer to as the Notes. The Notes will mature on February 15, 2028, subject to earlier conversion, redemption or repurchase, including upon a fundamental change. Holders of the Notes will have the right to require us to repurchase all or a portion of their Notes upon the occurrence of a fundamental change before the maturity date at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus unpaid interest to, but excluding, the maturity date. In addition, upon conversion of the Notes, unless we elect to deliver solely shares of our common stock to settle such conversion (other than paying cash in lieu of delivering any fractional share), we will be required to settle a portion or all of our conversion obligation in cash in respect of the Notes being converted. Moreover, we will be required to repay the Notes in cash at their maturity unless earlier converted, redeemed or repurchased. However, we may not have enough available cash or be able to obtain financing at the time we are required to make repurchases of Notes surrendered therefor or pay cash with respect to Notes being converted or at their maturity.

In addition, our ability to repurchase Notes or to pay cash upon conversions of Notes or at their maturity may be limited by law, regulatory authority or agreements governing our future indebtedness. Our failure to repurchase Notes at a time when the repurchase is required by the indenture or to pay cash upon conversions of Notes or at their maturity as required by the indenture would constitute a default under the indenture. A default under the indenture or the fundamental change itself could also lead to a default under agreements governing our future indebtedness. Moreover, the occurrence of a fundamental change under the indenture could constitute an event of default under any such agreement. If the payment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness or to pay cash amounts due upon conversion, upon required repurchase or at maturity of the Notes.

If the Notes are converted, it may adversely affect our financial condition and operating results.

Holders of the Notes are entitled to convert their Notes at any time at their option. If one or more holders elect to convert their Notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share), we would be required to settle a portion or all of our conversion obligation in cash, which could adversely affect our liquidity.

General Risk Factors

Unfavorable global economic or political conditions could adversely affect our business, financial condition or results of operations.

General conditions in the global economy and in the global financial markets could adversely affect our results of operations, including the potential effects from the COVID-19 pandemic as discussed above, the overall demand for nucleic acid sequencing products may be particularly vulnerable to unfavorable economic conditions. A global financial crisis or a global or regional political disruption could cause extreme volatility in the capital and credit markets. A severe or prolonged economic downturn or political disruption could result in a variety of risks to our business, including weakened demand for our products and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy or political disruption could also strain our manufacturers or suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our product and services. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the political or economic climate and financial market conditions could adversely impact our business.

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. Any failure to deliver products to our customers in a safe and timely 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 carriers are 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. The failure to deliver our products in a safe and timely manner may harm our relationship with our customers, increase our costs and otherwise disrupt our operations.

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

We currently conduct operations in various countries and jurisdictions, and continue to expand to new international jurisdictions as part of our growth strategy and have experienced an increasing concentration of sales in certain regions outside the U.S. We sell directly and through distribution partners throughout Europe, the Asia-Pacific region, Mexico, Brazil, and South Africa and have a significant portion of our sales and customer support personnel in Europe and the Asia-Pacific region. As a result, we or our distribution partners may be subject to additional regulations and increased diversion of management time and efforts. 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 materially and adversely affected and failure to comply with laws and regulations applicable to business operations in foreign jurisdictions may also subject us to significant liabilities and other penalties. International operations entail a variety of other risks, including, without limitation:

- limits to travel as a result of the COVID-19 pandemic;
- challenges in staffing and managing foreign operations;
- potentially longer sales cycles and more time required to engage and educate customers on the benefits of our platform outside of the United States;
- the potential need for localized software and documentation;
- reduced protection for intellectual property rights in some countries and practical difficulties of enforcing intellectual property and contract rights abroad;
- restriction on cross-border investment, including enhanced oversight by the Committee on Foreign Investment in the United States (“CFIUS”) and substantial restrictions on investment from China;
- U.S. and foreign government trade restrictions, including those which may impose restrictions on the importation, exportation, re-exportation, sale, shipment or other transfer of programming, technology, components, and/or services to foreign persons;
- changes in diplomatic and trade relationships, including new tariffs, trade protection measures, import or export licensing requirements, trade embargoes and other trade barriers;
- tariffs imposed by the U.S. on goods from other countries and tariffs imposed by other countries on U.S. goods, including the tariffs by the U.S. government on various imports from China, Canada, Mexico and the

EU and by the governments of these jurisdictions on certain U.S. goods, and any other possible tariffs that may be imposed on products such as ours, the scope and duration of which, if implemented, remains uncertain;

- deterioration of political relations between the U.S. and China, Canada, the United Kingdom ("U.K.") and the European Union ("EU"), which could have a material adverse effect on our sales and operations in these countries;
- changes in social, political and economic conditions or in laws, regulations and policies governing foreign trade, manufacturing, development and investment both domestically as well as in the other countries and jurisdictions into which we sell our products, including as a result of the withdrawal of the U.K. from the EU;
- difficulties in obtaining export licenses or in overcoming other trade barriers and restrictions resulting in delivery delays;
- fluctuations in currency exchange rates and the related effect on our results of operations;
- increased financial accounting and reporting burdens and complexities;
- disruptions to global trade due to disease outbreaks;
- potential increases on tariffs or restrictions on trade generally; and
- significant taxes or other burdens of complying with a variety of foreign laws and regulations, including laws and regulations relating to privacy and data protection such as the EU General Data Protection Regulation which took effect in the EU in 2018.

In conducting our international operations, we are subject to U.S. laws relating to our international activities, such as the Foreign Corrupt Practices Act of 1977, as well as foreign laws relating to our activities in other countries, such as the United Kingdom Bribery Act of 2010. Additionally, the inclusion of one of our foreign customers on any U.S. Government sanctioned persons list, including but not limited to the U.S. Department of Commerce's List of Denied Persons and the U.S. Department of Treasury's List of Specially Designated Nationals and Blocked Persons List, could be material to our earnings. Failure to comply with these laws may subject us to claims or financial and/or other penalties in the United States and/or foreign countries that could materially and adversely impact our operations or financial condition. These risks have become increasingly prevalent as we have expanded our sales into countries that are generally recognized as having a higher risk of corruption.

We face risks related to the current global economic environment, which could delay or prevent our customers from purchasing our products, which could in turn harm our business, financial condition and results of operations. The state of the global economy continues to be uncertain. The current global economic conditions and uncertain credit markets and concerns regarding the availability of credit pose a risk that could impact customer demand for our products, as well as our ability to manage normal commercial relationships with our customers, suppliers and creditors, including financial institutions. If the current global economic environment deteriorates, our business could be negatively affected.

Moreover, 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 currencies could make our products more expensive, impacting our ability to compete or as a result of financial or other instability in such locations which could result in decreased sales of our products. Our costs of materials from international suppliers may also increase 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. Such actions may materially and adversely impact our financial condition and results of operations.

Violations of complex foreign and U.S. laws and regulations could result in fines and penalties, criminal sanctions against us, our officers, or our employees, prohibitions on the conduct of our business and on our ability to offer our products and services in one or more countries, and could also materially affect our brand, our international growth efforts, our ability to attract and retain employees, our business, and our operating results. Even if we implement policies or procedures designed to ensure compliance with these laws and regulations, there can be no assurance that our distribution partners, our employees, contractors, or agents will not violate our policies and subject us to potential claims or penalties.

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 evaluated frequently. We may in the future discover areas of our internal financial and accounting controls and procedures that need improvement. Operating as a public company requires sufficient resources within the accounting and finance functions in order to produce timely financial information, ensure the level of segregation of duties, and maintain adequate internal control over financial reporting customary for a U.S. public company.

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

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

Our business could be negatively impacted by changes in the United States political environment.

There is significant ongoing uncertainty with respect to potential legislation, regulation and government policy at the federal level, as well as the state and local levels. Any such changes could significantly impact our business as well as the markets in which we compete. Specific legislative and regulatory proposals discussed during election campaigns and more recently that might materially impact us include, but are not limited to, changes to spending priorities and potential reductions in research funding. Uncertainty about U.S. government funding has posed, and may continue to pose, a risk as customers may choose to postpone or reduce spending in response to actual or anticipated restraints on funding. To the extent changes in the political environment have a negative impact on us or on our markets, our business, results of operation and financial condition could be materially and adversely impacted in the future

Disruption of critical information technology systems or material breaches in the security of our systems could harm our business, customer relations and financial condition.

Information technology ("IT") helps us to operate efficiently, interface with customers, maintain financial accuracy and efficiently and accurately produce our financial statements. IT systems are used extensively in virtually all aspects of our business, including sales forecast, order fulfillment and billing, customer service, logistics, and management of data from running samples on our products. Our success depends, in part, on the continued and uninterrupted performance of our IT systems. IT systems may be vulnerable to damage from a variety of sources, including telecommunications or network failures, power loss, natural disasters, human acts, computer viruses, ransomware, computer denial-of-service attacks, unauthorized access to customer or employee data or company trade secrets, and other attempts to harm our systems. Certain of our systems are not redundant, and our disaster recovery planning is not sufficient for every eventuality. Despite any precautions we may take, such problems could result in, among other consequences, disruption of our operations, which could harm our reputation and financial results.

If we do not allocate and effectively manage the resources necessary to build and sustain the proper IT infrastructure, we could be subject to transaction errors, processing inefficiencies, loss of customers, business disruptions or loss of or damage to intellectual property through security breach. If our data management systems do not effectively collect, store, process and report relevant data for the operation of our business, whether due to equipment malfunction or constraints, software deficiencies or human error, our ability to effectively plan, forecast and execute our business plan and comply with applicable laws and regulations will be impaired, perhaps materially. Any such impairment could materially and adversely affect our reputation, financial condition, results of operations, cash flows and the timeliness with which we report our internal and external operating results.

Security breaches and other disruptions could compromise our information and expose us to liability, which would cause our business and reputation to suffer.

In the ordinary course of our business, we collect and store sensitive data, including intellectual property, our proprietary business information and that of our customers, suppliers and business partners, and personally identifiable information of our customers and employees, in our data centers and on our networks. The secure processing, maintenance and transmission of this information is critical to our operations. Despite our security measures, our IT infrastructure may be vulnerable to attacks by hackers, computer viruses, malicious codes, ransomware, unauthorized access attempts, and cyber- or phishing-attacks, or breached or otherwise disrupted due to employee error, malfeasance, faulty password management or other disruptions. Third parties may attempt to fraudulently induce employees or other persons into disclosing usernames, passwords or other sensitive information, which may in turn be used to access our IT systems, commit identity theft or carry out other unauthorized or illegal activities. Any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. We engage third-party vendors and service providers to store and otherwise process some of our data, including sensitive and personal information. Our vendors and service providers may also be the targets of the risks described above, including cyberattacks, malicious software, ransomware, phishing schemes, and fraud. Our ability to monitor our vendors and service providers' data security is limited, and, in any event, third parties may be able to circumvent those security measures, resulting in the unauthorized access to, misuse, disclosure, loss or destruction of our data, including sensitive and personal information, and disruption of our or third-party service providers' systems. We and our third-party service providers may face difficulties in identifying, or promptly responding to, potential security breaches and other instances of unauthorized access to, or disclosure or other loss of, information. Any hacking or other attack on our or our third-party service providers' or vendors' systems, and any unauthorized access to, or disclosure or other loss of, information suffered by us or our third-party service providers or vendors, or the perception that any of these have occurred, could result in legal claims or proceedings, loss of intellectual property, liability under laws that protect the privacy of personal information, negative publicity, disruption of our operations and damage to our reputation, which could divert our management's attention from the operation of our business and materially and adversely affect our business, revenues and competitive position. Moreover, we may need to increase our efforts to train our personnel to detect and defend against cyber- or phishing-attacks, which are becoming more sophisticated and frequent, and we may need to implement additional protective measures to reduce the risk of potential security breaches, which could cause us to incur significant additional expenses.

In addition, our insurance may be insufficient to cover our losses resulting from cyber-attacks, breaches, or other interruptions, and any incidents may result in loss of, or increased costs of, such insurance. The successful assertion of one or more large claims against us that exceed available insurance coverage, the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, or denials of coverage, could have a material adverse effect on our business, including our financial condition, results of operations and reputation.

We are currently subject to, and may in the future become subject to additional, U.S. federal and state laws and regulations imposing obligations on how we collect, store and process personal information. Our actual or perceived failure to comply with such obligations could harm our business. Ensuring compliance with such laws could also impair our efforts to maintain and expand our future customer base, and thereby decrease our revenue.

In the ordinary course of our business, we currently, and in the future will, collect, store, transfer, use or process sensitive data, including personally identifiable information of employees, and intellectual property and proprietary business information owned or controlled by ourselves and other parties. The secure processing, storage, maintenance, and transmission of this critical information are vital to our operations and business strategy. We are, and may increasingly become, subject to various laws and regulations, as well as contractual obligations, relating to data privacy and security in the jurisdictions in which we operate. The regulatory environment related to data privacy and security is increasingly rigorous, with new and constantly changing requirements applicable to our business, and enforcement practices are likely to remain uncertain for the foreseeable future. These laws and regulations may be interpreted and applied differently over time and from jurisdiction to jurisdiction, and it is possible that they will be interpreted and applied in ways that may have a material adverse effect on our business, financial condition, results of operations and prospects.

In the United States, various federal and state regulators, including governmental agencies like the Consumer Financial Protection Bureau and the Federal Trade Commission, have adopted, or are considering adopting, laws and regulations concerning personal information and data security. Certain state laws may be more stringent or broader in scope, or offer greater individual rights, with respect to personal information than federal, international or other state laws, and such laws may differ from each other, all of which may complicate compliance efforts. For example, the California Consumer Privacy Act ("CCPA"), which increases privacy rights for California residents and imposes obligations on companies that process their personal information, came into effect on January 1, 2020. Among other things, the CCPA requires covered companies to provide new disclosures to California consumers and provide such consumers new data protection and privacy rights,

including the ability to opt-out of certain sales of personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for certain data breaches that result in the loss of personal information. This private right of action may increase the likelihood of, and risks associated with, data breach litigation. In November 2020, California also passed the California Privacy Rights Act ("CPRA"), which significantly expands the CCPA, including by introducing additional obligations such as data minimization and storage limitations and granting additional rights to consumers, among others. In addition, laws in all 50 U.S. states require businesses to provide notice to consumers whose personal information has been disclosed as a result of a data breach. State laws are changing rapidly and there is discussion in the U.S. Congress of a new comprehensive federal data privacy law to which we would become subject if it is enacted. These and future laws and regulations may increase our compliance costs and potential liability.

Furthermore, regulations promulgated pursuant to the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), establish privacy and security standards that limit the use and disclosure of individually identifiable health information (known as "protected health information") and require the implementation of administrative, physical and technological safeguards to protect the privacy of protected health information and ensure the confidentiality, integrity and availability of electronic protected health information. Determining whether protected health information has been handled in compliance with applicable privacy standards and our contractual obligations can require complex factual and statistical analyses and may be subject to changing interpretation. Although we take measures to protect sensitive data from unauthorized access, use or disclosure, our information technology and infrastructure may be vulnerable to attacks by hackers or viruses or breached due to employee error, malfeasance or other malicious or inadvertent disruptions. Any such breach or interruption could compromise our networks and the information stored there could be accessed by unauthorized parties, manipulated, publicly disclosed, lost or stolen. Any such access, breach or other loss of information could result in legal claims or proceedings, and liability under federal or state laws that protect the privacy of personal information, such as the HIPAA, the Health Information Technology for Economic and Clinical Health Act ("HITECH"), and regulatory penalties. Notice of breaches must be made to affected individuals, the Secretary of the Department of Health and Human Services, and for extensive breaches, notice may need to be made to the media or State Attorneys General. Such a notice could harm our reputation and our ability to compete.

We are in the process of evaluating compliance needs, but do not currently have in place formal policies and procedures related to the storage, collection and processing of information, and have not conducted any internal or external data privacy audits, to ensure our compliance with all applicable data protection laws and regulations. Additionally, we do not currently have policies and procedures in place for assessing our third-party vendors' compliance with applicable data protection laws and regulations. All of these evolving compliance and operational requirements impose significant costs, such as costs related to organizational changes, implementing additional protection technologies, training employees and engaging consultants, which are likely to increase over time. In addition, such requirements may require us to modify our data processing practices and policies, distract management or divert resources from other initiatives and projects, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects. Any failure or perceived failure by us or our third-party vendors, collaborators, contractors and consultants to comply with any applicable federal, state or similar foreign laws and regulations relating to data privacy and security, or could result in damage to our reputation, as well as proceedings or litigation by governmental agencies or other third parties, including class action privacy litigation in certain jurisdictions, which would subject us to significant fines, sanctions, awards, penalties or judgments, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

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

Not applicable.

Item 3. Default Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Not applicable.

Item 6. Exhibits

Exhibit Number	Description	Incorporated by reference herein		
		Form	Exhibit No.	Filing Date
4.1	Indenture, dated February 16, 2021, between Pacific Biosciences of California, Inc. and U.S. Bank National Association, as Trustee	8-K	4.1	February 17, 2021
4.2	Form of 1.50% Convertible Senior Notes due 2028 (included in Exhibit 4.1)	8-K	4.1	February 17, 2021
10.1‡	Agreement and Plan of Merger and Plan of Reorganization among Pacific Biosciences of California, Inc., Apollo Acquisition Corp, Apollo Acquisition Sub, LLC, Omniome, Inc. and Shareholder Representative Services, LLC, as securityholder representative, dated as of July 19, 2021	8-K	10.1	July 20, 2021
10.2	Securities Purchase Agreement, dated as of July 19, 2021, by and between Pacific Biosciences of California, Inc. and each of the Investors	8-K	10.2	July 20, 2021
10.3	Registration Rights Agreement, dated as of July 19, 2021, by and between Pacific Biosciences of California, Inc. and each of the Investors	8-K	10.3	July 20, 2021
10.4	Omniome Equity Incentive Plan of Pacific Biosciences of California, Inc. and related forms of agreement thereunder			Filed herewith
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002			Filed herewith
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002			Filed herewith
32.1*	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002			Furnished herewith
32.2*	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002			Furnished herewith
101.INS	XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document)			
101.SCH	XBRL Taxonomy Extension Schema Document			
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document			
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document			
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document			
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document			
104	Cover Page Interactive File (formatted as inline XBRL and contained in Exhibit 101)			

‡ Schedules and exhibits omitted pursuant to Item 601(b)(2) of Regulation S-K. The Company agrees to furnish supplementally a copy of any omitted schedule or exhibit to the SEC upon request; provided, however, that the Company may request confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, for any schedules or exhibits so furnished.

* The certifications attached as Exhibit 32.1 and 32.2 that accompany this Quarterly Report on Form 10-Q are deemed furnished and not filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Pacific Biosciences of California, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Quarterly Report on Form 10-Q, irrespective of any general incorporation language contained in such filing

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 4, 2021

By: /s/ Susan G. Kim

Susan G. Kim
Chief Financial Officer

Date: November 4, 2021

By: /s/ Michele Farmer

Michele Farmer
Vice President and Chief Accounting Officer

OMNIOME EQUITY INCENTIVE PLAN OF

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

1. Purposes of the Plan. In connection with the Merger, the shares of common stock of Omniome are being assumed and converted into Shares that will be available for grant and issuance under the Plan, consistent with Nasdaq Listing Rule 5635(c). This Omniome Equity Incentive Plan of Pacific Biosciences of California, Inc. was established on September 20, 2021, in connection with the Merger. The purposes of this Plan are:

- to attract and retain the best available personnel for positions of substantial responsibility,
- to provide additional incentive to Employees, Directors and Consultants, and
- to promote the success of the Company's business.

The Plan permits the grant of Nonstatutory Stock Options, Restricted Stock, Restricted Stock Units, Stock Appreciation Rights, Performance Units and Performance Shares.

2. Definitions. As used herein, the following definitions will apply:

(a) "Administrator" means the Board or any of its Committees as will be administering the Plan, in accordance with Section 4 of the Plan.

(b) "Applicable Laws" means the legal and regulatory requirements relating to the administration of equity-based awards, including without limitation the related issuance of shares of Common Stock, including without limitation under U.S. state corporate laws, U.S. federal and state securities laws, the Code, any stock exchange or quotation system on which the Common Stock is listed or quoted and the applicable laws of any non-U.S. country or jurisdiction where Awards are, or will be, granted under the Plan.

(c) "Award" means, individually or collectively, a grant under the Plan of Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Units or Performance Shares.

(d) "Award Agreement" means the written or electronic agreement between the Company and Participant setting forth the terms and provisions applicable to an Award granted under the Plan. The Award Agreement is subject to the terms and conditions of the Plan.

(e) "Board" means the Board of Directors of the Company.

(f) "Change in Control" means the occurrence of any of the following events:

(i) Change in Ownership of the Company. A change in the ownership of the Company which occurs on the date that any one person, or more than one person acting as a group ("Person"), acquires ownership of the stock of the Company that, together with the stock held by such

Person, constitutes more than fifty percent (50%) of the total voting power of the stock of the Company; provided, however, that for purposes of this subsection, the acquisition of additional stock by any one Person, who is considered to own more than fifty percent (50%) of the total voting power of the stock of the Company will not be considered a Change in Control. Further, if the stockholders of the Company immediately before such change in ownership continue to retain immediately after the change in ownership, in substantially the same proportions as their ownership of shares of the Company's voting stock immediately prior to the change in ownership, direct or indirect beneficial ownership of fifty percent (50%) or more of the total voting power of the stock of the Company or of the ultimate parent entity of the Company, such event will not be considered a Change in Control under this subsection (i). For this purpose, indirect beneficial ownership will include, without limitation, an interest resulting from ownership of the voting securities of one or more corporations or other business entities which own the Company, as the case may be, either directly or through one or more subsidiary corporations or other business entities; or

(ii) Change in Effective Control of the Company. A change in the effective control of the Company which occurs on the date that a majority of members of the Board is replaced during any twelve (12) month period by Directors whose appointment or election is not endorsed by a majority of the members of the Board prior to the date of the appointment or election. For purposes of this subsection (ii), if any Person is considered to be in effective control of the Company, the acquisition of additional control of the Company by the same Person will not be considered a Change in Control; or

(iii) Change in Ownership of a Substantial Portion of the Company's Assets. A change in the ownership of a substantial portion of the Company's assets which occurs on the date that any Person acquires (or has acquired during the twelve (12) month period ending on the date of the most recent acquisition by such Person) assets from the Company that have a total gross fair market value equal to or more than fifty percent (50%) of the total gross fair market value of all of the assets of the Company immediately prior to such acquisition or acquisitions; provided, however, that for purposes of this subsection (iii), the following will not constitute a change in the ownership of a substantial portion of the Company's assets: (A) a transfer to an entity that is controlled by the Company's stockholders immediately after the transfer, or (B) a transfer of assets by the Company to: (1) a stockholder of the Company (immediately before the asset transfer) in exchange for or with respect to the Company's stock, (2) an entity, fifty percent (50%) or more of the total value or voting power of which is owned, directly or indirectly, by the Company, (3) a Person, that owns, directly or indirectly, fifty percent (50%) or more of the total value or voting power of all the outstanding stock of the Company, or (4) an entity, at least fifty percent (50%) of the total value or voting power of which is owned, directly or indirectly, by a Person described in this subsection (iii)(B)(3). For purposes of this subsection (iii), gross fair market value means the value of the assets of the Company, or the value of the assets being disposed of, determined without regard to any liabilities associated with such assets.

For purposes of this definition, persons will be considered to be acting as a group if they are owners of a corporation that enters into a merger, consolidation, purchase or acquisition of stock, or similar business transaction with the Company.

Notwithstanding the foregoing, a transaction will not be deemed a Change in Control unless the transaction qualifies as a change in control event within the meaning of Section 409A.

Further and for the avoidance of doubt, a transaction will not constitute a Change in Control if: (x) its sole purpose is to change the jurisdiction of the Company's incorporation, or (y) its sole purpose is to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transaction.

(g) "Code" means the Internal Revenue Code of 1986, as amended. Any reference to a section of the Code or regulation thereunder will include such section or regulation, any valid regulation or other official guidance promulgated under such section, and any comparable provision of any future legislation or regulation amending, supplementing, or superseding such section or regulation.

(h) "Committee" means a committee of Directors or of other individuals satisfying Applicable Laws appointed by the Board, or a duly authorized committee of the Board, in accordance with Section 4 hereof.

(i) "Common Stock" means the common stock of the Company.

(j) "Company" means Pacific Biosciences of California, Inc., a Delaware corporation, or any successor thereto.

(k) "Consultant" means any natural person, including an advisor, engaged by the Company or a Parent or Subsidiary of the Company to render bona fide services to such entity, provided the services (i) are not in connection with the offer or sale of securities in a capital-raising transaction, and (ii) do not directly promote or maintain a market for the Company's securities, in each case, within the meaning of Form S-8 promulgated under the Securities Act, and provided, further, that a Consultant will include only those persons to whom the issuance of Shares may be registered under Form S-8 promulgated under the Securities Act.

(l) "Director" means a member of the Board.

(m) "Disability" means total and permanent disability as defined in Section 22(e)(3) of the Code, provided that the Administrator in its discretion may determine whether a permanent and total disability exists in accordance with uniform and non-discriminatory standards adopted by the Administrator from time to time.

(n) "Employee" means any person, including Officers and Directors, employed by the Company or any Parent or Subsidiary of the Company. Neither service as a Director nor payment of a director's fee by the Company will be sufficient to constitute "employment" by the Company.

(o) "Exchange Act" means the Securities Exchange Act of 1934, as amended.

(p) "Exchange Program" means a program under which (i) outstanding Awards are surrendered or cancelled in exchange for awards of the same type (which may have higher or lower exercise prices and different terms), awards of a different type, and/or cash, (ii) Participants would

have the opportunity to transfer any outstanding Awards to a financial institution or other person or entity selected by the Administrator, and/or (iii) the exercise price of an outstanding Award is reduced.

(q) "Fair Market Value" means, as of any date, the value of Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or a national market system, including without limitation the New York Stock Exchange, the Nasdaq Global Select Market, the Nasdaq Global Market or the Nasdaq Capital Market of The Nasdaq Stock Market, its Fair Market Value will be the closing sales price for such stock (or, if no closing sales price was reported on that date, as applicable, on the last Trading Day such closing sales price was reported) as quoted on such exchange or system on the day of determination, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable;

(ii) If the Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, the Fair Market Value of a Share will be the mean between the high bid and low asked prices for the Common Stock on the day of determination (or, if no bids and asks were reported on that date, as applicable, on the last Trading Day such bids and asks were reported), as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable; or

(iii) In the absence of an established market for the Common Stock, the Fair Market Value will be determined in good faith by the Administrator.

(r) "Fiscal Year" means the fiscal year of the Company.

(s) "Incentive Stock Option" means an Option intended to qualify, and actually qualifies, as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder.

(t) "Inside Director" means a Director who is an Employee.

(u) "Merger" means the consummation, on September 20, 2021, of the transactions contemplated in that certain Agreement and Plan or Merger and Plan of Reorganization among the Company, Apollo Acquisition Corp., Apollo Acquisition Sub, LLC, Omniome, and Shareholder Representative Services LLC as Securityholder Representative, dated July 19, 2021, pursuant to which upon the completion of such transactions, Omniome became a wholly owned Subsidiary of the Company.

(v) "Nonstatutory Stock Option" means an Option that by its terms does not qualify or is not intended to qualify as an Incentive Stock Option.

(w) "Officer" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(x) "Omniome" means Omniome, Inc., a Delaware corporation.

(y) "Option" means a stock option granted pursuant to the Plan, provided that all Options granted under the Plan will be Nonstatutory Stock Options.

(z) "Outside Director" means a Director who is not an Employee.

(aa) "Parent" means a "parent corporation," whether now or hereafter existing, as defined in Code Section 424(e).

(bb) "Participant" means the holder of an outstanding Award.

(cc) "Performance Share" means an Award denominated in Shares which may be earned in whole or in part upon attainment of performance goals or other vesting criteria as the Administrator may determine pursuant to Section 10.

(dd) "Performance Unit" means an Award which may be earned in whole or in part upon attainment of performance goals or other vesting criteria as the Administrator may determine and which may be settled for cash, Shares or other securities or a combination of the foregoing pursuant to Section 10.

(ee) "Period of Restriction" means the period (if any) during which the transfer of Shares of Restricted Stock are subject to restrictions and therefore, the Shares are subject to a substantial risk of forfeiture. Such restrictions may be based on the passage of time, the achievement of target levels of performance, or the occurrence of other events as determined by the Administrator.

(ff) "Plan" means this Omniome Equity Incentive Plan of Pacific Biosciences of California, Inc..

(gg) "Restricted Stock" means Shares issued pursuant to a Restricted Stock award under Section 7 of the Plan, or issued pursuant to the early exercise of an Option.

(hh) "Restricted Stock Unit" means a bookkeeping entry representing an amount equal to the Fair Market Value of one Share, granted pursuant to Section 8. Each Restricted Stock Unit represents an unfunded and unsecured obligation of the Company.

(ii) "Rule 16b-3" means Rule 16b-3 of the Exchange Act or any successor to Rule 16b-3, as in effect when discretion is being exercised with respect to the Plan.

(jj) "Section 16(b)" means Section 16(b) of the Exchange Act.

(kk) "Section 409A" means Section 409A of the Code, as it has been and may be amended from time to time, and any proposed or final Treasury Regulations and Internal Revenue Service guidance that has been promulgated or may be promulgated thereunder from time to time, or any state law equivalent.

(ll) "Securities Act" means the Securities Act of 1933, as amended.

(mm) "Service Provider" means an Employee, Director or Consultant.

(nn) "Share" means a share of the Common Stock, as adjusted in accordance with Section 14 of the Plan.

(oo) "Stock Appreciation Right" means an Award, granted alone or in connection with an Option, that pursuant to Section 9 is designated as a Stock Appreciation Right.

(pp) "Subsidiary" means a "subsidiary corporation," whether now or hereafter existing, as defined in Code Section 424(f).

(qq) "Trading Day" means a day that the primary stock exchange, national market system, or other trading platform, as applicable, upon which the Common Stock is listed, is open for trading.

3. Stock Subject to the Plan.

(a) Stock Subject to the Plan. Subject to the provisions of Section 14 of the Plan, the maximum aggregate number of Shares that may be issued under the Plan is (i) 1,851,043 Shares, which is the number of shares of common stock of Omniome that were reserved but not issued or subject to outstanding equity awards under Omniome's 2014 Equity Incentive Plan, as amended (the "Omniome Plan"), as of the consummation of the Merger and as adjusted to reflect the Merger, plus (ii) any Shares subject to stock options granted under the Omniome Plan that were assumed by the Company in connection with the Merger that terminate and are cancelled without being exercised, and that if such termination and cancellation had occurred prior to the Merger otherwise would have returned to the Omniome Plan. In addition, Shares may become available for issuance under the Plan pursuant to Sections 3(b) and 3(c). The Shares may be authorized, but unissued, or reacquired Common Stock.

(b) Lapsed Awards. If an Award expires or becomes unexercisable without having been exercised in full, is surrendered pursuant to an Exchange Program, or, with respect to Restricted Stock, Restricted Stock Units, Performance Units or Performance Shares, is forfeited to or repurchased by the Company due to failure to vest, then the unpurchased Shares (or for Awards other than Options or Stock Appreciation Rights, the forfeited or repurchased Shares), which were subject thereto will become available for future grant or sale under the Plan (unless the Plan has terminated). With respect to Stock Appreciation Rights that are settled in Shares, the gross number of Shares covered by the portion of the Award so exercised will cease to be available under the Plan. Shares that actually have been issued under the Plan under any Award will not be returned to the Plan and will not become available for future distribution under the Plan; provided, however, that if Shares issued pursuant to Awards of Restricted Stock, Restricted Stock Units, Performance Shares or Performance Units are repurchased by the Company or are forfeited to the Company due to failure to vest, such Shares will become available for future grant under the Plan. Shares used to pay the exercise price of an Award or to satisfy the tax withholding obligations related to an Award will not become available for future grant or sale under the Plan. To the extent an Award under the Plan is paid out in cash rather than Shares, the cash payment will not result in reducing the number of Shares available for issuance under the Plan.

(c) Share Reserve. The Company, at all times during the term of this Plan, will reserve and keep available such number of Shares as will be sufficient to satisfy the requirements of the Plan.

4. Administration of the Plan.

(a) Procedure.

(i) Multiple Administrative Bodies. Different Committees with respect to different groups of Service Providers may administer the Plan.

(ii) Rule 16b-3. To the extent desirable to qualify transactions hereunder as exempt under Rule 16b-3, the transactions contemplated hereunder will be structured to satisfy the requirements for exemption under Rule 16b-3.

(iii) Other Administration. Other than as provided above, the Plan will be administered by (A) the Board or (B) a Committee, which committee will be constituted to satisfy Applicable Laws.

(b) Powers of the Administrator. Subject to the provisions of the Plan, and in the case of a Committee, the specific duties delegated by the Board to such Committee, the Administrator will have the authority, in its discretion:

(i) to determine the Fair Market Value;

(ii) to select the Service Providers to whom Awards may be granted hereunder;

(iii) to determine the number of Shares to be covered by each Award granted hereunder;

(iv) to approve forms of Award Agreement for use under the Plan;

(v) to determine the terms and conditions, not inconsistent with the terms of the Plan, of any Award granted hereunder. The terms and conditions include, but are not limited to, the exercise price, the time or times when Awards may be exercised (which may be based on performance criteria), any vesting acceleration or waiver of forfeiture restrictions, and any restriction or limitation regarding any Award or the Shares relating thereto, based in each case on such factors as the Administrator will determine;

(vi) to prescribe, amend and rescind rules and regulations relating to the Plan, including rules and regulations relating to sub-plans established for the purpose of satisfying applicable non-U.S. laws or for qualifying for favorable tax treatment under applicable non-U.S. laws;

(vii) to construe and interpret the terms of the Plan and Awards granted under the Plan;

(viii) to modify or amend each Award (subject to Section 19(c) of the Plan), including without limitation the discretionary authority to extend the post-termination exercisability period of Awards; provided, however, that in no event will the term of an Option or Stock Appreciation Right be extended beyond its original maximum term;

(ix) to allow Participants to satisfy tax withholding obligations in a manner prescribed in Section 15 of the Plan;

(x) to authorize any person to execute on behalf of the Company any instrument required to effect the grant of an Award previously granted by the Administrator;

(xi) to temporarily suspend the exercisability of an Award if the Administrator deems such suspension to be necessary or appropriate for administrative purposes;

(xii) to allow a Participant to defer the receipt of the payment of cash or the delivery of Shares that otherwise would be due to the Participant under an Award; and

(xiii) to make all other determinations deemed necessary or advisable for administering the Plan.

(c) No Exchange Program or Repricing. Notwithstanding the powers of the Administrator set forth herein, the Administrator will not be permitted to implement an Exchange Program.

(d) Dividends. With respect to any Options and Stock Appreciation Rights, until the Shares are issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) thereunder, no right to receive dividends or any other rights as a stockholder will exist with respect to the Shares subject to such Award, including without limitation notwithstanding any exercise of such Award. Further, no adjustment will be made for a dividend or other right for which the record date is prior to the date the Shares are issued under an Option or Stock Appreciation Right, except as provided in Section 14 of the Plan. During any applicable Period of Restriction, Service Providers holding Shares of Restricted Stock will be entitled to receive all dividends and other distributions paid with respect to such Shares, unless the Administrator provides otherwise; provided, however, that any such dividends or distributions payable with respect to such Shares will be subject to the same restrictions on transferability and/or forfeitability as the Shares of Restricted Stock with respect to which they were paid. With respect to Awards of Restricted Stock Units, Performance Units and Performance Shares, until the Shares are issued (as evidenced by the appropriate entry on the books of the Company or a duly authorized transfer agent of the Company), no right to receive dividends or any other rights as a stockholder will exist with respect to the Shares subject to such Award, unless determined otherwise by the Administrator; provided, however, that any such dividends or distributions that the Administrator determines will be payable with respect to such Shares will be subject to the same vesting criteria and forfeitability provisions as the Shares subject to such Award with respect to which they were paid. For the avoidance of doubt, the number of Shares available for issuance under the Plan will not be reduced to reflect any dividends or other distributions that are reinvested into additional Shares or credited as additional Shares subject to or paid with respect to an Award.

(e) Effect of Administrator's Decision. The Administrator's decisions, determinations and interpretations will be final and binding on all Participants and any other holders of Awards and will be given the maximum deference permitted by Applicable Laws.

5. Eligibility. Subject to compliance with Nasdaq Listing Rule 5635(c), all Service Providers who were not employed by the Company or a Parent or Subsidiary of the Company as of September 20, 2021, may be granted Nonstatutory Stock Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Shares and Performance Units.

6. Stock Options.

(a) Grant of Options. Subject to the terms and provisions of the Plan, the Administrator, at any time and from time to time, may grant Options to Service Providers in such amounts as the Administrator, in its sole discretion, will determine.

(b) Stock Option Agreement. Each Award of an Option will be evidenced by an Award Agreement that will specify the exercise price, the number of Shares subject to the Option, the exercise restrictions, if any, applicable to the Option, and such other terms and conditions as the Administrator, in its sole discretion, will determine.

(c) Limitations. Each Option will be designated in the Award Agreement as a Nonstatutory Stock Option.

(d) Term of Option. The term of each Option will be stated in the Award Agreement.

(e) Option Exercise Price and Consideration.

(i) Exercise Price. The per share exercise price for the Shares to be issued pursuant to exercise of an Option will be determined by the Administrator, subject to the following:

(1) The per Share exercise price of an Option will be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant.

(2) Notwithstanding the foregoing, Options may be granted with a per Share exercise price of less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant pursuant to a transaction described in, and in a manner consistent with, Section 424(a) of the Code.

(ii) Waiting Period and Exercise Dates. At the time an Option is granted, the Administrator will fix the period within which the Option may be exercised and will determine any conditions that must be satisfied before the Option may be exercised.

(iii) Form of Consideration. The Administrator will determine the acceptable form of consideration for exercising an Option, including the method of payment. Such consideration may consist entirely of: (1) cash; (2) check; (3) promissory note, to the extent permitted by Applicable Laws, (4) other Shares, provided that such Shares have a Fair Market Value on the date of surrender equal to the aggregate exercise price of the Shares as to which such Option will be

exercised and provided that accepting such Shares will not result in any adverse accounting consequences to the Company, as the Administrator determines in its sole discretion; (5) consideration received by the Company under a broker-assisted (or other) cashless exercise program (whether through a broker or otherwise) implemented by the Company in connection with the Plan; (6) by net exercise; (7) such other consideration and method of payment for the issuance of Shares to the extent permitted by Applicable Laws; or (8) any combination of the foregoing methods of payment.

(f) Exercise of Option.

(i) Procedure for Exercise; Rights as a Stockholder. Any Option granted hereunder will be exercisable according to the terms of the Plan and at such times and under such conditions as determined by the Administrator and set forth in the Award Agreement. An Option may not be exercised for a fraction of a Share.

An Option will be deemed exercised when the Company receives: (i) notice of exercise (in accordance with the procedures that the Administrator may specify from time to time) from the person entitled to exercise the Option, and (ii) full payment for the Shares with respect to which the Option is exercised (together with any applicable tax withholdings). Full payment may consist of any consideration and method of payment authorized by the Administrator and permitted by the Award Agreement and the Plan. Shares issued upon exercise of an Option will be issued in the name of the Participant or, if requested by the Participant, in the name of the Participant and his or her spouse. The Company will issue (or cause to be issued) such Shares promptly after the Option is exercised.

Exercising an Option in any manner will decrease the number of Shares thereafter available, both for purposes of the Plan and for sale under the Option, by the number of Shares as to which the Option is exercised.

(ii) Termination of Relationship as a Service Provider. If a Participant ceases to be a Service Provider, other than upon the cessation of the Participant's Service Provider status as the result of the Participant's death or Disability, the Participant may exercise his or her Option within such period of time as is specified in the Award Agreement to the extent that the Option is vested on the date of cessation of the Participant's Service Provider status (but in no event later than the expiration of the term of such Option as set forth in the Award Agreement). In the absence of a specified time in the Award Agreement, the Option will remain exercisable for three (3) months following cessation of the Participant's Service Provider status. Unless otherwise provided by the Administrator, if on the date of cessation of the Participant's Service Provider status the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option will revert to the Plan. If, after cessation of the Participant's Service Provider status, the Participant does not exercise his or her Option within the time specified by the Administrator, the Option will terminate, and the Shares covered by such Option will revert to the Plan.

(iii) Disability of Participant. If a Participant ceases to be a Service Provider as a result of the Participant's Disability, the Participant may exercise his or her Option within such period of time as is specified in the Award Agreement to the extent the Option is vested on the date of cessation of the Participant's Service Provider status (but in no event later than the expiration of the term of such Option as set forth in the Award Agreement). In the absence of a specified time in the

Award Agreement, the Option will remain exercisable for twelve (12) months following cessation of the Participant's Service Provider status. Unless otherwise provided by the Administrator, if on the date of cessation of the Participant's Service Provider status the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option will revert to the Plan. If, after cessation of the Participant's Service Provider status, the Participant does not exercise his or her Option within the time specified herein, the Option will terminate, and the Shares covered by such Option will revert to the Plan.

(iv) Death of Participant. If a Participant dies while a Service Provider, the Option may be exercised following the Participant's death within such period of time as is specified in the Award Agreement to the extent that the Option is vested on the date of death (but in no event may the Option be exercised later than the expiration of the term of such Option as set forth in the Award Agreement), by the Participant's designated beneficiary, provided such beneficiary has been designated prior to the Participant's death in a form acceptable to the Administrator. If no such beneficiary has been designated by the Participant, then such Option may be exercised by the personal representative of the Participant's estate or by the person(s) to whom the Option is transferred pursuant to the Participant's will or in accordance with the laws of descent and distribution. In the absence of a specified time in the Award Agreement, the Option will remain exercisable for twelve (12) months following Participant's death. Unless otherwise provided by the Administrator, if at the time of death, the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option will immediately revert to the Plan. If the Option is not so exercised within the time specified herein, the Option will terminate, and the Shares covered by such Option will revert to the Plan.

(v) Tolling Expiration. A Participant's Award Agreement also may provide that:

(1) if the exercise of the Option following the cessation of Participant's status as a Service Provider (other than upon the Participant's death or Disability) would result in liability under Section 16(b), then the Option will terminate on the earlier of (A) the expiration of the term of the Option set forth in the Award Agreement, or (B) the tenth (10^{th}) day after the last date on which such exercise would result in liability under Section 16(b); or

(2) if the exercise of the Option following the cessation of the Participant's status as a Service Provider (other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of Shares would violate the registration requirements under the Securities Act, then the Option will terminate on the earlier of (A) the expiration of the term of the Option or (B) the expiration of a period of thirty (30) days after the cessation of the Participant's status as a Service Provider during which the exercise of the Option would not be in violation of such registration requirements.

7. Restricted Stock.

(a) Grant of Restricted Stock. Subject to the terms and provisions of the Plan, the Administrator, at any time and from time to time, may grant Shares of Restricted Stock to Service Providers in such amounts as the Administrator, in its sole discretion, will determine.

(b) Restricted Stock Agreement. Each Award of Restricted Stock will be evidenced by an Award Agreement that will specify any Period of Restriction, the number of Shares granted, and such other terms and conditions as the Administrator, in its sole discretion, will determine. Unless the Administrator determines otherwise, the Company as escrow agent will hold Shares of Restricted Stock until the restrictions on such Shares have lapsed.

(c) Transferability. Except as provided in this Section 7 or the Award Agreement, Shares of Restricted Stock may not be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated until the end of any applicable Period of Restriction.

(d) Other Restrictions. The Administrator, in its sole discretion, may impose such other restrictions on Shares of Restricted Stock as it may deem advisable or appropriate.

(e) Removal of Restrictions. Except as otherwise provided in this Section 7, Shares of Restricted Stock covered by each Restricted Stock grant made under the Plan will be released from escrow as soon as practicable after the last day of any applicable Period of Restriction or at such other time as the Administrator may determine. The Administrator, in its discretion, may accelerate the time at which any restrictions will lapse or be removed.

(f) Voting Rights. During any applicable Period of Restriction, Service Providers holding Shares of Restricted Stock granted hereunder may exercise full voting rights with respect to those Shares, unless the Administrator determines otherwise.

(g) Return of Restricted Stock to Company. On the date set forth in the Award Agreement, the Restricted Stock for which restrictions have not lapsed will revert to the Company and again will become available for grant under the Plan.

8. Restricted Stock Units.

(a) Grant. Restricted Stock Units may be granted at any time and from time to time as determined by the Administrator. After the Administrator determines that it will grant Restricted Stock Units under the Plan, it will advise the Participant in an Award Agreement of the terms, conditions, and restrictions related to the grant, including the number of Restricted Stock Units.

(b) Vesting Criteria and Other Terms. The Administrator will set vesting criteria in its discretion, which, depending on the extent to which the criteria are met, will determine the number of Restricted Stock Units that will be paid out to the Participant. The Administrator may set vesting criteria based upon the achievement of Company-wide, divisional, business unit, or individual goals (including, but not limited to, continued employment or service), applicable federal or state securities laws or any other basis determined by the Administrator in its discretion.

(c) Earning Restricted Stock Units. Upon meeting the applicable vesting criteria, the Participant will be entitled to receive a payout as determined by the Administrator. Notwithstanding the foregoing, at any time after the grant of Restricted Stock Units, the Administrator, in its sole discretion, may reduce or waive any vesting criteria that must be met to receive a payout.

(d) Form and Timing of Payment. Payment of earned Restricted Stock Units will be made as soon as practicable after the date(s) determined by the Administrator and set forth in the

Award Agreement. The Administrator, in its sole discretion, may settle earned Restricted Stock Units only in cash, Shares, or a combination of both.

(e) Cancellation. On the date set forth in the Award Agreement, all unearned Restricted Stock Units will be forfeited to the Company.

9. Stock Appreciation Rights.

(a) Grant of Stock Appreciation Rights. Subject to the terms and conditions of the Plan, a Stock Appreciation Right may be granted to Service Providers at any time and from time to time as will be determined by the Administrator, in its sole discretion.

(b) Number of Shares. The Administrator will have complete discretion to determine the number of Stock Appreciation Rights granted to any Service Provider.

(c) Exercise Price and Other Terms. The per share exercise price for the Shares to be issued pursuant to exercise of a Stock Appreciation Right will be determined by the Administrator and will be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant. Otherwise, the Administrator, subject to the provisions of the Plan, will have complete discretion to determine the terms and conditions of Stock Appreciation Rights granted under the Plan.

(d) Stock Appreciation Right Agreement. Each Stock Appreciation Right grant will be evidenced by an Award Agreement that will specify the exercise price, the term of the Stock Appreciation Right, the conditions of exercise, and such other terms and conditions as the Administrator, in its sole discretion, will determine.

(e) Expiration of Stock Appreciation Rights. A Stock Appreciation Right granted under the Plan will expire upon the date as determined by the Administrator, in its sole discretion, and set forth in the Award Agreement. Notwithstanding the foregoing, the rules of Section 6(f) relating to exercise also will apply to Stock Appreciation Rights.

(f) Payment of Stock Appreciation Right Amount. Upon exercise of a Stock Appreciation Right, a Participant will be entitled to receive payment from the Company in an amount determined as the product of:

(i) The difference between the Fair Market Value of a Share on the date of exercise over the exercise price; and

(ii) The number of Shares with respect to which the Stock Appreciation Right is exercised.

At the discretion of the Administrator, the payment upon exercise of a Stock Appreciation Right may be in cash, in Shares of equivalent value, or in some combination of both.

10. Performance Units and Performance Shares.

(a) Grant of Performance Units/Shares. Performance Units and Performance Shares may be granted to Service Providers at any time and from time to time, as will be determined

by the Administrator, in its sole discretion. The Administrator will have complete discretion in determining the number of Performance Units and Performance Shares granted to each Participant.

(b) Value of Performance Units/Shares. Each Performance Unit will have an initial value that is established by the Administrator on or before the date of grant. Each Performance Share will have an initial value equal to the Fair Market Value of a Share on the date of grant.

(c) Performance Objectives and Other Terms. The Administrator will set performance objectives or other vesting provisions (including, without limitation, continued status as a Service Provider) in its discretion which, depending on the extent to which they are met, will determine the number or value of Performance Units/Shares that will be paid out to the Service Providers. The time period during which the performance objectives or other vesting provisions must be met will be called the "Performance Period." Each Award of Performance Units/Shares will be evidenced by an Award Agreement that will specify the Performance Period, and such other terms and conditions as the Administrator, in its sole discretion, will determine. The Administrator may set performance objectives based upon the achievement of Company-wide, divisional, business unit or individual goals (including, but not limited to, continued employment or service), applicable federal or state securities laws, or any other basis determined by the Administrator in its discretion.

(d) Earning of Performance Units/Shares. After the applicable Performance Period has ended, the holder of Performance Units/Shares will be entitled to receive a payout of the number of Performance Units/Shares earned by the Participant over the Performance Period, to be determined as a function of the extent to which the corresponding performance objectives or other vesting provisions have been achieved. After the grant of a Performance Unit/Share, the Administrator, in its sole discretion, may reduce or waive any performance objectives or other vesting provisions for such Performance Unit/Share.

(e) Form and Timing of Payment of Performance Units/Shares. Payment of earned Performance Units/Shares will be made as soon as practicable after the expiration of the applicable Performance Period. The Administrator, in its sole discretion, may pay earned Performance Units/Shares in the form of cash, in Shares (which have an aggregate Fair Market Value equal to the value of the earned Performance Units/Shares at the close of the applicable Performance Period) or in a combination thereof.

(f) Cancellation of Performance Units/Shares. On the date set forth in the Award Agreement, all unearned or unvested Performance Units/Shares will be forfeited to the Company, and again will be available for grant under the Plan.

11. Outside Director Award Limitations. No Outside Director may be granted, in any Fiscal Year, Awards (the value of which will be based on their grant date fair value determined in accordance with U.S. generally accepted accounting principles) and any other compensation (including without limitation any cash retainers or fees) that, in the aggregate, exceed $500,000, provided that such amount is increased to $1,000,000 in the Fiscal Year of his or her initial service as an Outside Director. Any Awards or other compensation provided to an individual for his or her services as an Employee, or for his or her services as a Consultant other than as an Outside Director, will be excluded for purposes of this Section 11.

12. Leaves of Absence/Transfer Between Locations. Unless the Administrator provides otherwise, vesting of Awards granted hereunder will be suspended during any unpaid leave of absence. A Participant will not cease to be an Employee in the case of (i) any leave of absence approved by the Company or (ii) transfers between locations of the Company or between the Company, its Parent, or any of its Subsidiaries.

13. Transferability of Awards. Unless determined otherwise by the Administrator, an Award may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent and distribution, and may be exercised, during the lifetime of the Participant, only by the Participant. If the Administrator makes an Award transferable, such Award will contain such additional terms and conditions as the Administrator deems appropriate.

14. Adjustments; Dissolution or Liquidation; Merger or Change in Control.

(a) Adjustments. In the event that any dividend or other distribution (whether in the form of cash, Shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, reclassification, repurchase, or exchange of Shares or other securities of the Company, or other change in the corporate structure of the Company affecting the Shares occurs (other than any ordinary dividends or other ordinary distributions), the Administrator, in order to prevent diminution or enlargement of the benefits or potential benefits intended to be made available under the Plan, will adjust the number and class of shares of stock that may be delivered under the Plan and/or the number, class, and price of shares of stock covered by each outstanding Award, and the numerical Share limits in Sections 3 and 11 of the Plan.

(b) Dissolution or Liquidation. In the event of a proposed dissolution or liquidation of the Company, the Administrator will notify each Participant as soon as practicable prior to the effective date of such proposed transaction. To the extent it has not been previously exercised, an Award will terminate immediately prior to the consummation of such proposed action.

(c) Merger or Change in Control. In the event of a merger of the Company with or into another corporation or other entity or a Change in Control, each outstanding Award will be treated as the Administrator determines (subject to the provisions of the following paragraph) without a Participant's consent, including, without limitation, that (i) Awards will be assumed, or substantially equivalent awards will be substituted, by the acquiring or succeeding corporation (or an affiliate thereof) with appropriate adjustments as to the number and kind of shares and prices; (ii) upon written notice to a Participant, that the Participant's Awards will terminate upon or immediately prior to the consummation of such merger or Change in Control; (iii) outstanding Awards will vest and become exercisable, realizable, or payable, or restrictions applicable to an Award will lapse, in whole or in part prior to or upon consummation of such merger or Change in Control, and, to the extent the Administrator determines, terminate upon or immediately prior to the effectiveness of such merger or Change in Control; (iv) (A) the termination of an Award in exchange for an amount of cash and/or property, if any, equal to the amount that would have been attained upon the exercise of such Award or realization of the Participant's rights as of the date of the occurrence of the transaction (and, for the avoidance of doubt, if as of the date of the occurrence of the transaction the Administrator determines in good faith that no amount would have been attained upon the exercise of such Award or realization of the Participant's rights, then such Award may be terminated by the Company without payment), or

(B) the replacement of such Award with other rights or property selected by the Administrator in its sole discretion; or (v) any combination of the foregoing. In taking any of the actions permitted under this Section 14(c), the Administrator will not be obligated to treat all Awards, all Awards held by a Participant, all Awards of the same type, or all portions of Awards, similarly.

In the event that the successor corporation does not assume or substitute for the Award (or portion thereof), the Participant will fully vest in and have the right to exercise the Participant's outstanding Option and Stock Appreciation Right (or portion thereof) that is not assumed or substituted for, including Shares as to which such Award would not otherwise be vested or exercisable, all restrictions on Restricted Stock, Restricted Stock Units, Performance Shares and Performance Units (or portions thereof) not assumed or substituted for will lapse, and, with respect to such Awards with performance-based vesting (or portions thereof) not assumed or substituted for, all performance goals or other vesting criteria will be deemed achieved at one hundred percent (100%) of target levels and all other terms and conditions met, in each case, unless specifically provided otherwise under the applicable Award Agreement or other written agreement between the Participant and the Company or any of its Subsidiaries or Parents, as applicable. In addition, if an Option or Stock Appreciation Right (or portion thereof) is not assumed or substituted for in the event of a merger or Change in Control, the Administrator will notify the Participant in writing or electronically that such Option or Stock Appreciation Right (or its applicable portion) will be exercisable for a period of time determined by the Administrator in its sole discretion, and the Option or Stock Appreciation Right (or its applicable portion) will terminate upon the expiration of such period.

For the purposes of this subsection (c) (and subsection (d) below), an Award will be considered assumed if, following the merger or Change in Control, the Award confers the right to purchase or receive, for each Share subject to the Award immediately prior to the merger or Change in Control, the consideration (whether stock, cash, or other securities or property) received in the merger or Change in Control by holders of Common Stock for each Share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the merger or Change in Control is not solely common stock of the successor corporation or its Parent, the Administrator may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise of an Option or Stock Appreciation Right or upon the payout of a Restricted Stock Unit, Performance Unit or Performance Share, for each Share subject to such Award, to be solely common stock of the successor corporation or its Parent equal in fair market value to the per share consideration received by holders of Common Stock in the merger or Change in Control.

Notwithstanding anything in this subsection (c) to the contrary, and unless otherwise provided in an Award Agreement or other written agreement between the Participant and the Company or any of its Subsidiaries or Parents, as applicable, an Award that vests, is earned or paid-out upon the satisfaction of one or more performance goals will not be considered assumed if the Company or its successor modifies any of such performance goals without the Participant's consent; provided, however, a modification to such performance goals only to reflect the successor corporation's post-Change in Control corporate structure will not be deemed to invalidate an otherwise valid Award assumption.

Notwithstanding anything in this subsection (c) to the contrary, if a payment under an Award Agreement is subject to Section 409A and if the change in control definition contained in the Award Agreement or other agreement related to the Award does not comply with the definition of "change in control" for purposes of a distribution under Section 409A, then any payment of an amount that otherwise is accelerated under this Section will be delayed until the earliest time that such payment would be permissible under Section 409A without triggering any penalties applicable under Section 409A.

(d) Outside Director Awards. With respect to Awards granted to an Outside Director that are assumed or substituted for, if on the date of or following such assumption or substitution the Participant's status as a Director or a director of the successor corporation, as applicable, is terminated other than upon a voluntary resignation by the Participant (unless such resignation is at the request of the acquirer), then as of such date of termination, the Participant's Awards will be treated as described in the second paragraph of Section 14(c) above with respect to vesting acceleration (for clarity, as though the Awards were not assumed or substituted).

15. Tax.

(a) Withholding Requirements. Prior to the delivery of any Shares or cash pursuant to an Award (or exercise thereof) or such earlier time as any tax withholding obligations are due, the Company (or any of its Subsidiaries, Parents or affiliates employing or retaining the services of a Participant, as applicable) will have the power and the right to deduct or withhold, or require a Participant to remit to the Company (or any of its Subsidiaries, Parents or affiliates, as applicable), an amount sufficient to satisfy U.S. federal, state, and local, non-U.S., and other taxes (including the Participant's FICA obligation) required to be withheld with respect to such Award (or exercise thereof).

(b) Withholding Arrangements. The Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit a Participant to satisfy such tax withholding obligation, in whole or in part by (without limitation) (i) paying cash, check or other cash equivalents, (ii) electing to have the Company withhold otherwise deliverable cash or Shares having a fair market value equal to the minimum statutory amount required to be withheld or such greater amount as the Administrator may determine if such amount would not have adverse accounting consequences, as the Administrator determines in its sole discretion, (iii) delivering to the Company already-owned Shares having a fair market value equal to the minimum statutory amount required to be withheld or such greater amount as the Administrator may determine, in each case, provided the delivery of such Shares will not result in any adverse accounting consequences, as the Administrator determines in its sole discretion, (iv) selling a sufficient number of Shares otherwise deliverable to the Participant through such means as the Administrator may determine in its sole discretion (whether through a broker or otherwise) equal to the amount required to be withheld, or (v) any combination of the foregoing methods of payment. The amount of the withholding requirement will be deemed to include any amount which the Administrator agrees may be withheld at the time the election is made, not to exceed the amount determined by using the maximum federal, state or local marginal income tax rates applicable to the Participant with respect to the Award on the date that the amount of tax to be withheld is to be determined or such greater amount as the Administrator may determine if such amount would not have adverse accounting consequences, as the Administrator

determines in its sole discretion. The fair market value of the Shares to be withheld or delivered will be determined as of the date that the taxes are required to be withheld.

(c) Compliance With Section 409A. Awards will be designed and operated in such a manner that they are either exempt from the application of, or comply with, the requirements of Section 409A such that the grant, payment, settlement or deferral will not be subject to the additional tax or interest applicable under Section 409A, except as otherwise determined in the sole discretion of the Administrator. The Plan and each Award Agreement under the Plan is intended to meet the requirements of Section 409A and will be construed and interpreted in accordance with such intent, except as otherwise determined in the sole discretion of the Administrator. To the extent that an Award or payment, or the settlement or deferral thereof, is subject to Section 409A the Award will be granted, paid, settled or deferred in a manner that will meet the requirements of Section 409A, such that the grant, payment, settlement or deferral will not be subject to the additional tax or interest applicable under Section 409A. In no event will the Company or any of its Subsidiaries or Parents have any obligation or liability under the terms of this Plan to reimburse, indemnify, or hold harmless any Participant or any other person in respect of Awards, for any taxes, interest or penalties imposed, or other costs incurred, as a result of Section 409A.

16. No Effect on Employment or Service. Neither the Plan nor any Award will confer upon a Participant any right with respect to continuing the Participant's relationship as a Service Provider, nor interfere in any way with the Participant's right or the right of the Company and its Subsidiaries or Parents, as applicable, to terminate such relationship at any time, with or without cause, to the extent permitted by Applicable Laws.

17. Date of Grant. The date of grant of an Award will be, for all purposes, the date on which the Administrator makes the determination granting such Award, or such other later date as is determined by the Administrator. Notice of the determination will be provided to each Participant within a reasonable time after the date of such grant.

18. Term of Plan. Subject to Section 22 of the Plan, the Plan will continue in effect until January 6, 2031, unless terminated earlier under Section 19 of the Plan.

19. Amendment and Termination of the Plan.

(a) Amendment and Termination. The Administrator, at any time, may amend, alter, suspend or terminate the Plan.

(b) Stockholder Approval. The Company will obtain stockholder approval of any Plan amendment to the extent necessary and desirable to comply with Applicable Laws.

(c) Effect of Amendment or Termination. No amendment, alteration, suspension or termination of the Plan will materially impair the rights of any Participant, unless mutually agreed otherwise between the Participant and the Administrator, which agreement must be in writing and signed by the Participant and the Company. Termination of the Plan will not affect the Administrator's ability to exercise the powers granted to it hereunder with respect to Awards granted under the Plan prior to the date of such termination.

20. Conditions Upon Issuance of Shares.

(a) Legal Compliance. Shares will not be issued pursuant to the exercise of an Award unless the exercise of such Award and the issuance and delivery of such Shares will comply with Applicable Laws and will be further subject to the approval of counsel for the Company with respect to such compliance.

(b) Investment Representations. As a condition to the exercise of an Award, the Company may require the person exercising such Award to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required.

21. Inability to Obtain Authority. The inability of the Company to obtain authority from any regulatory body having jurisdiction or to complete or comply with the requirements of any registration or other qualification of the Shares under any U.S. state or federal law or non-U.S. law or under the rules and regulations of the Securities and Exchange Commission, the stock exchange on which Shares of the same class are then listed, or any other governmental or regulatory body, which authority, registration, qualification or rule compliance is deemed by the Company's counsel to be necessary or advisable for the issuance and sale of any Shares hereunder, will relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority, registration, qualification or rule compliance will not have been obtained.

22. Stockholder Approval. The Plan will be subject to approval by the stockholders of the Company within twelve (12) months after the date the Plan is adopted by the Board. Such stockholder approval will be obtained in the manner and to the degree required under Applicable Laws.

23. Forfeiture Events. The Administrator may specify in an Award Agreement that the Participant's rights, payments, and benefits with respect to an Award will be subject to reduction, cancellation, forfeiture, recoupment, reimbursement, or reacquisition upon the occurrence of certain specified events, in addition to any otherwise applicable vesting or performance conditions of an Award. Notwithstanding any provisions to the contrary under this Plan, an Award will be subject to the Company's clawback policy as may be established and/or amended from time to time to comply with Applicable Laws (including without limitation pursuant to the listing standards of any national securities exchange or association on which the Company's securities are listed or as may be required by the Dodd-Frank Wall Street Reform and Consumer Protection Act) (the "Clawback Policy"). The Administrator may require a Participant to forfeit, return or reimburse the Company all or a portion of the Award and any amounts paid thereunder pursuant to the terms of the Clawback Policy or as necessary or appropriate to comply with Applicable Laws. Unless this Section 23 specifically is mentioned and waived in an Award Agreement or other document, no recovery of compensation under a Clawback Policy or otherwise will constitute an event that triggers or contributes to any right of a Participant to resign for "good reason" or "constructive termination" (or similar term) under any agreement with the Company or any Parent or Subsidiary of the Company.

* * *

OMNIOME EQUITY INCENTIVE PLAN OF

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.
GLOBAL STOCK OPTION AGREEMENT

NOTICE OF STOCK OPTION GRANT

Unless otherwise defined herein, the terms defined in the Omniome Equity Incentive Plan of Pacific Biosciences of California, Inc. (the "Plan") will have the same defined meanings in this Global Stock Option Agreement which includes the Notice of Stock Option Grant (the "Notice of Grant"), the Terms and Conditions of Stock Option Grant, attached hereto as Exhibit A, the Exercise Notice, attached hereto as Exhibit B and all other exhibits, appendices, and addenda attached hereto (together, the "Option Agreement").

Participant Name:
Address:

The undersigned Participant has been granted an Option to purchase Common Stock of Biosciences of California, Inc. (the "Company"), subject to the terms and conditions of the Plan and this Option Agreement, as follows:

Grant Number: _____

Date of Grant: _____

Vesting Commencement Date: _____

Exercise Price per Share (in U.S. Dollars): $_____

Total Number of Shares Subject to Option: _____

Total Exercise Price (in U.S. Dollars): $_____

Type of Option: Nonstatutory Stock Option

Term/Expiration Date: _____

Vesting Schedule:

Subject to any acceleration provisions contained in the Plan or this Option Agreement or any other written agreement between Participant and the Company or any applicable Subsidiary of the Company governing the terms of this Option, this Option will be scheduled to vest and be exercisable, in whole or in part, in accordance with the following schedule:

[*Insert Vesting Schedule, e.g.:* Twenty-five percent (25%) of the Total Number of Shares Subject to Option will be scheduled to vest on the one (1) year anniversary of the Vesting Commencement Date, and one forty-eighth (1/48th) of the Total Number of Shares Subject to Option will be scheduled to vest each month thereafter on the same day of the

month as the Vesting Commencement Date (and if there is no corresponding day, on the last day of the month), subject to Participant continuing to be a Service Provider through such applicable vesting dates.]

Termination Period:

In the event of cessation of Participant's status as a Service Provider, this Option will be exercisable, to the extent vested, for a period of [three (3) months] after Participant ceases to be a Service Provider, unless such termination is due to Participant's death or Disability, in which case the Option shall be exercisable, to the extent vested, for a period of [twelve (12) months] after Participant ceases to be a Service Provider. Notwithstanding the foregoing sentence, in no event may this Option be exercised after the Term/Expiration Date as provided above and this Option may be subject to earlier termination as provided in Section 14 of the Plan.

By Participant's signature and the signature of the representative of the Company below, Participant and the Company agree that this Option is granted under and governed by the terms and conditions of the Plan and this Option Agreement, including the Terms and Conditions of Stock Option Grant, attached hereto as Exhibit A, the Exercise Notice, attached hereto as Exhibit B, and all other exhibits, appendices and addenda attached hereto, all of which are made a part of this document. Participant acknowledges receipt of a copy of the Plan. Participant has reviewed the Plan and this Option Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Option Agreement and fully understands all provisions of the Plan, this Option and the Option Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions relating to the Plan or this Option Agreement. Participant further agrees to notify the Company upon any change in the residence address indicated below.

PARTICIPANT PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

Signature By

Print Name Title

Residence Address:

EXHIBIT A

TERMS AND CONDITIONS OF STOCK OPTION GRANT

1. Grant of Option.

(a) The Company hereby grants to the individual ("Participant") named in the Notice of Stock Option Grant of this Option Agreement (the "Notice of Grant") an option (the "Option") to purchase the number of Shares set forth in the Notice of Grant, at the exercise price per Share set forth in the Notice of Grant (the "Exercise Price"), subject to all of the terms and conditions in this Option Agreement, including any country-specific provisions set forth in Exhibit C, and the Plan, which is incorporated herein by this reference. Subject to Section 19(c) of the Plan, in the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Option Agreement, including any country-specific provisions set forth in Exhibit C, the terms and conditions of the Plan will prevail.

(b) The Option will be designated as a Nonstatutory Stock Option.

2. Vesting Schedule. Except as provided in Section 3, the Option awarded by this Option Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Unless specifically provided otherwise in this Option Agreement or other written agreement between Participant and the Company or any applicable Subsidiary of the Company governing the terms of this Option, Shares subject to this Option that are scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in accordance with any of the provisions of this Option Agreement, unless Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs. The Administrator will have the exclusive discretion to determine when Participant no longer is providing services for purposes of determining Service Provider status under this Option (including without limitation whether Participant will be considered to be providing services while on a leave of absence).

3. Discretionary Acceleration. The Administrator, in its discretion, may accelerate the vesting of the balance, or some lesser portion of the balance, of the unvested Option at any time, subject to the terms of the Plan. If so accelerated, such Option will be considered as having vested as of the date specified by the Administrator.

4. Exercise of Option.

(a) Right to Exercise. This Option may be exercised only within the term set out in the Notice of Grant, and may be exercised during such term only in accordance with the Vesting Schedule set out in the Notice of Option Grant and with the applicable provisions of the Plan and the terms of this Option Agreement.

(b) Method of Exercise. This Option is exercisable by delivery of an exercise notice (the "Exercise Notice") in the form attached as Exhibit B to the Notice of Grant or in a manner and pursuant to such procedures as the Administrator may determine, which will state the election to exercise the Option, the number of Shares in respect of which the Option is being exercised (the "Exercised Shares"), and such other representations and agreements as may be required by the

Company pursuant to the provisions of the Plan. The Exercise Notice will be completed by Participant and delivered to the Company. The Exercise Notice will be accompanied by payment of the aggregate Exercise Price as to all Exercised Shares and of any Tax Obligations (as defined in Section 6(a)). This Option will be deemed to be exercised upon receipt by the Company of such fully executed Exercise Notice accompanied by the aggregate Exercise Price, together with any applicable Tax Obligations.

5. Method of Payment. Payment of the aggregate Exercise Price will be by any of the following, or a combination thereof, at the election of Participant:

(a) cash in U.S. dollars;

(b) check designated in U.S. dollars;

(c) consideration received by the Company under a formal cashless exercise program adopted by the Company in connection with the Plan; or

(d) if Participant is a U.S. employee, surrender of other Shares which have a Fair Market Value on the date of surrender equal to the aggregate Exercise Price of the Exercised Shares and that are owned free and clear of any liens, claims, encumbrances, or security interests, provided that accepting such Shares, in the sole discretion of the Administrator, will not result in any adverse accounting consequences to the Company.

6. Tax Obligations.

(a) Responsibility for Taxes. Participant acknowledges that, regardless of any action taken by the Company or, if different, Participant's employer (the "Employer") or any Parent or Subsidiary of the Company to which Participant is providing services (together, the "Service Recipients"), the ultimate liability for any tax and/or social insurance liability obligations and requirements in connection with the Option, including, without limitation, (i) all federal, state, and local taxes (including Participant's Federal Insurance Contributions Act (FICA) obligations) that are required to be withheld by any Service Recipient or other payment of tax-related items related to Participant's participation in the Plan and legally applicable to Participant, (ii) Participant's and, to the extent required by any Service Recipient, the Service Recipient's fringe benefit tax liability, if any, associated with the grant, vesting, or exercise of the Option or sale of Shares, and (iii) any other Service Recipient taxes the responsibility for which Participant has, or has agreed to bear, with respect to the Option (or exercise thereof or issuance of Shares thereunder) (collectively, the "Tax Obligations"), is and remains Participant's sole responsibility and may exceed the amount actually withheld by the applicable Service Recipient(s). Participant further acknowledges that no Service Recipient (A) makes any representations or undertakings regarding the treatment of any Tax Obligations in connection with any aspect of the Option, including, but not limited to, the grant, vesting or exercise of the Option, the subsequent sale of Shares acquired pursuant to such exercise and the receipt of any dividends or other distributions, and (B) makes any commitment to and is under any obligation to structure the terms of the grant or any aspect of the Option to reduce or eliminate Participant's liability for Tax Obligations or achieve any particular tax result. Further, if Participant is subject to Tax Obligations in more than one jurisdiction between the Date of Grant and the date of any relevant taxable or tax withholding event, as applicable, Participant acknowledges that the

applicable Service Recipient(s) (or former employer, as applicable) may be required to withhold or account for Tax Obligations in more than one jurisdiction. If Participant fails to make satisfactory arrangements for the payment of any required Tax Obligations hereunder at the time of the applicable taxable event, Participant acknowledges and agrees that the Company may refuse to honor the exercise and/or issue or deliver the Shares.

(b) Tax Withholding. Pursuant to such procedures as the Administrator may specify from time to time, the applicable Service Recipient(s) shall withhold the amount required to be withheld for the payment of Tax Obligations. The Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit Participant to satisfy such Tax Obligations, in whole or in part (without limitation), if permissible by applicable local law, by (i) paying cash in U.S. dollars or by check designated in U.S. dollars, (ii) electing to have the Company withhold otherwise deliverable Shares having a fair market value equal to the minimum amount that is necessary to meet the withholding requirement for such Tax Obligations (or such greater amount as Participant may elect if permitted by the Administrator, if such greater amount would not result in adverse financial accounting consequences), (iii) having the amount of such Tax Obligations withheld from Participant's wages or other cash compensation paid to Participant by the applicable Service Recipient(s), (iv) delivering to the Company Shares that Participant owns and that have vested with a fair market value equal to the minimum withholding requirement for such Tax Obligations, or (v) selling a sufficient number of such Shares otherwise deliverable to Participant through such means as the Company may determine in its sole discretion (whether through a broker or otherwise) equal to the minimum amount that is necessary to meet the withholding requirement for such Tax Obligations (or such greater amount as Participant may elect if permitted by the Administrator, if such greater amount would not result in adverse financial accounting consequences). To the extent determined appropriate by the Administrator in its discretion, the Administrator will have the right (but not the obligation) to satisfy any Tax Obligations by reducing the number of Shares otherwise deliverable to Participant. If the Tax Obligations are satisfied by withholding in Shares, for tax purposes, Participant is deemed to have been issued the full number of Exercised Shares, notwithstanding that a number of the Shares are held back solely for the purpose of paying the Tax Obligations. Further, if Participant is subject to tax in more than one jurisdiction between the Date of Grant and a date of any relevant taxable or tax withholding event, as applicable, Participant acknowledges and agrees that the applicable Service Recipient(s) (and/or former employer, as applicable) may be required to withhold or account for tax in more than one jurisdiction.

(c) Section 409A. Under Section 409A, a stock right (such as the Option) that vests after December 31, 2004 (or that vested on or prior to such date but which was materially modified after October 3, 2004) that was granted with a per share exercise price that is determined by the Internal Revenue Service (the "IRS") to be less than the fair market value of an underlying share on the date of grant (a "discount option") may be considered "deferred compensation." A stock right that is a "discount option" may result in (i) income recognition by the recipient of the stock right prior to the exercise of the stock right, (ii) an additional twenty percent (20%) federal income tax, and (iii) potential penalty and interest charges. The "discount option" also may result in additional state income, penalty and interest tax to the recipient of the stock right. Participant acknowledges that the Company cannot and has not guaranteed that the IRS will agree that the per Share exercise price of this Option equals or exceeds the fair market value of a Share on the date of grant in a later examination. Participant agrees that if the IRS determines that the Option was granted with a per

Share exercise price that was less than the fair market value of a Share on the date of grant, Participant shall be solely responsible for Participant's costs related to such a determination. In no event will the Company or any of its Parent or Subsidiaries have any liability, responsibility or obligation to reimburse, indemnify, or hold harmless Participant for any taxes, penalties and interest that may be imposed, or other costs that may be incurred, as a result of Section 409A.

7. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until certificates representing such Shares (which may be in book entry form) will have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to Participant (including through electronic delivery to a brokerage account). After such issuance, recordation and delivery, Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares.

8. No Guarantee of Continued Service. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF SHARES PURSUANT TO THE VESTING SCHEDULE HEREOF IS EARNED ONLY BY CONTINUING AS A SERVICE PROVIDER, WHICH UNLESS PROVIDED OTHERWISE UNDER APPLICABLE LAW IS AT THE WILL OF THE APPLICABLE SERVICE RECIPIENT AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS OPTION OR ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS OPTION AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND SHALL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF ANY SERVICE RECIPIENT TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER, SUBJECT TO APPLICABLE LAW, WHICH TERMINATION, UNLESS PROVIDED OTHERWISE UNDER APPLICABLE LAW, MAY BE AT ANY TIME, WITH OR WITHOUT CAUSE.

9. Option is Not Transferable. This Option may not be transferred in any manner otherwise than by will or by the laws of descent or distribution and may be exercised during the lifetime of Participant only by Participant.

10. Insider Trading Restrictions/Market Abuses. Participant acknowledges that Participant may be subject to insider trading restrictions and/or market abuse laws in applicable jurisdictions, including the United States and Participant's country of residence, which may affect Participant's ability, directly or indirectly, for Participant or for a third party, to acquire or sell, or attempt to sell, Shares or rights to Shares under the Plan during such times as Participant is considered to have "inside information" regarding the Company (as defined by the laws in the applicable jurisdiction, including the United States and Participant's country of residence). Any restrictions under these laws or regulations are separate from and in addition to any restrictions that may be imposed under any applicable Company insider trading policy. Participant acknowledges that it is Participant's responsibility to be compliant with all such requirements and Participant should consult Participant's personal legal advisers to ensure compliance.

11. Foreign Asset/Account Reporting Requirements; Exchange Controls. Participant's country may have certain foreign asset and/or account reporting requirements and exchange controls which may affect Participant's ability to acquire or hold Shares under the Plan or cash received from participating in the Plan (including from any dividends received or sale proceeds arising from the sale of Shares) in a brokerage or bank account outside Participant's country. Participant understands that Participant may be required to report such accounts, assets or transactions to the tax or other authorities in Participant's country. Participant also may be required to repatriate sale proceeds or other funds received as a result of participation in the Plan to Participant's country through a designated bank or broker and/or within a certain time after receipt. In addition, Participant may be subject to tax payment and/or reporting obligations in connection with any income realized under the Plan and/or from the sale of Shares. Participant acknowledges that it is Participant's responsibility to be compliant with all such requirements, and that Participant should consult Participant's personal legal and tax advisers, as applicable, to ensure compliance.

12. Nature of Grant. In accepting the Option, Participant acknowledges, understands and agrees that:

(a) the grant of the Option is voluntary and occasional and does not create any contractual or other right to receive future grants of options, or benefits in lieu of options, even if options have been granted in the past;

(b) all decisions with respect to future option or other grants, if any, will be at the sole discretion of the Administrator;

(c) Participant is voluntarily participating in the Plan;

(d) the Option and any Shares acquired under the Plan are not intended to replace any pension rights or compensation;

(e) the Option and Shares acquired under the Plan and the income and value of same, are not part of normal or expected compensation for purposes of calculating any severance, resignation, termination, redundancy, dismissal, end-of-service payments, bonuses, long-service awards, holiday pay, pension or retirement or welfare benefits or similar payments;

(f) the future value of the Shares underlying the Option is unknown, indeterminable, and cannot be predicted with certainty;

(g) if the underlying Shares do not increase in value, the Option will have no value;

(h) if Participant exercises the Option and acquires Shares, the value of such Shares may increase or decrease in value, even below the Exercise Price;

(i) for purposes of the Option, Participant's status as a Service Provider will be considered terminated as of the date Participant is no longer actively providing services to the Company or any Parent or Subsidiary of the Company (regardless of the reason for such termination and whether or not later found to be invalid or in breach of employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's employment or service agreement, if

any), and unless otherwise expressly provided in this Option Agreement (including by reference in the Notice of Grant to other arrangements or contracts) or determined by the Administrator, (i) Participant's right to vest in the Option under the Plan, if any, will terminate as of such date and will not be extended by any notice period (*e.g.*, Participant's period of service would not include any contractual notice period or any period of "garden leave" or similar period mandated under employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's employment or service agreement, if any, unless Participant is providing bona fide services during such time); and (ii) the period (if any) during which Participant may exercise the Option after such termination of Participant's engagement as a Service Provider will commence on the date Participant ceases to actively provide services and will not be extended by any notice period mandated under employment laws in the jurisdiction where Participant is employed or terms of Participant's engagement agreement, if any; the Administrator shall have the exclusive discretion to determine when Participant is no longer actively providing services for purposes of this Option grant (including whether Participant may still be considered to be providing services while on a leave of absence and consistent with local law);

(j) unless otherwise provided in the Plan or by the Administrator in its discretion, the Option and the benefits evidenced by this Option Agreement do not create any entitlement to have the Option or any such benefits transferred to, or assumed by, another company nor be exchanged, cashed out or substituted for, in connection with any corporate transaction affecting the Shares; and

(k) the following provisions apply only if Participant is providing services outside the United States:

(i) the Option and the Shares subject to the Option are not part of normal or expected compensation or salary for any purpose;

(ii) Participant acknowledges and agrees that no Service Recipient shall be liable for any foreign exchange rate fluctuation between Participant's local currency and the United States Dollar that may affect the value of the Option or of any amounts due to Participant pursuant to the exercise of the Option or the subsequent sale of any Shares acquired upon exercise; and

(iii) no claim or entitlement to compensation or damages shall arise from forfeiture of the Option resulting from the termination of Participant's status as a Service Provider (for any reason whatsoever, whether or not later found to be invalid or in breach of employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's employment or service agreement, if any), and in consideration of the grant of the Option to which Participant is otherwise not entitled, Participant irrevocably agrees never to institute any claim against any Service Recipient, waives his or her ability, if any, to bring any such claim, and releases each Service Recipient from any such claim; if, notwithstanding the foregoing, any such claim is allowed by a court of competent jurisdiction, then, by participating in the Plan, Participant shall be deemed irrevocably to have agreed not to pursue such claim and agrees to execute any and all documents necessary to request dismissal or withdrawal of such claim.

13. No Advice Regarding Grant. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding Participant's participation in the

Plan, or Participant's acquisition or sale of the Shares underlying the Option. Participant is hereby advised to consult with his or her own personal tax, legal and financial advisers regarding his or her participation in the Plan before taking any action related to the Plan.

14. **Data Privacy**. ***Participant hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of Participant's personal data as described in this Option Agreement and any other Option grant materials by and among, as applicable, the Service Recipients for the exclusive purpose of implementing, administering and managing Participant's participation in the Plan.***

Participant understands that the Company and the Service Recipient may hold certain personal information about Participant, including, but not limited to, Participant's name, home address, email address and telephone number, date of birth, social insurance number, passport or other identification number (e.g., resident registration number), salary, nationality, job title, any Shares or directorships held in the Company, details of all equity awards or any other entitlement to Shares awarded, canceled, exercised, vested, unvested or outstanding in Participant's favor ("Data"), for the exclusive purpose of implementing, administering and managing the Plan.

Participant understands that Data may be transferred to a stock plan service provider, as may be selected by the Company in the future, assisting the Company with the implementation, administration and management of the Plan. Participant understands that the recipients of the Data may be located in the United States or elsewhere, and that the recipients' country of operation (e.g., the United States) may have different data privacy laws and protections than Participant's country. Participant understands that if he or she resides outside the United States, he or she may request a list with the names and addresses of any potential recipients of the Data by contacting his or her local human resources representative. Participant authorizes the Company, any stock plan service provider selected by the Company and any other possible recipients which may assist the Company (presently or in the future) with implementing, administering and managing the Plan to receive, possess, use, retain and transfer the Data, in electronic or other form, for the sole purpose of implementing, administering and managing his or her participation in the Plan. Participant understands that Data will be held only as long as is necessary to implement, administer and manage Participant's participation in the Plan. Participant understands if he or she resides outside the United States, he or she may, at any time, view Data, request additional information about the storage and processing of Data, require any necessary amendments to Data or refuse or withdraw the consents herein, in any case without cost, by contacting in writing his or her local human resources representative. Further, Participant understands that he or she is providing the consents herein on a purely voluntary basis. If Participant does not consent, or if Participant later seeks to revoke his or her consent, his or her status as a Service Provider and career with the Service Recipient will not be adversely affected. The only adverse consequence of refusing or withdrawing Participant's consent is that the Company would not be able to grant Participant Options or other equity awards or administer or maintain such awards. Therefore, Participant understands that refusing or withdrawing his or her consent may affect Participant's ability to participate in the Plan. For more information on the consequences of Participant's refusal to consent or withdrawal of consent, Participant understands that he or she may contact his or her local human resources representative.

15. Address for Notices. Any notice to be given to the Company under the terms of this Option Agreement will be addressed to the Company, in care of its Chief Financial Officer at Pacific Biosciences of California, Inc., 1305 O'Brien Drive, Menlo Park, CA 94025, or at such other address as the Company may hereafter designate in writing.

16. Electronic Delivery and Acceptance. The Company may, in its sole discretion, decide to deliver any documents related to the Option awarded under the Plan or future options that may be awarded under the Plan by electronic means or require Participant to participate in the Plan by electronic means. Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through any on-line or electronic system established and maintained by the Company or a third party designated by the Company.

17. No Waiver. Either party's failure to enforce any provision or provisions of this Option Agreement shall not in any way be construed as a waiver of any such provision or provisions, nor prevent that party from thereafter enforcing each and every other provision of this Option Agreement. The rights granted both parties herein are cumulative and shall not constitute a waiver of either party's right to assert all other legal remedies available to it under the circumstances.

18. Successors and Assigns. The Company may assign any of its rights under this Option Agreement to single or multiple assignees, and this Option Agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer herein set forth, this Option Agreement shall be binding upon Participant and his or her heirs, executors, administrators, successors and assigns. The rights and obligations of Participant under this Option Agreement may be assigned only with the prior written consent of the Company.

19. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or rule compliance of the Shares upon any securities exchange or under any U.S. federal, state, local or non-U.S. law, the tax code and related regulations or under the rulings or regulations of the United States Securities and Exchange Commission or any other governmental regulatory body, or under any Applicable Laws, or the clearance, consent or approval of the United States Securities and Exchange Commission or any other governmental regulatory authority is necessary or desirable as a condition to the exercise of the Options or the purchase by, or issuance of Shares, to Participant (or his or her estate) hereunder, such exercise, purchase or issuance will not occur unless and until such listing, registration, qualification, rule compliance, clearance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. Subject to the terms of the Option Agreement and the Plan, the Company shall not be required to issue any certificate or certificates for (or make any entry on the books of the Company or of a duly authorized transfer agent of the Company of) the Shares hereunder prior to the lapse of such reasonable period of time following the date of exercise of the Option as the Administrator may establish from time to time for reasons of administrative convenience. The Company will make all reasonable efforts to meet the requirements of any such Applicable Laws and to obtain any such registration, qualification, rule compliance, clearance, consent or approval of any such governmental regulatory authority.

20. Language. If Participant has received this Option Agreement or any other document related to the Plan translated into a language other than English and if the meaning of the translated version is different than the English version, the English version will control.

21. Interpretation. The Administrator will have the power to interpret the Plan and this Option Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not any Shares subject to the Option have vested). All actions taken and all interpretations and determinations made by the Administrator in good faith will be final and binding upon Participant, the Company and all other interested persons. Neither the Administrator nor any person acting on behalf of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Option Agreement.

22. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Option Agreement.

23. Amendment, Suspension or Termination of the Plan. By accepting this Option, Participant expressly warrants that he or she has received an Option under the Plan, and has received, read and understood a description of the Plan. Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Administrator at any time.

24. Governing Law; Venue; Severability. This Option Agreement and the Option are governed by the internal substantive laws, but not the choice of law rules, of the State of California. For purposes of litigating any dispute that arises under this Option or this Option Agreement, the parties hereby submit to and consent to the jurisdiction of the State of California, and agree that such litigation will be conducted in the courts of San Mateo County, California, or the United States federal courts for the Northern District of California, and no other courts, where this Option Agreement is made and/or to be performed. In the event that any provision in this Option Agreement, including the country-specific provisions set forth in an attachment to this Option Agreement (if any), will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Option Agreement.

25. Modifications to the Option Agreement. This Option Agreement constitutes the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Option Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Option Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Option Agreement, the Company reserves the right to revise this Option Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Section 409A in connection with the Option. Further, the Company reserves the right to impose other requirements on Participant's participation in the Plan, on this Option and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable for legal or administrative reasons, and to require Participant to execute any additional agreements or undertakings that may be necessary to accomplish the foregoing.

26. Tax Consequences. Participant has reviewed with his or her own tax advisers the U.S. federal, state, local and non-U.S. tax consequences of this investment and the transactions contemplated by this Option Agreement. With respect to such matters, Participant relies solely on such advisers and not on any statements or representations of the Company or any of its agents, written or oral. Participant understands that Participant (and not the Company) shall be responsible for Participant's own tax liability that may arise as a result of this investment or the transactions contemplated by this Option Agreement.

27. Entire Agreement. The Plan is incorporated herein by this reference. The Plan and this Option Agreement (including the appendices and exhibits referenced herein) constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and Participant with respect to the subject matter hereof, and may not be modified adversely to the Participant's interest except by means of a writing signed by the Company and Participant.

28. Country Addendum. This Option shall be subject to any special terms and conditions set forth in an exhibit, appendix, addendum or other attachment (if any) to this Option Agreement for any country whose laws are applicable to Participant and this Option (as determined by the Administrator in its sole discretion (the "Country Addendum"). Moreover, if Participant relocates to one of the countries included in the Country Addendum (if any), the special terms and conditions for such country will apply to Participant, to the extent the Company determines that the application of such terms and conditions is necessary or advisable for legal or administrative reasons. The Country Addendum (if any) constitutes a part of this Option Agreement.

* * *

EXHIBIT B

OMNIOME EQUITY INCENTIVE PLAN OF

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.

EXERCISE NOTICE

Pacific Biosciences of California, Inc.
1305 O'Brien Drive
Menlo Park, CA 94025

Attention: Chief Financial Officer

1. Exercise of Option. Effective as of today, _____, _____, the undersigned ("Purchaser") hereby elects to purchase _____ shares (the "Shares") of the Common Stock of Pacific Biosciences of California, Inc. (the "Company") under and pursuant to the Omniome Equity Incentive Plan of Pacific Biosciences of California, Inc. (the "Plan") and the Global Stock Option Agreement, dated _____ and including the Notice of Grant, the Terms and Conditions of Stock Option Grant, the Country Addendum attached as Exhibit C thereto, and other exhibits, appendices and addenda attached thereto (the "Option Agreement"). Unless otherwise defined herein, capitalized terms used in this Exercise Notice shall be ascribed the same defined meanings as set forth in the Option Agreement (or, as applicable, the Plan or other written agreement or arrangement as specified in the Option Agreement).

2. Delivery of Payment. Purchaser herewith delivers to the Company the full purchase price of the Shares and any Tax Obligations (as defined in Section 6(a) of the Option Agreement) to be paid in connection with the exercise of the Option.

3. Representations of Purchaser. Purchaser acknowledges that Purchaser has received, read and understood the Plan and the Option Agreement (including Exhibit C) and agrees to abide by and be bound by their terms and conditions.

4. Rights as Stockholder. Until the issuance (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) of the Shares, no right to vote or receive dividends or any other rights as a stockholder will exist with respect to the Shares subject to the Option, notwithstanding the exercise of the Option. The Shares so acquired will be issued to Purchaser as soon as practicable after the Option is exercised in accordance with the Option Agreement. No adjustment will be made for a dividend or other right for which the record date is prior to the date of issuance, except as provided in Section 14 of the Plan.

5. Tax Consultation. Purchaser understands that Purchaser may suffer adverse tax consequences as a result of Purchaser's purchase or disposition of the Shares. Purchaser represents that Purchaser has consulted with any tax consultants Purchaser deems advisable in connection with

the purchase or disposition of the Shares and that Purchaser is not relying on the Company for any tax advice.

6. Entire Agreement; Governing Law. The Plan and Option Agreement are incorporated herein by this reference. This Exercise Notice, the Plan and the Option Agreement (including the exhibits, appendices, and addenda thereto) constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and Purchaser with respect to the subject matter hereof, and may not be modified adversely to the Purchaser's interest except by means of a writing signed by the Company and Purchaser. This Option Agreement is governed by the internal substantive laws, but not the choice of law rules, of California.

Submitted by:	Accepted by:
PURCHASER	PACIFIC BIOSCIENCES OF CALIFORNIA, INC.
Signature	Signature
Print Name	Print Name
Address:	Title
	Date Received

EXHIBIT C

GLOBAL STOCK OPTION AGREEMENT

COUNTRY ADDENDUM

This Country Addendum includes additional terms and conditions that govern the Option granted to the terms and conditions of the Omniome Equity Incentive Plan of Pacific Biosciences of California, Inc. (the "Plan") and the Global Stock Option Agreement to which this Country Addendum is attached (the "Option Agreement") to the extent the individual to whom the Option was granted ("Participant") resides in one of the countries listed below. Capitalized terms used but not defined herein will have the meanings set forth in the Option Agreement or the Plan, as applicable.

This Country Addendum also includes information regarding exchange controls and certain other issues of which Participant should be aware with respect to Participant's participation in the Plan. The information is based on the securities, exchange control and other laws in effect in the respective countries as of **[August 2020]**. Such laws often are complex and change frequently. As a result, the Company strongly recommends that Participant not rely on the information in this Country Addendum as the only source of information relating to the consequences of Participant's participation in the Plan because the information may be out of date at the time Participant exercises the Option, acquires Shares or sells Shares acquired under the Plan.

In addition, the information contained herein is general in nature and may not apply to Participant's particular situation, and the Company is not in a position to assure Participant of any particular result. Accordingly, Participant is advised to seek appropriate professional advice as to how the relevant laws in Participant's country may apply to Participant's situation.

Finally, if Participant is a citizen or resident of a country other than the one in which Participant is currently is working or transfers to another country after the grant of the Option, is considered a resident of another country for local law purposes, the information contained herein may not be applicable to Participant in the same manner. In addition, the Company, in its sole discretion, shall determine the extent to which the terms and conditions contained herein shall apply to Participant under these circumstances.

[**Australia**

Notifications

Tax Information. The Plan is a plan to which Subdivision 83A-C of the Income Tax Assessment Act 1997 (Cth) applies (subject to the conditions in that Act).

Securities Law Information. If Participant acquires Shares under the Plan and subsequently offers the Shares for sale to a person or entity resident in Australia, such an offer may be subject to disclosure requirements under Australian law and Participant should obtain legal advice regarding any applicable disclosure requirements prior to making any such offer.

Canada

Terms and Conditions

Method of Payment. This provision supplements Section 5 of the Option Agreement:

Due to tax considerations in Canada, Participant may not pay the exercise price or Tax Obligations by surrendering Shares that he or she already owns or by attesting to the ownership of Shares.

Nature of Grant. This provision replaces Section 12(i) of the Option Agreement:

For purposes of the Option grant, Participant's employment or service relationship will be considered terminated as of the date that is the earlier of: (i) the date Participant's employment is terminated, (ii) the date Participant receives notice of termination, and (iii) the date Participant is no longer actively providing services to the Company or any Parent or Subsidiary of the Company (regardless of the reason for such termination and whether or not later found to be invalid or in breach of employment laws in the jurisdiction where Participant is employed or the terms of Participant's employment agreement, if any) and, unless otherwise expressly provided in this Agreement or determined by the Company, (i) Participant's right to vest in the Option will terminate as of such date and will not be extended by any notice period (*e.g.*, Participant's period of service would not include any contractual notice period or any period of "garden leave" or similar period mandated under employment laws in the jurisdiction where Participant is employed or the terms of Participant's employment agreement, if any), and (ii) Participant's right, if any, to exercise the Option after termination of employment or service will be measured by such date and will not be extended by any notice period; the Administrator, in its sole discretion, shall determine when Participant is no longer actively providing services for purposes of this Option grant (including whether Participant may still be considered to be providing services while on a leave of absence).

The following provisions will apply to Participant if he or she is a resident of Quebec:

Language Consent. The parties acknowledge that it is their express wish that the Option Agreement, including this Appendix, as well as all documents, notices, and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English.

Consentement Relatif à la Langue Utilisée. *Les parties reconnaissent avoir expressément souhaité que la convention («Option Agreement») ainsi que cette Annexe, ainsi que tous les documents, avis et procédures judiciares, éxécutés, donnés ou intentés en vertu de, ou liés directement ou indirectement à la présente convention, soient rédigés en langue anglaise.*

Data Privacy. This provision supplements Section 14 of the Option Agreement:

Participant hereby authorizes the Company and the Company's representatives to discuss with and obtain all relevant information from all personnel, professional or not, involved in the administration and operation of the Plan. Participant further authorizes the Company and the Company's Parent or Subsidiary employing or retaining Participant to disclose and discuss Participant's participation in the Plan with their respective advisers. Participant further authorizes the Company and the Company's

Parent or Subsidiary employing or retaining Participant to record such information and to keep such information in Participant's employee file.

Notifications

Securities Law Information. Participant understands that Participant is permitted to sell Shares acquired pursuant to the Plan through the designated broker appointed under the Plan, if any, provided the sale of the Shares acquired pursuant to the Plan takes place outside of Canada through the facilities of a stock exchange on which the Shares are listed. The Company's common stock are currently traded on the NASDAQ Global Select Market, which is located outside of Canada, under the ticker symbol "PACB" and Shares acquired under the Plan may be sold through this exchange.

Foreign Asset/Account Reporting Information. Foreign specified property, including Shares and rights to Shares (*e.g.*, Options), held by a Canadian resident must be reported annually on Form T1135 (Foreign Income Verification Statement) if the total cost of such foreign specified property exceeds C$100,000 at any time during the year. If applicable, Form T1135 is due by April 30th of the following year. Options must be reported – generally at a nil cost – if the C$100,000 cost threshold is exceeded because of other foreign specified property held by the resident. When Shares are acquired, their cost generally is the adjusted cost base ("ACB") of the Shares. The ACB would ordinarily equal the fair market value of the Shares at the time of acquisition, but if other Shares are owned, this ACB may have to be averaged with the ACB of the other Shares. *Participant is responsible for ensuring his or her compliance with any applicable reporting obligations and should speak to his or her personal legal adviser on this matter.*

France

Terms and Conditions

Type of Option. The Option is not intended to qualify for specific tax or social security treatment in France.

Language Consent. By accepting the Option Agreement providing for the terms and conditions of the grant, Participant confirms having read and understood the documents relating to this grant (the Plan and this Option Agreement) which were provided in English language. Participant accepts the terms of those documents accordingly.

Consentement Relatif à la Langue Utilisée. *En acceptant le Contrat d'Attribution décrivant les termes et conditions de l'attribution, le Participant confirme avoir lu et compris les documents relatifs à cette attribution (le Plan et ce Contrat d'Attribution) qui ont été communiqués en langue anglaise. Le Participant accepte les termes de ces documents en connaissance de cause.*

Germany

Notifications

Exchange Control Information. Cross-border payments in excess of €12,500 must be reported electronically, on a monthly basis, to the *Servicezentrum Außenwirtschaftsstatistik*, which is the competent federal office of the *Deutsche Bundesbank* (the German Central Bank) for such notifications in Germany. The *Allgemeinesc Meldeportal Statistik* (General Statistics Reporting Portal) can be accessed at www.bundesbank.de.

Japan

Notifications

Exchange Control Information. If the payment amount to purchase Shares in one transaction exceeds ¥30,000,000, Participant must file a Payment Report with the Ministry of Finance (the "MOF") (through the Bank of Japan or the bank through which the payment was effected). If the payment amount to purchase Shares in one transaction exceeds ¥100,000,000, Participant must file a Securities Acquisition Report, in addition to a Payment Report, with the MOF (through the Bank of Japan).

Foreign Asset / Account Reporting Information. Participant will be required to report details of any assets held outside of Japan as of December 31st to the extent such assets have a total net fair market value exceeding ¥50,000,000. Such report will be due by March 15th each year. *Participant should consult with his or her personal tax adviser as to whether the reporting obligation applies to him or her and whether the requirement extends to any outstanding Options, Shares and/or cash acquired under the Plan.*

Netherlands

There are no country-specific provisions.

Singapore

Notifications

Securities Law Information. The grant of the Option under the Plan is being made pursuant to the "Qualifying Person" exemption under section 273(1)(f) of the Securities and Futures Act (Chapter 289, 2006 Ed.) ("SFA"). The Plan has not been lodged or registered as a prospectus with the Monetary Authority of Singapore. Participant should note that the Option is subject to section 257 of the SFA and the Participant should not make (i) any subsequent sale of the Shares in Singapore or (ii) any offer of such subsequent sale of the Shares subject to the Option in Singapore, unless such sale or offer is made more than six (6) months after the Date of Grant or pursuant to the exemptions under Part XIII Division 1 Subdivision (4) (other than section 280) of the SFA. The Company's common stock is traded on the Nasdaq Global Select Market, which is located outside of Singapore, under the ticker symbol "PACB" and Shares acquired under the Plan may be sold through this exchange.

CEO and Director Notification Information. If Participant is the Chief Executive Officer ("CEO") or a director, associate director or shadow director[1] of a Singaporean Parent or Subsidiary, Participant is subject to certain notification requirements under the Singapore Companies Act. Among these requirements is an obligation to notify the Singaporean Parent or Subsidiary in writing when Participant receives an interest (*e.g.*, an Option or Shares) in the Company. In addition, Participant must notify the Singaporean Parent or Subsidiary when Participant disposes of an interest in the Company (including when Participant sells Shares acquired at exercise of the Option). These notifications must be made within two (2) business days of (i) acquiring or disposing of any interest in the Company, (ii) any change in a previously-disclosed interest (*e.g.*, upon exercise of the options or when Shares acquired under the Plan are subsequently sold), or (iii) becoming the CEO or a director, associate director or shadow director if such an interest exists at such time.

Switzerland

Notifications

Securities Law Information. The grant of the Option under the Plan is considered a private offering in Switzerland and is therefore not subject to registration in Switzerland. Neither this document nor any other materials relating to the Option constitute a prospectus as such term is understood pursuant to article 652a of the Swiss Code of Obligations, and neither this document nor any other materials relating to the Option may be publicly distributed nor otherwise made publicly available in Switzerland. Neither this document nor any other offering or marketing material relating to the Option has been filed with, approved, or supervised by any Swiss regulatory authority (in particular, the Swiss Financial Market Supervisory Authority (FINMA)).

Taiwan

Notifications

Securities Law Information. The offer of the Option and the Shares to be issued upon exercise of the Option is available only for employees of the Company and any Parent or Subsidiary. It is not a public offer of securities by a Taiwanese company; therefore, it is exempt from registration in Taiwan.

Exchange Control Information. Participant may acquire and remit foreign currency (including funds for the purchase of Shares and proceeds from the sale of Shares) up to US$5,000,000 per year without justification. If the transaction amount is TWD500,000 or more in a single transaction, Participant must submit a Foreign Exchange Transaction Form. If the transaction amount is US$500,000 or more in a single transaction, Participant must also provide supporting documentation to the satisfaction of the remitting bank.

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[1] A shadow director is an individual who is not on the board of directors of the Singapore Subsidiary but who has sufficient control so that the board of directors of the Singapore Parent or Subsidiary acts in accordance with the directions and instructions of the individual.

United Kingdom

Terms and Conditions

Tax Obligations. The following provision supplements Section 6 of the Option Agreement:

Without limitation to Section 6 of the Option Agreement, Participant agrees that Participant is liable for all Tax Obligations and hereby covenants to pay all such Tax Obligations, as and when requested by the Company or the Company's Parent or Subsidiary employing or retaining Participant or by Her Majesty's Revenue and Customs ("HMRC") (or any other tax authority or any other relevant authority). Participant also agrees to indemnify and keep indemnified the Company and the Company's Parent or Subsidiary employing or retaining Participant against any Tax–Related Items that they are required to pay or withhold on Participant's behalf or have paid or will pay to HMRC (or any other tax authority or any other relevant authority).]

* * *

OMNIOME EQUITY INCENTIVE PLAN OF

PACIFIC BIOSCIENCES OF CALIFORNIA, INC.
GLOBAL RESTRICTED STOCK UNIT AGREEMENT

NOTICE OF RESTRICTED STOCK UNIT GRANT

Unless otherwise defined herein, the terms defined in the Omniome Equity Incentive Plan of Pacific Biosciences of California, Inc. (the "Plan") will have the same defined meanings in this Global Restricted Stock Unit Agreement which includes the Notice of Restricted Stock Unit Grant (the "Notice of Grant"), the Terms and Conditions of Restricted Stock Unit Grant, attached hereto as Exhibit A, and all other exhibits, appendices, and addenda attached hereto (the "Award Agreement").

Participant Name:
Address:

The undersigned Participant has been granted an Award of Restricted Stock Units, subject to the terms and conditions of the Plan and this Award Agreement, as follows:

Grant Number: _____

Date of Grant: _____

Vesting Commencement Date: _____

Total Number of Restricted Stock Units: _____

Vesting Schedule:

Subject to any acceleration provisions contained in the Plan or this Award Agreement or any other written agreement between Participant and the Company or any applicable Subsidiary of the Company governing the terms of this Award, the Restricted Stock Units (the "RSUs") will be scheduled to vest in accordance with the following schedule:

[*Insert Vesting Schedule, e.g.:* Twenty-five percent (25%) of the Total Number of Restricted Stock Units will be scheduled to vest on each of the one (1), two (2), three (3) and four (4) year anniversaries of the Vesting Commencement Date, subject to Participant continuing to be a Service Provider through such applicable vesting dates.]

By Participant's signature and the signature of the representative of Pacific Biosciences of California, Inc. (the "Company") below, Participant and the Company agree that this Award of Restricted Stock Units is granted under and governed by the terms and conditions of the Plan and this Award Agreement, including the Terms and Conditions of Restricted Stock Unit Grant, attached hereto as Exhibit A, and all other exhibits, appendices and addenda attached hereto, all of which are made a part of this document. Participant acknowledges receipt of a copy of the Plan. Participant has reviewed the Plan and this Award Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Award Agreement and fully understands all provisions of the

Plan and this Award Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions relating to the Plan and Award Agreement. Participant further agrees to notify the Company upon any change in the residence address indicated below.

PARTICIPANT	PACIFIC BIOSCIENCES OF CALIFORNIA, INC.
Signature	By
Print Name	Title
Residence Address:	

EXHIBIT A

TERMS AND CONDITIONS OF RESTRICTED STOCK UNIT GRANT

1. Grant of Restricted Stock Units. The Company hereby grants to the individual ("Participant") named in the Notice of Grant of Restricted Stock Units of this Award Agreement (the "Notice of Grant") under the Plan an Award of Restricted Stock Units, and subject to all of the terms and conditions of this Award Agreement, including any country-specific provisions set forth in Exhibit B, and the Plan, which is incorporated herein by reference. Subject to Section 19(c) of the Plan, in the event of a conflict between the terms and conditions of the Plan and this Award Agreement, including any country-specific provisions set forth in Exhibit B, the terms and conditions of the Plan shall prevail.

2. Company's Obligation to Pay. Each Restricted Stock Unit represents the right to receive a Share on the date it vests. Unless and until the Restricted Stock Units will have vested in the manner set forth in Section 3 or 4, Participant will have no right to payment of any such Restricted Stock Units. Prior to actual payment of any vested Restricted Stock Units, such Restricted Stock Unit will represent an unsecured obligation of the Company, payable (if at all) only from the general assets of the Company.

3. Vesting Schedule. Except as provided in Section 4, and subject to Section 5, the Restricted Stock Units awarded by this Award Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Unless specifically provided otherwise in this Award Agreement or other written agreement between Participant and the Company or any applicable Subsidiary of the Company governing the terms of this Award, Restricted Stock Units that are scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in accordance with any of the provisions of this Award Agreement, unless Participant will have been continuously a Service Provider from the Date of Grant through the applicable vesting date. The Administrator will have the exclusive discretion to determine when Participant no longer is providing services for purposes of determining Service Provider status under this Award of Restricted Stock Units (including without limitation whether Participant will be considered to be providing services while on a leave of absence).

4. Payment after Vesting.

(a) General Rule. Subject to Section 8, any Restricted Stock Units that vest will be paid to Participant (or in the event of Participant's death, to his or her properly designated beneficiary or estate) in whole Shares. Subject to the provisions of this Section 4, such vested Restricted Stock Units shall be paid in whole Shares as soon as practicable after vesting, but in each such case within sixty (60) days following the vesting date. In no event will Participant be permitted, directly or indirectly, to specify the taxable year of payment of any Restricted Stock Units payable under this Award Agreement.

(b) Acceleration.

(i) Discretionary Acceleration. The Administrator, in its discretion, may accelerate the vesting of the balance, or some lesser portion of the balance, of the unvested Restricted

Stock Units at any time, subject to the terms of the Plan. If so accelerated, such Restricted Stock Units will be considered as having vested as of the date specified by the Administrator. If Participant is a U.S. taxpayer, the payment of Shares vesting pursuant to this Section 4 in all cases shall be paid at a time or in a manner that is exempt from, or complies with, Section 409A. The prior sentence may be superseded in a future agreement or amendment to this Award Agreement only by direct and specific reference to such sentence.

(ii) Notwithstanding anything in the Plan or this Award Agreement or any other agreement (whether entered into before, on or after the Date of Grant) to the contrary, if the vesting of the balance, or some lesser portion of the balance, of the Restricted Stock Units is accelerated in connection with the cessation of Participant's status as an Employee or other Service Provider (provided that such termination is a "separation from service" within the meaning of Section 409A, as determined by the Company), other than due to Participant's death, and if (x) Participant is a U.S. taxpayer and a "specified employee" within the meaning of Section 409A at the time of such termination as a Service Provider and (y) the payment of such accelerated Restricted Stock Units will result in the imposition of additional tax under Section 409A if paid to Participant on or within the six (6) month period following the cessation of Participant's status as a Service Provider, then the payment of such accelerated Restricted Stock Units will not be made until the date six (6) months and one (1) day following the date of cessation of such Participant's status, unless Participant dies following cessation of such Participant's status, in which case, the Restricted Stock Units will be paid in Shares to Participant's estate as soon as practicable following his or her death.

(c) Section 409A. It is the intent of this Award Agreement that it and all payments and benefits to U.S. taxpayers hereunder be exempt from, or comply with, the requirements of Section 409A so that none of the Restricted Stock Units provided under this Award Agreement or Shares issuable thereunder will be subject to the additional tax imposed under Section 409A, and any ambiguities or ambiguous terms herein will be interpreted to be so exempt or to so comply. Each payment payable under this Award Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2). However, in no event will the Company or any of its Parents or Subsidiaries have any liability, responsibility or obligation to reimburse, indemnify, or hold harmless Participant for any taxes, penalties and interest that may be imposed, or other costs that may be incurred, as a result of Section 409A.

5. Forfeiture Upon Termination as a Service Provider. Unless specifically provided otherwise in this Award Agreement or other written agreement between Participant and the Company or any of its Subsidiaries or Parents, as applicable, if Participant ceases to be a Service Provider for any or no reason, the then-unvested Restricted Stock Units awarded by this Award Agreement will thereupon be forfeited at no cost to the Company and Participant will have no further rights thereunder.

6. Death of Participant. Any distribution or delivery to be made to Participant under this Award Agreement, if Participant is then deceased, will be made to Participant's designated beneficiary (if applicable and to the extent the Administrator has permitted such beneficiary designation with respect to this Award) or, absent a designated beneficiary or if no beneficiary survives Participant, the administrator or executor of Participant's estate. Any such transferee must furnish the Company with (a) written notice of his or her status as transferee, and (b) evidence satisfactory to the Company to establish the validity of the transfer and compliance with any laws or regulations pertaining to said transfer.

7. Tax Obligations

(a) Responsibility for Taxes. Participant acknowledges that, regardless of any action taken by the Company or, if different, Participant's employer (the "Employer") or any Parent or Subsidiary of the Company to which Participant is providing services (together, the "Service Recipients"), the ultimate liability for any tax and/or social insurance liability obligations and requirements in connection with the Restricted Stock Units, including, without limitation, (i) all federal, state, and local taxes (including Participant's Federal Insurance Contributions Act (FICA) obligations) that are required to be withheld by any Service Recipient or other payment of tax-related items related to Participant's participation in the Plan and legally applicable to Participant, (ii) Participant's and, to the extent required by any Service Recipient, the Service Recipient's fringe benefit tax liability, if any, associated with the grant, vesting, or settlement of the Restricted Stock Units or sale of Shares, and (iii) any other Service Recipient taxes the responsibility for which Participant has, or has agreed to bear, with respect to the Restricted Stock Units (or settlement thereof or issuance of Shares thereunder) (collectively, the "Tax Obligations"), is and remains Participant's sole responsibility and may exceed the amount actually withheld by the applicable Service Recipient(s). Participant further acknowledges that no Service Recipient (A) makes any representations or undertakings regarding the treatment of any Tax Obligations in connection with any aspect of the Restricted Stock Units, including, but not limited to, the grant, vesting or settlement of the Restricted Stock Units, the subsequent sale of Shares acquired pursuant to such settlement and the receipt of any dividends or other distributions, and (B) makes any commitment to and is under any obligation to structure the terms of the grant or any aspect of the Restricted Stock Units to reduce or eliminate Participant's liability for Tax Obligations or achieve any particular tax result.

(b) Tax Withholding. Pursuant to such procedures as the Administrator may specify from time to time, the Service Recipient shall withhold the amount required to be withheld for the payment of Tax Obligations. The Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit Participant to satisfy such Tax Obligations, in whole or in part (without limitation), if permissible by applicable local law, by (i) paying cash in U.S. dollars, (ii) electing to have the Company withhold otherwise deliverable Shares having a fair market value equal to the minimum amount that is necessary to meet the withholding requirement for such Tax Obligations (or such greater amount as Participant may elect if permitted by the Administrator, if such greater amount would not result in adverse financial accounting consequences), (iii) withholding the amount of such Tax Obligations from Participant's wages or other cash compensation paid to Participant by the applicable Service Recipient(s), (iv) delivering to the Company Shares that Participant owns and that already have vested with a fair market value equal to the Tax Obligations (or such greater amount as Participant may elect if permitted by the Administrator, if such greater amount would not result in adverse financial accounting consequences), (v) selling a sufficient number of such Shares otherwise deliverable to Participant, through such means as the Company may determine in its sole discretion (whether through a broker or otherwise) equal to the minimum amount that is necessary to meet the withholding requirement for such Tax Obligations (or such greater amount as Participant may elect if permitted by the Administrator, if such greater amount would not result in adverse financial accounting consequences), or (v) such other means as the Administrator deems appropriate. Further, if Participant is subject to Tax Obligations in more than one jurisdiction between the Date of Grant and the date of any relevant taxable or tax withholding event, as applicable, Participant acknowledges that the applicable Service Recipient(s) (or former employer, as applicable) may be required to withhold or account for Tax Obligations in more than one

jurisdiction. If the Tax Obligations are satisfied by withholding in Shares, for tax purposes, Participant is deemed to have been issued the full number of Shares subject to the vested Restricted Stock Units, notwithstanding that a number of the Shares are held back solely for the purpose of paying the Tax Obligations. **If Participant is an officer of the Company within the meaning of Section 16 of the Exchange Act, then the Company will withhold from proceeds of the sale of a sufficient number of Shares otherwise deliverable to Participant to satisfy the Tax Obligations and any associated broker or other fees upon the relevant taxable or tax withholding event, as applicable, and Participant agrees and acknowledges that Participant may not satisfy them by any means other than such sale of Shares, unless required to do so by the Administrator.** To the extent the use of such withholding method is problematic under Applicable Laws or has materially adverse accounting consequences, then the Tax Obligations may be satisfied by one or a combination of the methods specified under clauses (i), (ii), (iii) and (v) above.

(c) No Representations. Participant has reviewed with his or her own tax advisers the U.S. federal, state, local and non-U.S. tax consequences of this investment and the transactions contemplated by this Award Agreement. With respect to such matters, Participant relies solely on such advisers and not on any statements or representations of the Company or any of its agents, written or oral. Participant understands that Participant (and not the Company) shall be responsible for Participant's own tax liability that may arise as a result of this investment or the transactions contemplated by this Award Agreement.

(d) Company's Obligation to Deliver Shares. For clarification purposes, in no event will the Company issue Participant any Shares unless and until arrangements satisfactory to the Administrator have been made for the payment of Participant's Tax Obligations. If Participant fails to make satisfactory arrangements for the payment of such Tax Obligations hereunder at the time any applicable Restricted Stock Units otherwise are scheduled to vest pursuant to Sections 3 or 4 or Participant's Tax Obligations otherwise become due, Participant will permanently forfeit such Restricted Stock Units to which Participant's Tax Obligation relates and any right to receive Shares thereunder and such Restricted Stock Units will be returned to the Company at no cost to the Company. Participant acknowledges and agrees that the Company may refuse to issue or deliver the Shares if such Tax Obligations are not delivered at the time they are due.

8. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until certificates representing such Shares (which may be in book entry form) will have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to Participant (including through electronic delivery to a brokerage account). After such issuance, recordation and delivery, Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares.

9. No Guarantee of Continued Service. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF THE RESTRICTED STOCK UNITS PURSUANT TO THE VESTING SCHEDULE HEREOF IS EARNED ONLY BY CONTINUING AS A SERVICE PROVIDER, WHICH UNLESS PROVIDED OTHERWISE UNDER APPLICABLE LAW IS AT THE WILL OF THE APPLICABLE SERVICE RECIPIENT AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS RESTRICTED STOCK UNIT AWARD OR

ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AWARD AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND SHALL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF ANY SERVICE RECIPIENT TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER, SUBJECT TO APPLICABLE LAW, WHICH TERMINATION, UNLESS PROVIDED OTHERWISE UNDER APPLICABLE LAW, MAY BE AT ANY TIME, WITH OR WITHOUT CAUSE.

10. Grant is Not Transferable. Except to the limited extent provided in Section 7, this grant and the rights and privileges conferred hereby will not be transferred, assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and will not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of this grant, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

11. Insider Trading Restrictions/Market Abuses. Participant acknowledges that Participant may be subject to insider trading restrictions and/or market abuse laws in applicable jurisdictions, including the United States and Participant's country of residence, which may affect Participant's ability, directly or indirectly, for Participant or for a third party, to acquire or sell, or attempt to sell, Shares or rights to Shares under the Plan during such times as Participant is considered to have "inside information" regarding the Company (as defined by the laws in the applicable jurisdiction, including the United States and Participant's country of residence). Any restrictions under these laws or regulations are separate from and in addition to any restrictions that may be imposed under any applicable Company insider trading policy. Participant acknowledges that it is Participant's responsibility to be compliant with all such requirements and Participant should consult Participant's personal legal advisers to ensure compliance.

12. Foreign Asset/Account Reporting Requirements; Exchange Controls. Participant's country may have certain foreign asset and/or account reporting requirements and exchange controls which may affect Participant's ability to acquire or hold Shares under the Plan or cash received from participating in the Plan (including from any dividends received or sale proceeds arising from the sale of Shares) in a brokerage or bank account outside Participant's country. Participant understands that Participant may be required to report such accounts, assets or transactions to the tax or other authorities in Participant's country. Participant also may be required to repatriate sale proceeds or other funds received as a result of participation in the Plan to Participant's country through a designated bank or broker and/or within a certain time after receipt. In addition, Participant may be subject to tax payment and/or reporting obligations in connection with any income realized under the Plan and/or from the sale of Shares. Participant acknowledges that it is Participant's responsibility to be compliant with all such requirements, and that Participant should consult Participant's personal legal and tax advisers, as applicable, to ensure compliance.

13. Nature of Grant. In accepting this Award of Restricted Stock Units, Participant acknowledges, understands and agrees that:

(a) the grant of the Restricted Stock Units is voluntary and occasional and does not create any contractual or other right to receive future grants of restricted stock units, or benefits in lieu of restricted stock units, even if restricted stock units have been granted in the past;

(b) all decisions with respect to future restricted stock units or other grants, if any, will be at the sole discretion of the Administrator;

(c) Participant is voluntarily participating in the Plan;

(d) the Restricted Stock Units and the Shares subject to the Restricted Stock Units are not intended to replace any pension rights or compensation;

(e) the Restricted Stock Units and the Shares subject to the Restricted Stock Units, and the income and value of same, are not part of normal or expected compensation for purposes of calculating any severance, resignation, termination, redundancy, dismissal, end-of-service payments, bonuses, long-service awards, holiday pay, pension or retirement or welfare benefits or similar payments;

(f) the future value of the Shares underlying the Restricted Stock Units is unknown, indeterminable and cannot be predicted with certainty;

(g) for purposes of the Restricted Stock Units, Participant's status as a Service Provider will be considered terminated as of the date Participant is no longer actively providing services to the Company or any Parent or Subsidiary of the Company (regardless of the reason for such termination and whether or not later found to be invalid or in breach of employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's employment or service agreement, if any), and unless otherwise expressly provided in this Award Agreement (including by reference in the Notice of Grant to other arrangements or contracts) or determined by the Administrator, Participant's right to vest in the Restricted Stock Units under the Plan, if any, will terminate as of such date and will not be extended by any notice period (e.g., Participant's period of service would not include any contractual notice period or any period of "garden leave" or similar period mandated under employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's employment or service agreement, if any, unless Participant is providing bona fide services during such time); the Administrator shall have the exclusive discretion to determine when Participant is no longer actively providing services for purposes of the Restricted Stock Units grant (including whether Participant may still be considered to be providing services while on a leave of absence and consistent with local law);

(h) unless otherwise provided in the Plan or by the Administrator in its discretion, the Restricted Stock Units and the benefits evidenced by this Award Agreement do not create any entitlement to have the Restricted Stock Units or any such benefits transferred to, or assumed by, another company nor be exchanged, cashed out or substituted for, in connection with any corporate transaction affecting the Shares; and

(i) the following provisions apply only if Participant is providing services outside the United States:

(i) the Restricted Stock Units and the Shares subject to the Restricted Stock Units are not part of normal or expected compensation or salary for any purpose;

(ii) Participant acknowledges and agrees that no Service Recipient shall be liable for any foreign exchange rate fluctuation between Participant's local currency and the United States Dollar that may affect the value of the Restricted Stock Units or of any amounts due to Participant pursuant to the settlement of the Restricted Stock Units or the subsequent sale of any Shares acquired upon settlement; and

(iii) no claim or entitlement to compensation or damages shall arise from forfeiture of the Restricted Stock Units resulting from the termination of Participant's status as a Service Provider (for any reason whatsoever whether or not later found to be invalid or in breach of employment laws in the jurisdiction where Participant is a Service Provider or the terms of Participant's employment or service agreement, if any), and in consideration of the grant of the Restricted Stock Units to which Participant is otherwise not entitled, Participant irrevocably agrees never to institute any claim against any Service Recipient, waives his or her ability, if any, to bring any such claim, and releases each Service Recipient from any such claim; if, notwithstanding the foregoing, any such claim is allowed by a court of competent jurisdiction, then, by participating in the Plan, Participant shall be deemed irrevocably to have agreed not to pursue such claim and agrees to execute any and all documents necessary to request dismissal or withdrawal of such claim.

14. No Advice Regarding Grant. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding Participant's participation in the Plan, or Participant's acquisition or sale of the Shares underlying the Restricted Stock Units. Participant is hereby advised to consult with his or her own personal tax, legal and financial advisers regarding his or her participation in the Plan before taking any action related to the Plan.

15. ***Data Privacy.*** ***Participant hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of Participant's personal data as described in this Award Agreement and any other Restricted Stock Unit grant materials by and among, as applicable, the Service Recipients for the exclusive purpose of implementing, administering and managing Participant's participation in the Plan.***

Participant understands that the Company and the Service Recipient may hold certain personal information about Participant, including, but not limited to, Participant's name, home address, email address and telephone number, date of birth, social insurance number, passport or other identification number (e.g., resident registration number), salary, nationality, job title, any Shares or directorships held in the Company, details of all equity awards or any other entitlement to Shares awarded, canceled, exercised, vested, unvested or outstanding in Participant's favor ("Data"), for the exclusive purpose of implementing, administering and managing the Plan.

Participant understands that Data may be transferred to a stock plan service provider, as may be selected by the Company in the future, assisting the Company with the implementation, administration and management of the Plan. Participant understands that the recipients of the Data may be located in the United States or elsewhere, and that the recipients' country of operation (e.g., the United States) may have different data privacy laws and protections than Participant's country. Participant understands that if he or she resides outside the United States, he or she may

request a list with the names and addresses of any potential recipients of the Data by contacting his or her local human resources representative. Participant authorizes the Company, any stock plan service provider selected by the Company and any other possible recipients which may assist the Company (presently or in the future) with implementing, administering and managing the Plan to receive, possess, use, retain and transfer the Data, in electronic or other form, for the sole purpose of implementing, administering and managing his or her participation in the Plan. Participant understands that Data will be held only as long as is necessary to implement, administer and manage Participant's participation in the Plan. Participant understands if he or she resides outside the United States, he or she may, at any time, view Data, request additional information about the storage and processing of Data, require any necessary amendments to Data or refuse or withdraw the consents herein, in any case without cost, by contacting in writing his or her local human resources representative. Further, Participant understands that he or she is providing the consents herein on a purely voluntary basis. If Participant does not consent, or if Participant later seeks to revoke his or her consent, his or her status as a Service Provider and career with the Service Recipient will not be adversely affected. The only adverse consequence of refusing or withdrawing Participant's consent is that the Company would not be able to grant Participant Restricted Stock Units or other equity awards or administer or maintain such awards. Therefore, Participant understands that refusing or withdrawing his or her consent may affect Participant's ability to participate in the Plan. For more information on the consequences of Participant's refusal to consent or withdrawal of consent, Participant understands that he or she may contact his or her local human resources representative.

16. Address for Notices. Any notice to be given to the Company under the terms of this Award Agreement will be addressed to the Company, in care of its Chief Financial Officer at Pacific Biosciences of California, Inc., 1305 O'Brien Drive, Menlo Park, CA 94025, U.S.A., or at such other address as the Company may hereafter designate in writing.

17. Electronic Delivery and Acceptance. The Company may, in its sole discretion, decide to deliver any documents related to the Restricted Stock Units awarded under the Plan or future Restricted Stock Units that may be awarded under the Plan by electronic means or require Participant to participate in the Plan by electronic means. Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through any on-line or electronic system established and maintained by the Company or a third party designated by the Company.

18. No Waiver. Either party's failure to enforce any provision or provisions of this Award Agreement shall not in any way be construed as a waiver of any such provision or provisions, nor prevent that party from thereafter enforcing each and every other provision of this Award Agreement. The rights granted both parties herein are cumulative and shall not constitute a waiver of either party's right to assert all other legal remedies available to it under the circumstances.

19. Successors and Assigns. The Company may assign any of its rights under this Award Agreement to single or multiple assignees, and this Award Agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer herein set forth, this Award Agreement shall be binding upon Participant and his or her heirs, executors, administrators, successors and assigns. The rights and obligations of Participant under this Award Agreement may be assigned only with the prior written consent of the Company. Subject to the limitation on

transferability of this Award contained herein, this Award Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

20. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or rule compliance of the Shares upon any securities exchange or under any U.S. federal, state, local or non-U.S. law, the tax code and related regulations or under the rulings or regulations of the United States Securities and Exchange Commission or any other governmental regulatory body or the clearance, consent or approval of the United States Securities and Exchange Commission or any other governmental regulatory authority is necessary or desirable as a condition to the issuance of Shares to Participant (or his or her estate) hereunder, such issuance will not occur unless and until such listing, registration, qualification, rule compliance, clearance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. Subject to the terms of the Award Agreement and the Plan, the Company shall not be required to issue any certificate or certificates for (or make any entry on the books of the Company or of a duly authorized transfer agent of the Company of) the Shares hereunder prior to the lapse of such reasonable period of time following the date of vesting of the Restricted Stock Units as the Administrator may establish from time to time for reasons of administrative convenience. The Company will make all reasonable efforts to meet the requirements of any such Applicable Laws and to obtain any such registration, qualification, rule compliance, clearance, consent or approval of any such governmental regulatory authority.

21. Language. If Participant has received this Award Agreement or any other document related to the Plan translated into a language other than English and if the meaning of the translated version is different than the English version, the English version will control.

22. Interpretation. The Administrator will have the power to interpret the Plan and this Award Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not any Restricted Stock Units have vested). All actions taken and all interpretations and determinations made by the Administrator in good faith will be final and binding upon Participant, the Company and all other interested persons. Neither the Administrator nor any person acting on behalf of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Award Agreement.

23. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Award Agreement.

24. Amendment, Suspension or Termination of the Plan. By accepting this Award, Participant expressly warrants that he or she has received an Award of Restricted Stock Units under the Plan, and has received, read and understood a description of the Plan. Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Administrator at any time.

25. Modifications to the Award Agreement. This Award Agreement constitutes the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Award Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Award Agreement or the Plan can be made

only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Award Agreement, the Company reserves the right to revise this Award Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Section 409A in connection with this Award of Restricted Stock Units. Further, the Company reserves the right to impose other requirements on Participant's participation in the Plan, on this Award of Restricted Stock Units and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable for legal or administrative reasons, and to require Participant to execute any additional agreements or undertakings that may be necessary to accomplish the foregoing.

26. Governing Law; Venue; Severability. This Award Agreement and the Restricted Stock Units are governed by the internal substantive laws, but not the choice of law rules, of the State of California. For purposes of litigating any dispute that arises under these Restricted Stock Units or this Award Agreement, the parties hereby submit to and consent to the jurisdiction of the State of California, and agree that such litigation will be conducted in the courts of San Mateo County, California, or the United States federal courts for the Northern District of California, and no other courts, where this Award Agreement is made and/or to be performed. In the event that any provision of this Award Agreement, including the country-specific provisions set forth in an attachment to this Award Agreement (if any), will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Award Agreement.

27. Entire Agreement. The Plan is incorporated herein by this reference. The Plan and this Award Agreement (including the appendices and exhibits referenced herein) constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and Participant with respect to the subject matter hereof, and may not be modified adversely to the Participant's interest except by means of a writing signed by the Company and Participant.

28. Country Addendum. The Restricted Stock Unit grant shall be subject to any special terms and conditions set forth in an exhibit, appendix, addendum or other attachment (if any) to this Award Agreement for any country whose laws are applicable to Participant and this Award of Restricted Stock Units (as determined by the Administrator in its sole discretion) (the "Country Addendum"). Moreover, if Participant relocates to one of the countries included in the Country Addendum (if any), the special terms and conditions for such country will apply to Participant, to the extent the Company determines that the application of such terms and conditions is necessary or advisable for legal or administrative reasons. The Country Addendum constitutes part of this Award Agreement.

* * *

EXHIBIT B

GLOBAL RESTRICTED STOCK UNIT AGREEMENT

COUNTRY ADDENDUM

This Country Addendum includes additional terms and conditions that govern the Award of Restricted Stock Units granted pursuant to the terms and conditions of the Omniome Equity Incentive Plan of Pacific Biosciences of California, Inc. (the "Plan") and the Global Restricted Stock Unit Agreement to which this Country Addendum is attached (the "Award Agreement") to the extent the individual to whom the Restricted Stock Units were granted ("Participant") resides in one of the countries listed below. Capitalized terms used but not defined herein will have the meanings set forth in the Award Agreement or the Plan, as applicable.

This Country Addendum also includes information regarding exchange controls and certain other issues of which Participant should be aware with respect to Participant's participation in the Plan. The information is based on the securities, exchange control and other laws in effect in the respective countries as of **[August 2020]**. Such laws often are complex and change frequently. As a result, the Company strongly recommends that Participant not rely on the information in this Country Addendum as the only source of information relating to the consequences of Participant's participation in the Plan because the information may be out of date at the time Participant vest in or receives or sells the Shares covered by the Restricted Stock Units.

In addition, the information contained herein is general in nature and may not apply to Participant's particular situation and the Company is not in a position to assure Participant of any particular result. Accordingly, Participant is advised to seek appropriate professional advice as to how the relevant laws of Participant's country may apply to Participant's situation.

Finally, if Participant is a citizen or resident of a country other than the one in which Participant currently is working or transfers to another country after the grant of the Restricted Stock Units, or is considered a resident of another country for local law purposes, the information contained herein may not be applicable to Participant in the same manner. In addition, the Company, in its sole discretion, shall determine the extent to which the terms and conditions contained herein shall apply to Participant under these circumstances.

[Australia

Notifications

Tax Information. The Plan is a plan to which Subdivision 83A-C of the Income Tax Assessment Act 1997 (Cth) applies (subject to the conditions in that Act).

Canada

Terms and Conditions

Company's Obligation to Pay. This provision supplements Section 2 of the Award Agreement:

Notwithstanding any discretion set out in Section 8(d) of the Plan, vested Restricted Stock Units will be paid in Shares and not in cash or a combination of Shares and cash.

Nature of Grant. This provision replaces Section 13(g) of the Award Agreement:

For purposes of the Award of Restricted Stock Units, Participant's employment or service relationship will be considered terminated as of the date that is the earlier of: (i) the date Participant's employment is terminated, (ii) the date Participant receives notice of termination, and (iii) the date Participant is no longer actively providing services to the Company or any Parent or Subsidiary of the Company (regardless of the reason for such termination and whether or not later found to be invalid or in breach of employment laws in the jurisdiction where Participant is employed or the terms of Participant's employment agreement, if any) and, unless otherwise expressly provided in this Award Agreement or determined by the Company, Participant's right to vest in the Restricted Stock Units will terminate as of such date and will not be extended by any notice period (*e.g.*, Participant's period of service would not include any contractual notice period or any period of "garden leave" or similar period mandated under employment laws in the jurisdiction where Participant is employed or the terms of Participant's employment agreement, if any).

The following provisions will apply to Participant if he or she is a resident of Quebec:

Language Consent. The parties acknowledge that it is their express wish that the Award Agreement, including this Exhibit B, as well as all documents, notices, and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English.

Consentement Relatif à la Langue Utilisée. *Les parties reconnaissent avoir expressément souhaité que la convention («Award Agreement») ainsi que cette Annexe B, ainsi que tous les documents, avis et procédures judiciares, éxécutés, donnés ou intentés en vertu de, ou liés directement ou indirectement à la présente convention, soient rédigés en langue anglaise.*

Data Privacy. This provision supplements Section 15 of the Award Agreement:

Participant hereby authorizes the Company and the Company's representatives to discuss with and obtain all relevant information from all personnel, professional or not, involved in the administration and operation of the Plan. Participant further authorizes the Company and the Company's Parent or Subsidiary employing or retaining Participant to disclose and discuss Participant's participation in the Plan with their respective advisers. Participant further authorizes the Company and the Company's Parent or Subsidiary employing or retaining Participant to record such information and to keep such information in Participant's employee file.

Notifications

Securities Law Information. Participant understands that Participant is permitted to sell Shares acquired pursuant to the Plan through the designated broker appointed under the Plan, if any, provided the sale of the Shares acquired pursuant to the Plan takes place outside of Canada through the facilities of a stock exchange on which the Shares are listed. The Company's common stock are currently traded on the NASDAQ Global Select Market, which is located outside of Canada, under the ticker symbol "PACB" and Shares acquired under the Plan may be sold through this exchange.

Foreign Asset/Account Reporting Information. Foreign specified property, including Shares and rights to Shares (*e.g.*, Restricted Stock Units), held by a Canadian resident must be reported annually on Form T1135 (Foreign Income Verification Statement) if the total cost of such foreign specified property exceeds C$100,000 at any time during the year. If applicable, Form T1135 is due by April 30th of the following year. Restricted Stock Units must be reported – generally at a nil cost – if the C$100,000 cost threshold is exceeded because of other foreign specified property held by Participant. When Shares are acquired, their cost generally is the adjusted cost base ("ACB") of the Shares. The ACB would ordinarily equal the fair market value of the Shares at the time of acquisition, but if other Shares are owned, this ACB may have to be averaged with the ACB of the other Shares. *Participant is responsible for ensuring his or her compliance with any applicable reporting obligations and should speak to his or her personal legal adviser on this matter.*

France

Terms and Conditions

Type of Restricted Stock Units. The Restricted Stock Units are not intended to qualify for specific tax or social security treatment in France.

Language Consent. By accepting the Award Agreement providing for the terms and conditions of the grant, Participant confirms having read and understood the documents relating to this grant (the Plan and this Award Agreement) which were provided in English language. Participant accepts the terms of those documents accordingly.

Consentement Relatif à la Langue Utilisée. *En acceptant le Contrat d'Attribution décrivant les termes et conditions de l'attribution, le Participant confirme avoir lu et compris les documents relatifs à cette attribution (le Plan et ce Contrat d'Attribution) qui ont été communiqués en langue anglaise. Le Participant accepte les termes de ces documents en connaissance de cause.*

Notifications

Foreign Asset/Account Reporting Information. Participant may hold Shares acquired under the Plan outside of France provided Participant annually declares all foreign bank and stock accounts, whether open, current, or closed, together with Participant's personal income tax returns.

Germany

Notifications

Exchange Control Information.

Cross-border payments in excess of €12,500 must be reported electronically, on a monthly basis, to the *Servicezentrum Außenwirtschaftsstatistik*, which is the competent federal office of the *Deutsche Bundesbank* (the German Central Bank) for such notifications in Germany. The *Allgemeinesc Meldeportal Statistik* (General Statistics Reporting Portal) can be accessed at www.bundesbank.de.

Japan

Notifications

Foreign Asset / Account Reporting Information. Participant will be required to report details of any assets held outside of Japan as of December 31st to the extent such assets have a total net fair market value exceeding ¥50,000,000. Such report will be due by March 15th each year. *Participant should consult with his or her personal tax adviser as to whether the reporting obligation applies to him or her and whether the requirement extends to any outstanding Restricted Stock Units, Shares and/or cash acquired under the Plan.*

Netherlands

There are no country-specific provisions.

Singapore

Notifications

Securities Law Information. The Award of Restricted Stock Units under the Plan is being made pursuant to the "Qualifying Person" exemption under section 273(1)(f) of the Securities and Futures Act (Chapter 289, 2006 Ed.) ("SFA"). The Plan has not been lodged or registered as a prospectus with the Monetary Authority of Singapore. Participant should note that the Restricted Stock Units are subject to section 257 of the SFA and the Participant should not make (i) any subsequent sale of the Shares in Singapore or (ii) any offer of such subsequent sale of the Shares subject to the Restricted Stock Units in Singapore, unless such sale or offer is made more than six (6) months after the Date of Grant or pursuant to the exemptions under Part XIII Division 1 Subdivision (4) (other than section 280) of the SFA. The Company's common stock is traded on the Nasdaq Global Select Market, which is located outside of Singapore, under the ticker symbol "PACB" and Shares acquired under the Plan may be sold through this exchange.

CEO and Director Notification Information. If Participant is the Chief Executive Officer ("CEO") or a director, associate director or shadow director[1] of a Singaporean Parent or Subsidiary, Participant is subject to certain notification requirements under the Singapore Companies Act. Among these requirements is an obligation to notify the Singaporean Parent or Subsidiary in writing when Participant receives an interest in the Company (*e.g.*, Restricted Stock Units or Shares). In addition, Participant must notify the Singaporean Parent or Subsidiary when Participant disposes of an interest in the Company (including when Participant sells Shares acquired at vesting of the Restricted Stock

[1] A shadow director is an individual who is not on the board of directors of the Singapore Parent or Subsidiary but who has sufficient control so that the board of directors of the Singapore Parent or Subsidiary acts in accordance with the directions and instructions of the individual.

Units). These notifications must be made within two (2) business days of (i) acquiring or disposing of any interest in the Company, (ii) any change in a previously-disclosed interest (*e.g.*, upon vesting of the Restricted Stock Units or when Shares acquired under the Plan are subsequently sold), or (iii) becoming the CEO or a director, associate director or shadow director if such an interest exists at such time.

Switzerland

Notifications

Securities Law Information. The Award of Restricted Stock Units under the Plan is considered a private offering in Switzerland and is therefore not subject to registration in Switzerland. Neither this document nor any other materials relating to the Restricted Stock Units constitutes a prospectus as such term is understood pursuant to article 652a of the Swiss Code of Obligations, and neither this document nor any other materials relating to the Restricted Stock Units may be publicly distributed nor otherwise made publicly available in Switzerland. Neither this document nor any other offering or marketing material relating to the Restricted Stock Units has been filed with, approved, or supervised by any Swiss regulatory authority (in particular, the Swiss Financial Market Supervisory Authority (FINMA)).

Taiwan

Notifications

Securities Law Information. The Award of Restricted Stock Units and the Shares to be issued upon vesting of the Restricted Stock Units is available only for employees of the Company and any Parent or Subsidiary. It is not a public offer of securities by a Taiwanese company; therefore, it is exempt from registration in Taiwan.

Exchange Control Information. Participant may acquire and remit foreign currency (including funds for the purchase of Shares and proceeds from the sale of Shares) up to US$5,000,000 per year without justification. If the transaction amount is TWD500,000 or more in a single transaction, Participant must submit a Foreign Exchange Transaction Form. If the transaction amount is US$500,000 or more in a single transaction, Participant must also provide supporting documentation to the satisfaction of the remitting bank.

United Kingdom

Terms and Conditions

Taxes. The following provision supplements Section 7 of the Award Agreement:

Without limitation to Section 7 of the Award Agreement, Participant agrees that Participant is liable for all Tax-Related Items and hereby covenants to pay all such Tax-Related Items, as and when requested by the Company or the Parent or Subsidiary employing or retaining Participant or by Her Majesty's Revenue and Customs ("HMRC") (or any other tax authority or any other relevant authority). Participant also agrees to indemnify and keep indemnified the Company and the Company's Parent or Subsidiary employing or retaining Participant against any Tax–Related Items

that they are required to pay or withhold or have paid or will pay to HMRC (or any other tax authority or any other relevant authority) on Participant's behalf.**]**

* * *

Exhibit 31.1

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

I, Christian Henry, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: November 4, 2021

By: /s/ Christian O. Henry
Christian O. Henry
Chief Executive Officer and President
(Principal Executive Officer)

Exhibit 31.2

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

I, Susan Kim, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: November 4, 2021

By: /s/ Susan G. Kim

Susan G. Kim
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 period ended September 30, 2021, as filed with the Securities and Exchange Commission on the date hereof, I, Christian Henry, Chief Executive Officer of the Company, certify for the purposes of section 1350 of chapter 63 of title 18 of the United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

(i) the Quarterly Report of the Company on Form 10-Q for the period ended September 30, 2021 (the "Report"), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, 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 4, 2021

/s/ Christian O. Henry

Christian O. Henry
Chief Executive Officer and President
(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 period ended September 30, 2021, as filed with the Securities and Exchange Commission on the date hereof, I, Susan Kim, Chief Financial Officer of the Company, certify for the purposes of section 1350 of chapter 63 of title 18 of the United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

(i) the Quarterly Report of the Company on Form 10-Q for the period ended September 30, 2021 (the "Report"), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, 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 4, 2021

/s/ Susan G. Kim

Susan G. Kim
Chief Financial Officer
(Principal Financial Officer)