UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

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

For the quarterly period ended September 30, 2021

OR

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

For the transition period from _____ to _____

Commission File Number: 001-38943

Personalis, Inc.

(Exact Name of registrant as specified in its charter)

Delaware	**27-5411038**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1330 O'Brien Drive **Menlo Park, California 94025**	**94025**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(650) 752-1300**

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 $0.0001	PSNL	The Nasdaq Global Market

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

Indicate by check mark whether the registrant has submitted electronically 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 ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
Emerging growth company	☒		

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. ☒

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

The number of shares of registrant's Common Stock outstanding as of October 29, 2021 was 44,783,861.

PERSONALIS, INC.

Form 10-Q
For the Quarterly Period Ended September 30, 2021

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts contained in this Quarterly Report on Form 10-Q, including statements regarding our future results of operations or financial condition, business strategy and plans, and objectives of management for future operations, are forward-looking statements. In some cases, you can identify forward-looking statements because they contain words such as “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “hope,” “intend,” “may,” “might,” “objective,” “ongoing,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “will,” or “would” or the negative of these words or other similar terms or expressions. These forward-looking statements include, but are not limited to, statements concerning the following:

- the evolution of cancer therapies and market adoption of our services;
- estimates of our total addressable market, future revenue, expenses, capital requirements, and our needs for additional financing;
- our ability to enter into and compete in new markets;
- the impact of the COVID-19 pandemic on our business, our customers’ and suppliers’ businesses and the general economy;
- our ability to compete effectively with existing competitors and new market entrants;
- our ability to scale our infrastructure;
- our ability to manage and grow our business by expanding our sales to existing customers or introducing our products to new customers;
- expectations regarding our relationship with the U.S. Department of Veterans Affairs’ Million Veteran Program;
- our ability to establish and maintain intellectual property protection for our products or avoid claims of infringement;
- potential effects of extensive government regulation;
- our ability to hire and retain key personnel;
- our ability to obtain financing in future offerings;
- the volatility of the trading price of our common stock;
- our belief that approval of personalized cancer therapies by the Food and Drug Administration may drive benefits to our business; and
- our ability to maintain proper and effective internal controls.

Actual events or results may differ from those expressed in forward-looking statements. As such, you should not rely on forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Quarterly Report on Form 10-Q primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition, operating results, prospects, strategy, and financial needs. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties, assumptions, and other factors described in the section titled “Risk Factors” and elsewhere in this Quarterly Report on Form 10-Q. Moreover, we operate in a highly competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Quarterly Report on Form 10-Q. The results, events and circumstances reflected in the forward-looking statements may not be achieved or occur, and actual results, events or circumstances could differ materially from those described in the forward-looking statements.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based on information available to us as of the date of this Quarterly Report on Form 10-Q. While we believe that such information provides a reasonable basis for these statements, such information may be limited or incomplete. Our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all relevant information. These statements are inherently uncertain, and investors are cautioned not to unduly rely on these statements.

The forward-looking statements made in this Quarterly Report on Form 10-Q relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this Quarterly Report on Form 10-Q to reflect events or circumstances after the date of this Quarterly Report on Form 10-Q or to reflect new information, actual results, revised expectations, or the occurrence of unanticipated events, except as required by law. 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.

Unless the context otherwise requires, references in this Quarterly Report on Form 10-Q to the “company,” “Personalis,” “we,” “us” and “our” refer to Personalis, Inc.

Item 1. Financial Statements

PERSONALIS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS (unaudited)
(in thousands, except share and per share data)

	September 30, 2021	December 31, 2020
Assets		
Current assets		
Cash and cash equivalents	$ 79,572	$ 68,525
Short-term investments	225,658	134,765
Accounts receivable, net	10,534	6,349
Inventory and other deferred costs	5,523	5,639
Prepaid expenses and other current assets	7,728	5,441
Total current assets	329,015	220,719
Property and equipment, net	17,689	11,834
Operating lease right-of-use assets	54,923	10,271
Other long-term assets	5,067	2,018
Total assets	$ 406,694	$ 244,842
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 7,288	$ 8,301
Accrued and other current liabilities	16,261	11,301
Contract liabilities	2,967	21,034
Total current liabilities	26,516	40,636
Long-term operating lease liabilities	52,866	8,541
Other long-term liabilities	2,016	720
Total liabilities	81,398	49,897
Commitments and Contingencies (Note 9)		
Stockholders' equity		
Preferred stock, $0.0001 par value — 10,000,000 shares authorized; none issued	—	—
Common stock, $0.0001 par value — 200,000,000 shares authorized; 44,706,263 and 39,105,548 shares issued and outstanding at September 30, 2021 and December 31, 2020, respectively	4	4
Additional paid-in capital	552,176	376,788
Accumulated other comprehensive income	12	22
Accumulated deficit	(226,896)	(181,869)
Total stockholders' equity	325,296	194,945
Total liabilities and stockholders' equity	$ 406,694	$ 244,842

See notes to condensed consolidated financial statements.

PERSONALIS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (unaudited)
(in thousands, except share and per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Revenue	$ 22,261	$ 19,816	$ 64,812	$ 58,472
Costs and expenses				
Cost of revenue	14,195	14,483	41,151	44,428
Research and development	13,617	7,193	34,800	20,048
Selling, general and administrative	12,140	7,793	33,989	22,772
Total costs and expenses	39,952	29,469	109,940	87,248
Loss from operations	(17,691)	(9,653)	(45,128)	(28,776)
Interest income	88	117	286	873
Interest expense	(60)	—	(125)	(2)
Other income (expense), net	5	(4)	(43)	5
Loss before income taxes	(17,658)	(9,540)	(45,010)	(27,900)
Provision for income taxes	12	5	17	39
Net loss	$ (17,670)	$ (9,545)	$ (45,027)	$ (27,939)
Net loss per share, basic and diluted	$ (0.40)	$ (0.27)	$ (1.03)	$ (0.85)
Weighted-average shares outstanding, basic and diluted	44,511,534	35,460,092	43,579,308	32,845,583

See notes to condensed consolidated financial statements.

PERSONALIS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS (unaudited)
(in thousands)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Net loss	$ (17,670)	$ (9,545)	$ (45,027)	$ (27,939)
Other comprehensive income (loss), net of tax				
Foreign currency translation adjustment	(9)	6	12	(2)
Change in unrealized gain (loss) on available-for-sale debt securities	3	(75)	(22)	45
Comprehensive loss	$ (17,676)	$ (9,614)	$ (45,037)	$ (27,896)

See notes to condensed consolidated financial statements.

PERSONALIS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (unaudited)
For the Three Months Ended September 30, 2021 and 2020
(in thousands, except share data)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance—June 30, 2021	44,209,968	$ 4	$ 547,951	$ 18	$ (209,226)	$ 338,747
Proceeds from exercise of stock options	448,738	—	536	—	—	536
Restricted stock units vested	47,557	—	—	—	—	—
Stock-based compensation	—	—	3,689	—	—	3,689
Foreign currency translation adjustment	—	—	—	(9)	—	(9)
Unrealized gain on available-for-sale debt securities	—	—	—	3	—	3
Net loss	—	—	—	—	(17,670)	(17,670)
Balance—September 30, 2021	44,706,263	$ 4	$ 552,176	$ 12	$ (226,896)	$ 325,296
Balance—June 30, 2020	31,872,122	$ 3	$ 251,997	$ 106	$ (158,983)	$ 93,123
Proceeds from follow-on equity offering, net of offering costs	6,578,947	1	117,064	—	—	117,065
Exercise of common stock warrants	79,772	—	—	—	—	—
Proceeds from exercise of stock options	226,637	—	1,276	—	—	1,276
Restricted stock units vested	32,711	—	—	—	—	—
Stock-based compensation	—	—	1,690	—	—	1,690
Foreign currency translation adjustment	—	—	—	6	—	6
Unrealized loss on available-for-sale debt securities	—	—	—	(75)	—	(75)
Net loss	—	—	—	—	(9,545)	(9,545)
Balance—September 30, 2020	38,790,189	$ 4	$ 372,027	$ 37	$ (168,528)	$ 203,540

See notes to condensed consolidated financial statements.

PERSONALIS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (unaudited)
For the Nine Months Ended September 30, 2021 and 2020
(in thousands, except share data)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance—December 31, 2020	39,105,548	$ 4	$ 376,788	$ 22	$ (181,869)	$ 194,945
Proceeds from follow-on equity offering, net of offering costs	4,542,500	—	161,916	—	—	161,916
Proceeds from exercise of stock options	833,676	—	1,935	—	—	1,935
Proceeds from Employee Stock Purchase Plan purchases	57,001	—	1,191	—	—	1,191
Restricted stock units vested	167,538	—	—	—	—	—
Stock-based compensation	—	—	10,346	—	—	10,346
Foreign currency translation adjustment	—	—	—	12	—	12
Unrealized loss on available-for-sale debt securities	—	—	—	(22)	—	(22)
Net loss	—	—	—	—	(45,027)	(45,027)
Balance—September 30, 2021	44,706,263	$ 4	$ 552,176	$ 12	$ (226,896)	$ 325,296
Balance—December 31, 2019	31,243,029	$ 3	$ 247,282	$ (6)	$ (140,589)	$ 106,690
Proceeds from follow-on equity offering, net of offering costs	6,578,947	1	117,064	—	—	117,065
Exercise of common stock warrants	79,772	—	—	—	—	—
Proceeds from exercise of stock options	740,630	—	2,289	—	—	2,289
Proceeds from Employee Stock Purchase Plan purchases	71,480	—	631	—	—	631
Restricted stock units vested	76,331	—	—	—	—	—
Stock-based compensation	—	—	4,761	—	—	4,761
Foreign currency translation adjustment	—	—	—	(2)	—	(2)
Unrealized gain on available-for-sale debt securities	—	—	—	45	—	45
Net loss	—	—	—	—	(27,939)	(27,939)
Balance—September 30, 2020	38,790,189	$ 4	$ 372,027	$ 37	$ (168,528)	$ 203,540

See notes to condensed consolidated financial statements.

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PERSONALIS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (unaudited)
(in thousands)

	Nine Months Ended September 30,	
	2021	2020
Cash flows from operating activities:		
Net loss	$ (45,027)	$ (27,939)
Adjustments to reconcile net loss to net cash used in operating activities		
Stock-based compensation expense	10,346	4,761
Depreciation and amortization	4,413	4,279
Noncash operating lease cost	1,732	1,048
Amortization of premium on short-term investments	1,554	63
Other	111	—
Changes in operating assets and liabilities		
Accounts receivable	(4,184)	(2,603)
Inventory and other deferred costs	117	(1,662)
Prepaid expenses and other assets	(3,542)	(2,065)
Accounts payable	(3,530)	(1,628)
Accrued and other current liabilities	1,839	1,174
Contract liabilities	(18,067)	(15,383)
Operating lease liabilities	(952)	(637)
Other long-term liabilities	(364)	471
Net cash used in operating activities	(55,554)	(40,121)
Cash flows from investing activities:		
Purchases of available-for-sale debt securities	(227,316)	(80,104)
Proceeds from maturities of available-for-sale debt securities	129,783	80,510
Proceeds from sales of available-for-sale debt securities	5,059	—
Purchases of property and equipment	(7,506)	(2,409)
Net cash used in investing activities	(99,980)	(2,003)
Cash flows from financing activities:		
Proceeds from public offerings, net of underwriting discounts and commissions	162,258	117,500
Payments of costs related to public offerings	(342)	(93)
Proceeds from loans	5,167	—
Repayments of loans	(1,857)	—
Proceeds from exercise of equity awards	3,127	2,920
Net cash provided by financing activities	168,353	120,327
Effect of exchange rates on cash, cash equivalents and restricted cash	18	(4)
Net change in cash, cash equivalents and restricted cash	12,837	78,199
Cash and cash equivalents, beginning of period	68,525	55,046
Cash, cash equivalents and restricted cash, end of period	$ 81,362	$ 133,245
Reconciliation of cash, cash equivalents and restricted cash to the condensed consolidated balance sheets:		
Cash and cash equivalents	$ 79,572	$ 133,245
Restricted cash, included in other long-term assets	1,790	—
Total cash, cash equivalents and restricted cash	$ 81,362	$ 133,245

See notes to condensed consolidated financial statements.

Note 1. Company and Nature of Business

Personalis, Inc. (the "Company") was incorporated in Delaware on February 21, 2011 and began operations in September 2011. The Company formed a wholly owned subsidiary, Personalis (UK) Ltd., in August 2013 and a wholly owned subsidiary, Shanghai Personalis Biotechnology Co., Ltd., which is referred to as "Personalis (Shanghai) Ltd" herein, in October 2020. The Company is a cancer genomics company transforming the development of next-generation therapies by providing more comprehensive molecular data about each patient's cancer and immune response. The Company provides sequencing and data analysis services to support the development of cancer therapies. The Company also provides sequencing and data analysis services to support population sequencing initiatives, which accounts for the majority of its revenue. The Company's cancer genomic services are sold primarily to pharmaceutical companies, biopharmaceutical companies, universities, non-profits, and government entities, while services for population sequencing initiatives are sold primarily to government entities. The principal markets for the Company's services are in the United States and Europe. In June 2020, the Company began partnering with a clinical genomics and life sciences company headquartered in China to expand business operations into China. The Company operates and manages its business as one reportable operating segment, which is the sale of sequencing and data analysis services.

The Company has incurred losses to date and expects to incur additional losses for the foreseeable future. The Company continues to invest the majority of its resources in the development and growth of its business, including investments in product development and sales and marketing efforts. The Company's activities have been financed to date primarily through the sale of its equity securities and cash from operations.

Note 2. Summary of Significant Accounting Policies

Basis of Presentation

The unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and the applicable rules and regulations of the Securities and Exchange Commission ("SEC") regarding interim reporting. Certain information and note disclosures normally included in the financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. As such, the information included in this Quarterly Report on Form 10-Q should be read in conjunction with the consolidated financial statements and accompanying notes included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

The condensed consolidated financial statements include the accounts of Personalis, Inc. and its wholly owned subsidiaries, Personalis (UK) Ltd. and Personalis (Shanghai) Ltd. All intercompany balances and transactions have been eliminated in consolidation.

The condensed consolidated financial statements reflect all normal recurring adjustments that are necessary to present fairly the results for the interim periods presented. Interim results are not necessarily indicative of the results for the full year ending December 31, 2021.

Use of Estimates

The preparation of condensed consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities, at the date of the condensed consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. The estimates include, but are not limited to, useful lives assigned to long-lived assets, discount rates for lease accounting, the valuation of stock options, the valuation of stock-based awards, and provisions for income taxes and contingencies. Actual results could differ from these estimates, and such differences could be material to the Company's condensed consolidated financial position and results of operations.

Follow-On Equity Offerings

On August 14, 2020, the Company completed a follow-on equity offering in which it issued and sold 6,578,947 shares of its common stock at a public offering price of $19.00 per share. The Company received net proceeds of $117.5 million after deducting underwriting discounts and commissions. The Company also incurred $0.4 million of offering costs, including legal, accounting, printing and other offering-related costs.

On January 29, 2021, the Company completed a follow-on equity offering in which it issued and sold 3,950,000 shares of its common stock at a public offering price of $38.00 per share. The Company received net proceeds of $141.1 million after deducting underwriting discounts and commissions. The underwriters of the offering exercised their option to purchase an additional 592,500 shares shortly thereafter, resulting in additional net proceeds of $21.2 million after deducting underwriting discounts and commissions. The Company also incurred $0.3 million of offering costs, including legal, accounting, printing and other offering-related costs.

Concentration of Credit Risk and Other Risks and Uncertainties

The Company is subject to credit risk from its portfolio of cash and cash equivalents. The Company's cash and cash equivalents are deposited with high-quality financial institutions. Deposits at these institutions may, at times, exceed federally insured limits. Management believes these financial institutions are financially sound and, accordingly, that minimal credit risk exists.

The Company also invests in investment-grade debt instruments and has policy limits for the amount it can invest in any one type of security, except for securities issued or guaranteed by the U.S. government. The goals of the Company's investment policy are as follows: preservation of principal; liquidity of investments sufficient to meet cash flow requirements; avoidance of inappropriate concentration and credit risk; competitive after-tax rate of returns; and fiduciary control of cash and investments. Under its investment policy, the Company limits the amounts invested in such securities by credit rating, maturity, investment type, and issuer. As a result, management believes that these financial instruments do not expose the Company to any significant concentrations of credit risk.

The Company purchases various reagents and sequencing materials from sole source suppliers. Any extended interruption in the supply of these materials could result in the Company's inability to secure sufficient materials to conduct business and meet customer demand.

The Company routinely assesses the creditworthiness of its customers and does not require collateral. The Company has not experienced any material losses related to receivables from individual customers, or groups of customers. The Company maintains an allowance for doubtful accounts, which was $0.1 million as of September 30, 2021 and December 31, 2020. The Company had no bad debt expense for the periods presented.

Significant customers are those that represent more than 10% of the Company's total revenue in each period or accounts receivable balance at each respective balance sheet date. For each significant customer, revenue as a percentage of total revenue and accounts receivable as a percentage of total accounts receivable are as follows:

	Revenue				Accounts Receivable	
	Three Months Ended September 30,		Nine Months Ended September 30,		September 30, 2021	December 31, 2020
	2021	2020	2021	2020		
VA MVP	61%	71%	62%	75%	*	*
Natera, Inc.	10%	*	*	*	22%	*
Pfizer Inc.	*	*	*	*	33%	*
Merck & Co., Inc.	*	*	*	*	15%	59%

* Less than 10% of revenue or accounts receivable

Revenue Recognition

The Company applies the revenue recognition guidance in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 606, Revenue from Contracts with Customers ("Topic 606").

Revenue Recognition

The revenue guidance provides a five-step framework through which revenue is recognized when control of promised goods or services is transferred to a customer at an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. To determine revenue recognition for arrangements that the Company concludes are within the scope of Topic 606, management performs the following five steps: (i) identifies the contract(s) with a customer; (ii) identifies the performance obligations in the contract(s); (iii) determines the transaction price, including whether there are any constraints on variable consideration; (iv) allocates the transaction price to the performance obligations; and (v) recognizes revenue when (or as) the Company satisfies a performance obligation. At contract inception, once a contract is determined to be within the scope of the new revenue standard, the Company assesses whether individual goods or services promised within each contract are distinct and, therefore, represent separate performance obligations.

The Company derives revenue from sequencing and data analysis services to support the development of personalized cancer vaccines and other next-generation cancer immunotherapies, as well as to support population sequencing initiatives. The Company's contracts are in the form of a combination of signed agreements, statements of work, and/or purchase orders. Under Topic 606, the Company accounts for a contract with a customer when there is approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance, and it is probable that the Company will collect substantially all of the consideration to which it will be entitled.

The sequencing and data analysis services are the only distinct services that meet the definition of a performance obligation and are accounted for as one performance obligation under Topic 606. The Company recognizes revenue from such services at the point in time when control of the test results is transferred to the customer. The Company has elected to exclude all sales and value added taxes from the measurement of the transaction price. Sequencing and data analysis services are based on a fixed price per test.

Payment terms and conditions vary by contract and customer. The Company's standard payment terms are less than 90 days from the invoice date. In instances where the timing of the Company's revenue recognition differs from the timing of its invoicing, the Company does not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between payment by the customer and the transfer of the promised services to the customer will be one year or less. After assessing each of its revenue-generating arrangements to determine whether a significant financing component exists, the Company concluded that a significant financing component does not exist in any of its arrangements. The primary purpose of the Company's invoicing terms is to provide customers with simplified and predictable ways of purchasing the Company's services and to provide payment protection for the Company.

Practical Expedients and Exemptions

As a practical expedient, the Company recognizes the incremental costs of obtaining contracts, such as sales commissions, as an expense when incurred since the amortization period of the asset the Company otherwise would have recognized is one year or less. Sales commissions are recorded within selling, general and administrative expenses in the condensed consolidated statements of operations.

Cost of Revenue

Cost of revenue consists of raw materials costs, personnel costs (salaries, bonuses, benefits, payroll taxes, and stock-based compensation), laboratory supplies and consumables, depreciation and maintenance on equipment, and allocated facilities and information technology ("IT") costs.

Research and Development Expenses

The Company charges research and development costs to expenses as incurred, including lab and automation development costs. The expenses primarily consist of personnel costs (salaries, bonuses, stock-based compensation, payroll taxes, and benefits), laboratory supplies and consumables, costs of purchasing samples for research purposes, depreciation and maintenance on equipment, and allocated facilities and IT costs.

Stock-Based Compensation

For options granted to employees, non-employees, and directors, stock-based compensation is measured at grant date based on the fair value of the award. The Company determines the grant-date fair value of options using the Black-Scholes option-pricing model, except for certain performance-based awards for which an alternative valuation method may be used. The Company determines the fair value of restricted stock unit awards using the closing market price of the Company's common stock on the date of grant. The grant-date fair value of awards is amortized over the employees' requisite service period on a straight-line basis, or the non-employees' vesting period as the goods are received or services rendered. Forfeitures are accounted for as they occur. Additionally, the Company's 2019 Employee Stock Purchase Plan (the "ESPP") is deemed to be a compensatory plan and therefore is included in stock-based compensation expense.

Inputs used in Black-Scholes option-pricing models to measure fair value of options are summarized as follows:

Expected Term. The expected term is calculated using the simplified method, which is available if there is insufficient historical data about exercise patterns and post-vesting employment termination behavior. The simplified method is based on the vesting period and the contractual term for each grant, or for each vesting tranche for awards with graded vesting. The midpoint of the vesting date and the contractual expiration date is used as the expected term under this method. For awards with multiple vesting tranches, the assumed period for each tranche is computed separately and then averaged together to determine the expected term for the award.

Expected Volatility. The Company used an average historical stock price volatility of a peer group of publicly traded companies to be representative of its expected future stock price volatility, as the Company did not have sufficient trading history for its common stock. For purposes of identifying these peer companies, the Company considered the industry, stage of development, size, and financial leverage of potential comparable companies. For each grant, the Company measured historical volatility over a period equivalent to the expected term.

Risk-Free Interest Rate. The risk-free interest rate is based on the implied yield currently available on U.S. Treasury zero-coupon issues with remaining terms equivalent to the expected term of a stock award.

Expected Dividend Rate. The Company has not paid and does not anticipate paying any dividends in the near future. Accordingly, the Company has estimated the dividend yield to be *zero.*

Cash and Cash Equivalents

Cash equivalents consist of highly liquid investments with maturities at the time of purchase of three months or less. Cash equivalents include bank demand deposits and money market accounts that invest primarily in cash, U.S. Treasury bills, notes, and other obligations issued or guaranteed as to principal and interest by the U.S. Government, its agencies or instrumentalities, and repurchase agreements secured by such obligations or cash. Cash equivalents also include commercial paper, which are marketable debt securities recorded at fair value and accounted for in the same manner as other marketable debt securities described below.

Short-term Investments

The Company's investments in marketable debt securities are classified as available-for-sale and recorded at fair value. Investments with original maturities of greater than three months and remaining maturities of less than one year are classified as short-term investments. Investments with maturities beyond one year may be classified as short-term based on their highly liquid nature and because such marketable securities represent the investment of cash that is available for current operations. Short-term investments primarily consist of U.S. agency bonds, commercial paper, corporate bonds, asset-backed securities, and U.S. treasuries.

Unrealized gains and losses are included in accumulated other comprehensive income (loss) in stockholders' equity. Any discount or premium arising at purchase is accreted or amortized to interest income or expense. Realized gains and losses and declines in fair value, if any, judged to be other than temporary are reported in other income (expense), net. When securities are sold, any associated unrealized gain or loss initially recorded as a separate component of stockholders' equity is reclassified out of stockholders' equity on a specific-identification basis and recorded in earnings for the period.

The Company periodically evaluates whether declines in fair values of its investments below their book value are other-than-temporary. This evaluation consists of several qualitative and quantitative factors regarding the severity and duration of the unrealized loss as well as the Company's ability and intent to hold the marketable security until a forecasted recovery occurs. Factors considered include quoted market prices, recent financial results and operating trends, implied values from any recent transactions or offers of investee securities, credit quality of debt instrument issuers, other publicly available information that may affect the value of the marketable security, duration and severity of the decline in value, and management's strategy and intentions for holding the marketable security. To date, the Company has not recorded any impairment charges on its marketable securities related to other-than-temporary declines in market value.

Fair Value Measurements

Financial assets and liabilities are recorded at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the reporting date. The hierarchy below lists three levels of fair value based on the extent to which inputs used in measuring fair value are observable in the market. Observable inputs reflect market data obtained from independent sources while unobservable inputs reflect market assumptions made by the reporting entity.

The three-level hierarchy for the inputs to valuation techniques used to measure fair value is briefly summarized as follows:

Level 1 — Unadjusted quoted prices in active markets that are accessible to the reporting entity at the measurement date for identical assets and liabilities.

Level 2 — Inputs other than quoted prices in active markets for identical assets and liabilities that are observable either directly or indirectly for substantially the full term of the asset or liability. Level 2 inputs include the following:

- Quoted prices for similar assets and liabilities in active markets.
- Quoted prices for identical or similar assets or liabilities in markets that are not active.
- Observable inputs other than quoted prices that are used in the valuation of the asset or liabilities (e.g., interest rate and yield curve quotes at commonly quoted intervals).
- Inputs that are derived principally from or are corroborated by observable market data by correlation or other means.

Level 3 — Unobservable inputs for the assets or liabilities (i.e., supported by little or no market activity). Level 3 inputs include management's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk).

This hierarchy requires the Company to use observable market data, when available, and to minimize the use of unobservable inputs when determining fair value.

Inventory and Other Deferred Costs

Inventory, consisting of supplies used in the Company's genomic analysis contracts, are valued at the lower of cost or net realizable value. Cost is determined using actual costs, on a first-in, first-out basis.

Other deferred costs relate to work in process for costs incurred on genomic analysis contracts that have not been completed or recognized as revenue. Other deferred costs represent materials used in sequencing services, labor, and overhead allocations.

Leases

The Company categorizes leases with contractual terms longer than twelve months as either operating or finance leases. Finance leases are generally those leases that allow the Company to substantially utilize or pay for the entire asset over its estimated life. All other leases are categorized as operating leases. As of September 30, 2021, the Company had no finance leases.

Certain lease contracts include obligations to pay for other services, such as maintenance. The Company elected to account for these other services as a component of the lease (i.e., the Company elected the practical expedient not to separate lease and non-lease components).

Lease liabilities are recognized at the present value of the fixed lease payments, reduced by landlord incentives, using a discount rate based on the Company's current borrowing rate at the lease commencement date, adjusted for various factors including level of collateralization and term (the "incremental borrowing rate"), unless the rate implicit in the lease is readily determinable. The current portion of lease liabilities is included in "Accrued and other current liabilities." Lease assets are recognized based on the initial present value of the fixed lease payments, reduced by landlord incentives, plus any direct costs from executing the leases or lease prepayments reclassified from "Other long-term assets" upon lease commencement. Lease assets are presented as "Operating lease right-of-use assets" as a long-term asset. Leasehold improvements are capitalized at cost and amortized over the lesser of their expected useful life or the lease term. Costs associated with operating lease assets are recognized on a straight-line basis within operating expenses over the term of the lease.

The Company has made an accounting policy election not to recognize right-of-use assets and lease liabilities that arise from leases with a term of 12 months or less. Lease payments are recognized as an expense on a straight-line basis over the lease term.

Recent Accounting Pronouncements

New Accounting Pronouncements Not Yet Adopted

In June 2016, the FASB issued Accounting Standards Update ("ASU") 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, which amends the impairment model by requiring entities to use a forward-looking approach based on expected losses to estimate credit losses on certain types of financial instruments, including trade receivables. The accounting update also made minor changes to the impairment model for available-for-sale debt securities. In November 2019, the FASB delayed the effective date for Topic 326 as applicable to smaller reporting companies to the first quarter of 2023. While the Company will no longer qualify as a smaller reporting company starting in the first quarter of 2022, the delayed effective date still applies to the Company. The Company is currently evaluating the impact of the new guidance on its consolidated financial statements and related disclosures. The Company will apply the new guidance by means of a cumulative-effect adjustment to the opening retained earnings as of the beginning of the first reporting period in which the guidance is effective.

JOBS Act Accounting Election

The Company is an emerging growth company, as defined in the Jumpstart Our Business Startups Act (the "JOBS Act"). Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. The Company has irrevocably elected not to avail itself of this exemption from new or revised accounting standards, and therefore, the Company will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Note 3. Revenue

The following table presents revenue disaggregated by customer type (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
VA MVP	$ 13,650	$ 14,092	$ 40,367	$ 43,598
All other customers	8,611	5,724	24,445	14,874
Total revenue	$ 22,261	$ 19,816	$ 64,812	$ 58,472

Revenue from countries outside of the United States, based on the billing addresses of customers, represented approximately 6% and 7% of the Company's revenue for the three months ended September 30, 2021 and 2020, and approximately 7% and 5% for the nine months ended September 30, 2021 and 2020, respectively.

Contract Assets and Liabilities

Contract assets as of September 30, 2021 and December 31, 2020 were immaterial.

The Company's contract liabilities consist of customer deposits in excess of revenue recognized and are presented as current liabilities in the condensed consolidated balance sheets.

The balance of contract liabilities was $3.0 million and $21.0 million as of September 30, 2021 and December 31, 2020, respectively. Revenue recognized for the three months ended September 30, 2021 and 2020 that were included in the contract liability balance at the beginning of each reporting period were $9.7 million and $10.6 million, respectively. Revenue recognized for the nine months ended September 30, 2021 and 2020 that were included in the contract liability balance at the beginning of each reporting period were $19.1 million and $31.7 million, respectively.

Revenue allocated to remaining performance obligations represent contracted revenue that has not yet been recognized ("contracted not recognized revenue"), which include VA MVP contract liabilities and amounts that will be invoiced and recognized as revenue in future periods. Contracted not recognized revenue was $12.9 million as of September 30, 2021, the substantial majority of which is expected to be recognized as revenue within the next two quarters. The Company has elected the optional exemption that allows for the exclusion of contracts with an original expected duration of one year or less.

Note 4. Balance Sheet Details

Inventory and other deferred costs consist of the following (in thousands):

	September 30, 2021	December 31, 2020
Raw materials	$ 3,821	$ 2,675
Other deferred costs	1,702	2,964
Total inventory and other deferred costs	$ 5,523	$ 5,639

Property and equipment. Depreciation and amortization expense for the three months ended September 30, 2021 and 2020 was $1.5 million, and for the nine months ended September 30, 2021 and 2020 was $4.4 million and $4.3 million, respectively. Accumulated depreciation and amortization was $17.4 million and $14.5 million as of September 30, 2021 and December 31, 2020, respectively.

Restricted cash. The Company's restricted cash is pledged as collateral for a standby letter of credit related to a property lease. The balance of restricted cash was $1.8 million and zero as of September 30, 2021 and December 31, 2020, respectively, and is included in other long-term assets.

Accrued and other current liabilities consist of the following (in thousands):

	September 30, 2021	December 31, 2020
Accrued compensation	$ 8,315	$ 8,041
Operating lease liabilities	3,552	2,445
Loans—current portion (Note 6)	1,775	—
Employee ESPP contributions	1,103	407
Accrued liabilities	977	313
Accrued taxes	478	95
Other	61	—
Total accrued and other current liabilities	$ 16,261	$ 11,301

Note 5. Fair Value Measurements

The following tables show the Company's financial assets measured at fair value on a recurring basis and the level of inputs used in such measurements as of September 30, 2021 and December 31, 2020 (in thousands):

	September 30, 2021				
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Fair Value Level
Assets					
Cash and cash equivalents:					
Cash	$ 5,307	$ —	$ —	$ 5,307	
Money market funds	26,848	—	—	26,848	Level 1
Commercial paper	47,419	—	(2)	47,417	Level 2
Total cash and cash equivalents	79,574	—	(2)	79,572	
Short-term investments:					
Asset-backed securities	18,173	3	—	18,176	Level 2
Commercial paper	111,131	2	(1)	111,132	Level 2
Corporate debt securities	21,157	—	(5)	21,152	Level 2
U.S. agency securities	19,659	6	(2)	19,663	Level 2
U.S. government securities	55,536	3	(4)	55,535	Level 2
Total short-term investments	225,656	14	(12)	225,658	
Total assets measured at fair value	$ 305,230	$ 14	$ (14)	$ 305,230	

	December 31, 2020				
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Fair Value Level
Assets					
Cash and cash equivalents:					
Cash	$ 4,767	$ —	$ —	$ 4,767	
Money market funds	22,614	—	—	22,614	Level 1
Commercial paper	41,145	—	(1)	41,144	Level 2
Total cash and cash equivalents	68,526	—	(1)	68,525	
Short-term investments:					
Commercial paper	25,470	—	—	25,470	Level 2
Corporate debt securities	29,576	—	(8)	29,568	Level 2
U.S. agency securities	61,436	31	(1)	61,466	Level 2
U.S. government securities	18,260	1	—	18,261	Level 2
Total short-term investments	134,742	32	(9)	134,765	
Total assets measured at fair value	$ 203,268	$ 32	$ (10)	$ 203,290	

Realized gains or losses on marketable debt securities are immaterial for the periods presented. No security has been in an unrealized loss position for 12 months or greater. The Company determined that it did have the ability and intent to hold all marketable securities that have been in a continuous loss position until maturity or recovery. As of September 30, 2021, the Company does not consider any of its marketable debt securities to be other-than-temporarily impaired.

The Company's marketable debt securities at September 30, 2021 have maturities due in one year or less, except for debt securities with an aggregate cost basis and fair value of $23.5 million that have maturities ranging from 13 to 21 months.

Note 6. Loans

In April 2021, the Company entered into a payment agreement with a financing entity to finance the purchase of $2.4 million of certain internal use software licenses and related software maintenance from a vendor. The financing entity and vendor are not related. The Company is obligated to repay the financed amount in three equal payments of $0.8 million in May 2021, May 2022, and May 2023. The payment agreement is noninterest bearing and the Company concluded that such interest rate (zero) did not represent fair and adequate compensation to the financing entity for the use of the related funds. Accordingly, the Company approximated the rate at which it could obtain financing of a similar nature from other sources at the date of the transaction. The resulting imputed interest rate was 7% and was used to establish the present value of the payment agreement. The discount is recognized as interest expense in the condensed consolidated statements of operations over the life of the payment agreement.

In April 2021, the Company entered into another payment agreement, with the same financing entity, to finance the purchase of $3.1 million of certain computer hardware and related hardware maintenance. The Company is required to pay three equal payments of $1.0 million in July 2021, June 2022, and June 2023. The nature of this agreement and resulting accounting treatment are the same as the payment agreement described in the preceding paragraph.

The total initial present value of the payment agreements was $5.2 million and presented as proceeds from loans in the condensed consolidated statements of cash flows. Such proceeds were used to purchase equipment, software, and related maintenance and are reflected as cash outflows in the investing and operating activities sections in the condensed consolidated statements of cash flows. Repayments are presented as financing cash outflows in the condensed consolidated statements of cash flows. Interest expense for the three and nine months ended September 30, 2021 was $0.1 million. Amounts outstanding under the payment agreements are as follows (in thousands):

	September 30, 2021	December 31, 2020
Principal	$ 3,714	$ —
Less: unamortized discount	(279)	—
Total carrying amount	3,435	—
Less: current portion (included in accrued and other current liabilities)	(1,775)	—
Long-term portion (included in other long-term liabilities)	$ 1,660	$ —

Note 7. Leases

In February 2015, the Company entered into a noncancelable operating lease for approximately 31,280 square feet of space used for its current laboratory and corporate headquarters. In April 2020, the Company extended the term of the lease through November 30, 2027. The lease includes an option to extend the term for a period of three years with rent payments equal to then current fair market rent for the space. The Company determined the extension option is not reasonably certain to be exercised. The lease contains a leasehold improvement incentive and escalating rent payments. In May 2021, the Company amended the lease to expand the premises subject to the lease to include an additional 14,710 square feet of space (the “Expansion Lease”). The Expansion Lease expires on December 31, 2022 and has no option to extend the term.

In August 2019, the Company entered into a noncancelable operating lease for a co-located data center space. The lease expires on August 31, 2022 and includes an option to extend the term for a period of three years immediately following the expiration of the term with rent payments to be negotiated upon such a renewal. The Company determined the extension option is not reasonably certain to be exercised. In April 2020, the lease was modified to increase the data center space available for the Company’s use for the remainder of the lease term.

In August 2021, the Company entered into a noncancelable operating lease for approximately 100,000 square feet of space in Fremont, California to be used as the Company’s future corporate headquarters and expanded laboratory facility. The lease term is 13.5 years and commences in June 2022. The Company gained early access to the premises upon entering the lease for the purpose of constructing and installing tenant improvements, for which the landlord has agreed to contribute up to approximately $15.5 million. Such contributions become payable only upon approval by the landlord of applications for payment and are accounted for as lease incentives once the Company has incurred costs and the amounts qualify for reimbursement by the landlord. The lease incentives are then recognized prospectively over the remainder of the lease term. The lease expires on November 30, 2035 and includes two options to extend the term for a period of five-years per option with rent payments equal to then current fair market rent for the space. The Company determined the extension options are not reasonably certain to be exercised. The lease also contains escalating rent payments.

Operating lease cost for the three months ended September 30, 2021 and 2020 was $1.4 million and $0.6 million, and for the nine months ended September 30, 2021 and 2020 was $2.8 million and $1.6 million, respectively.

As of September 30, 2021, the Company’s operating leases had a weighted-average remaining lease term of 12.4 years and a weighted-average discount rate of 6.6%. The Company’s discount rates are based on estimates of its incremental borrowing rate, as the discount rates implicit in the leases cannot be readily determined. Future lease payments under operating leases as of September 30, 2021 were as follows (in thousands):

	Amount
2021 (remaining three months)	$ 927
2022	3,838
2023	6,155
2024	6,792
2025	7,001
2026 and thereafter	60,744
Total future minimum lease payments	85,457
Less: imputed interest	(29,039)
Present value of future minimum lease payments	56,418
Less: current portion of operating lease liability	(3,552)
Long-term operating lease liabilities	$ 52,866

Cash paid for operating lease liabilities, included in cash flows from operating activities in the condensed consolidated statement of cash flows, for the nine months ended September 30, 2021 and 2020, was $2.3 million and $1.2 million, respectively. Right-of-use assets obtained in exchange for new operating lease liabilities during the nine months ended September 30, 2021 and 2020 were $46.4 million and $9.8 million, respectively.

Note 8. Stock-Based Compensation

2011 Equity Incentive Plan

In 2011, the Company's board of directors established its 2011 Equity Incentive Plan (the "2011 Plan") that provided for the granting of stock options to employees and nonemployees of the Company. Under the 2011 Plan, the Company had the ability to issue incentive stock options ("ISOs"), nonstatutory stock options ("NSOs"), stock appreciation rights, restricted stock awards, and restricted stock unit awards ("RSUs"). Options under the 2011 Plan could be granted for periods of up to 10 years. The ISOs could be granted at a price per share not less than the fair value at the date of grant.

2019 Equity Incentive Plan

The Company's board of directors adopted and the Company's stockholders approved the 2019 Equity Incentive Plan (the "2019 Plan") in May 2019 and June 2019, respectively. The 2019 Plan became effective in June 2019 in connection with the Company's Initial Public Offering ("IPO"), and no further grants will be made under the 2011 Plan. Shares reserved and remaining available for issuance under the 2011 Plan were added to the 2019 Plan reserve upon its effectiveness.

The 2019 Plan provides for the grant of ISOs, NSOs, stock appreciation rights, restricted stock awards, RSUs, performance-based stock awards, and other forms of equity compensation. Additionally, the 2019 Plan provides for the grant of performance cash awards. ISOs may be granted only to the Company's employees and to any of the Company's parent or subsidiary corporation's employees. All other awards may be granted to employees, including officers, and to non-employee directors and consultants of the Company and any of the Company's affiliates. The exercise price of a stock option generally cannot be less than 100% of the fair market value of the Company's common stock on the date of grant. Options under the 2019 Plan may be granted for periods of up to 10 years.

2020 Inducement Plan

The Compensation Committee of the Company's board of directors adopted the 2020 Inducement Plan (the "Inducement Plan") in May 2020, which became effective upon adoption. The Inducement Plan was adopted without stockholder approval, as permitted by the Nasdaq Stock Market listing rules (the "Nasdaq Listing Rules"). The Inducement Plan provides for the grant of equity-based awards, including NSOs, stock appreciation rights, restricted stock awards, RSUs, performance-based stock awards, and other forms of equity compensation, and its terms are substantially similar to the stockholder-approved 2019 Plan. In accordance with relevant Nasdaq Listing Rules, awards under the Inducement Plan may only be made to individuals not previously employees or non-employee directors of the Company (or following such individuals' bona fide period of non-employment with the Company), as an inducement material to the individuals entry into employment with the Company.

2019 Employee Stock Purchase Plan

The Company's board of directors adopted and the Company's stockholders approved the ESPP in May 2019 and June 2019, respectively. Subject to any plan limitations, the ESPP allows eligible employees to contribute, normally through payroll deductions, up to 15% of their earnings for the purchase of the Company's common stock at a discounted price per share. The price at which common stock is purchased under the ESPP is equal to 85% of the fair market value of the Company's common stock on the first or last day of the offering period, whichever is lower. The ESPP provides for separate six-month offering periods beginning on May 1 and November 1 of each year.

Shares of common stock available for issuance under the Company's equity incentive plans as of September 30, 2021 and December 31, 2020 were as follows:

	September 30, 2021	December 31, 2020
Reserved for issuance upon exercise of options outstanding under the 2011 Plan	2,596,102	3,389,711
Reserved for issuance upon exercise or settlement of awards outstanding under the 2019 Plan	3,696,255	2,399,513
Reserved and available for issuance under the 2019 Plan	2,450,657	1,977,069
Reserved for issuance upon exercise or settlement of awards outstanding under the Inducement Plan	172,892	199,300
Reserved and available for issuance under the Inducement Plan	804,450	800,700
Reserved and available for issuance under the ESPP	654,636	320,582
Total number of shares reserved	10,374,992	9,086,875

Stock Option Activity

A summary of the Company's stock option activity (excluding performance-based stock option activity summarized further below) under the 2011 Plan, 2019 Plan, and Inducement Plan for the nine months ended September 30, 2021 is as follows:

	Outstanding Options			
(in thousands, except share and per share data)	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Balance—December 31, 2020	4,948,306	$ 7.10	6.71	$ 146,044
Options granted	940,326	21.55		
Options exercised	(833,676)	2.32		
Options cancelled	(92,526)	12.35		
Balance—September 30, 2021	4,962,430	$ 10.54	7.14	$ 47,223
Options vested and exercisable as of September 30, 2021	2,887,908	$ 6.28	5.92	$ 37,494

Options granted to new hires generally vest over a four-year period, with 25% vesting at the end of one year and the remaining vesting monthly thereafter. Options granted as merit awards generally vest monthly over a three- or four-year period.

The aggregate intrinsic value of unexercised stock options is calculated as the difference between the closing price of the Company's common stock of $19.24 on September 30, 2021 and the exercise prices of the underlying stock options. Out-of-the money stock options are excluded from the aggregate intrinsic value.

The weighted-average grant date fair value of options granted was $12.53 and $11.71 per share for the three months ended September 30, 2021 and 2020, and $13.32 and $5.40 per share for the nine months ended September 30, 2021 and 2020, respectively. As of September 30, 2021, the unrecognized stock-based compensation cost of unvested options was $19.4 million, which is expected to be recognized over a weighted-average period of 2.4 years.

Valuation of Stock Options

The Company estimated the fair value of stock options (excluding performance-based stock options discussed below) using the Black-Scholes option-pricing model. The fair value of stock options is recognized on a straight-line basis over the requisite service periods of the awards. The fair value of stock options was estimated using the following weighted-average assumptions:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Expected term (in years)	6.02 - 6.08	5.77 - 6.08	5.50 - 6.27	5.50 - 6.08
Volatility	68.81 - 69.31%	67.78 - 68.15%	68.06 - 69.90%	61.74 - 68.18%
Risk-free interest rate	0.86 - 0.96%	0.37 - 0.39%	0.62 - 1.06%	0.36 - 1.66%
Dividend yield	–%	–%	–%	–%

Performance-Based Stock Option Activity

Pursuant to the 2019 Plan, in March 2020, the Company's board of directors granted the Company's Chief Executive Officer a performance-based stock option ("PSO") to purchase 421,000 shares of common stock. The PSO was subject to the Chief Executive Officer's continued service to the Company through the date of vesting and, if the performance condition is not met within 10 years from the date of grant, the PSO would be canceled. The shares subject to the PSO would vest in full if the Company's average market capitalization is equal to or greater than $1 billion over a 30 calendar day period. Upon a change in control, the vesting of the shares subject to the PSO would accelerate on a pro rata basis based on the price per share in such change in control transaction multiplied by the price per share at such time divided by $1 billion, with up to 100% of the shares eligible for such accelerated vesting. During the last quarter of 2020, the Company's average market capitalization was equal to or greater than $1 billion over a 30 calendar day period and the PSO vested in full.

A summary of the Company's performance-based stock option activity under the 2019 Plan for the nine months ended September 30, 2021 is as follows:

	Outstanding Performance-Based Options			
(in thousands, except share and per share data)	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Balance—December 31, 2020	421,000	$ 5.10	9.21	$ 13,266
Options granted	—			
Options exercised	—			
Options cancelled	—			
Balance—September 30, 2021	421,000	$ 5.10	8.46	$ 5,953
Options vested and exercisable as of September 30, 2021	421,000	$ 5.10	8.46	$ 5,953

The aggregate intrinsic value of unexercised stock options is calculated as the difference between the closing price of the Company's common stock of $19.24 on September 30, 2021 and the exercise price of the underlying stock options. As of September 30, 2021, there is no remaining unrecognized stock-based compensation cost.

Valuation of Performance-Based Stock Options

The Company estimated the fair value of the PSO using a Monte Carlo Model and the following assumptions and estimates:

	2020
Performance period (in years)	10.00
Derived service period (in years)	4.55
Volatility	63.60%
Risk-free interest rate	1.02%
Dividend yield	–%
Estimated fair value per share	$ 3.31

Restricted Stock Units Activity and Valuation

A summary of the Company's RSU activity under the 2019 Plan and Inducement Plan for the nine months ended September 30, 2021 is as follows:

	Unvested Restricted Stock Units		
(in thousands, except share and per share data)	Number of Shares	Weighted-Average Grant Date Fair Value	Aggregate Fair Value
Balance—December 31, 2020	619,218	$ 10.41	$ 22,670
RSUs granted	679,606	22.32	
RSUs vested	(167,538)	9.03	3,959
RSUs cancelled	(49,467)	17.66	
Balance—September 30, 2021	1,081,819	$ 17.77	$ 20,814

The Company granted RSUs to employees to receive shares of the Company's common stock. The RSUs awarded are subject to each individual's continued service to the Company through each applicable vesting date. RSUs granted to new hires generally vest annually over a four-year period. RSUs granted as merit awards generally vest semi-annually over a three- or four-year period, or in some cases quarterly over a three-year period. The Company accounted for the fair value of the RSUs using the closing market price of the Company's common stock on the date of grant.

The aggregate fair value of unvested RSUs is calculated using the closing price of the Company's common stock of $19.24 on September 30, 2021. As of September 30, 2021, the unrecognized stock-based compensation cost of unvested RSUs was $17.2 million, which is expected to be recognized over a weighted-average period of 2.9 years.

The Company's default tax withholding method for RSUs is the sell-to-cover method, in which shares with a market value equivalent to the tax withholding obligation are sold on behalf of the holder of the RSUs upon vesting and settlement to cover the tax withholding liability and the cash proceeds from such sales are remitted by the Company to taxing authorities.

ESPP Activity and Valuation

During the nine months ended September 30, 2021 and 2020, 57,001 and 71,480 shares of common stock were purchased under the ESPP, respectively. The fair value of stock purchase rights granted under the ESPP was estimated using the following assumptions (no stock purchase rights were granted during the three months ended September 30, 2021 or 2020):

	Nine Months Ended September 30,	
	2021	2020
Expected term (in years)	0.49	0.50
Volatility	74.88%	102.10%
Risk-free interest rate	0.04%	0.12%
Dividend yield	–%	–%
Grant-date fair value per share	$ 8.21	$ 4.29

Stock Option Modifications

During March 2021, the Company's board of directors approved modifications to the outstanding stock options of two of the Company's non-employee directors. The modifications involved acceleration of unvested options and an extension of the exercise periods. The modifications resulted in incremental compensation cost of $1.2 million, all of which was recognized during the nine months ended September 30, 2021.

Stock-Based Compensation Expense

The following is a summary of stock-based compensation expense by award type (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Stock options	$ 2,008	$ 957	$ 6,511	$ 3,219
RSUs	1,425	77	3,080	166
ESPP	256	462	755	885
Performance-based stock options	—	194	—	491
Total stock-based compensation expense	$ 3,689	$ 1,690	$ 10,346	$ 4,761

The following is a summary of stock-based compensation expense by function (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Cost of revenue	$ 376	$ 254	$ 996	$ 606
Research and development	1,172	511	2,800	1,164
Selling, general and administrative	2,141	925	6,550	2,991
Total stock-based compensation expense	$ 3,689	$ 1,690	$ 10,346	$ 4,761

Note 9. Commitments and Contingencies

Contingencies

The Company is subject to claims and assessments from time to time in the ordinary course of business. Accruals for litigation and contingencies are reflected in the condensed consolidated financial statements based on management's assessment, including the advice of legal counsel, of the expected outcome of litigation or other dispute resolution proceedings and/or the expected resolution of contingencies. Liabilities for estimated losses are accrued if the potential losses from any claims or legal proceedings are considered probable and the amounts can be reasonably estimated. Significant judgment is required in both the determination of probability of loss and the determination as to whether the amount can be reasonably estimated. Accruals are based only on information available at the time of the assessment due to the uncertain nature of such matters. As additional information becomes available, management reassesses potential liabilities related to pending claims and litigation and may revise its previous estimates, which could materially affect the Company's consolidated results of operations in a given period. As of September 30, 2021, the Company was not involved in any material legal proceedings.

Indemnification

In the normal course of business, the Company enters into contracts and agreements that contain a variety of representations and warranties and provide for general indemnifications. The Company's exposure under these agreements is unknown because it involves claims that may be made against the Company in the future, but that have not yet been made. To date, the Company has not paid any claims or been required to defend any action related to its indemnification obligations. However, the Company may record charges in the future as a result of these indemnification obligations.

Note 10. Basic and Diluted Net Loss Per Common Share

Basic net loss per common share is computed by dividing net loss by the weighted-average number of common shares outstanding during the period. Diluted net loss per common share is computed using net loss and the weighted-average number of common shares outstanding plus potentially dilutive common shares outstanding during the period. Potentially dilutive common shares include the assumed exercise of outstanding in-the-money stock options and common stock warrants, assumed release of outstanding RSUs, and assumed issuance of common stock under the ESPP using the treasury stock method.

The following table sets forth the computation of net loss per common share (in thousands, except share and per share amounts):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Net loss	$ (17,670)	$ (9,545)	$ (45,027)	$ (27,939)
Weighted-average common shares outstanding—basic and diluted	44,511,534	35,460,092	43,579,308	32,845,583
Net loss per common share—basic and diluted	$ (0.40)	$ (0.27)	$ (1.03)	$ (0.85)

The Company incurred net losses in the periods presented, and as a result, potential common shares from stock options, common stock warrants, RSUs, and the assumed release of outstanding shares under the ESPP were not included in the diluted shares used to calculate net loss per share, as their inclusion would have been anti-dilutive. The following table sets forth the potentially dilutive shares excluded from the computation of diluted net loss per common share because their effect was anti-dilutive:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Options to purchase common stock	5,383,430	5,340,464	5,383,430	5,340,464
Unvested RSUs	1,081,819	647,210	1,081,819	647,210
ESPP	64,132	91,816	64,132	91,816
Total	6,529,381	6,079,490	6,529,381	6,079,490

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our condensed consolidated financial statements and the related notes and other financial information included elsewhere in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 filed with the Securities and Exchange Commission (the "SEC") on February 25, 2021 (the "Annual Report"). In addition to historical consolidated financial information, the following discussion contains forward-looking statements that reflect our plans, estimates, and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. You should review the sections titled "Special Note Regarding Forward-Looking Statements" for a discussion of forward-looking statements and in Part II, Item 1A, "Risk Factors" for a discussion of 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 and elsewhere in this Quarterly Report on Form 10-Q and in our Annual Report.

Overview

We are a cancer genomics company transforming the development of next-generation therapies by providing more comprehensive molecular data about each patient's cancer and immune response. We designed our NeXT Platform to adapt to the complex and evolving understanding of cancer, providing our biopharmaceutical customers with information on all of the approximately 20,000 human genes, together with the immune system, in contrast to many cancer panels that cover roughly only 50 to 500 genes. In parallel with the development of our platform technology, we have also pursued business within the population sequencing market, and we have provided whole genome sequencing services under contract with the U.S. Department of Veterans Affairs (the "VA") Million Veteran Program (the "VA MVP"), which has enabled us to innovate, scale our operational infrastructure, and achieve greater efficiencies in our lab. The VA MVP is the largest population sequencing effort in the United States and we have delivered over 140,000 whole human genome sequence datasets to the VA MVP to date. In September 2021, we announced receipt of a new task order from the VA MVP with an approximate value of up to $10 million. The cumulative value of task orders received from the VA MVP since inception is approximately $186 million, $172.8 million of which we had recognized as revenue as of September 30, 2021.

In August 2020, we launched NeXT Liquid Biopsy, which is a liquid biopsy assay that analyzes all of the approximately 20,000 human genes versus the more narrowly focused liquid biopsy assays that are currently available. By combining technological innovation, operational scale, and regulatory differentiation, our NeXT Platform is designed to help our customers obtain new insights into the mechanisms of response and resistance to therapy as well as new potential therapeutic targets. Our platform enhances the ability of biopharmaceutical companies to unlock the potential of conducting translational research in the clinic rather than with pre-clinical animal models or cancer cell lines. We also announced in January 2020 a diagnostic test, NeXT Dx Test, which is based on our NeXT Platform, that we envision being used initially by both leading clinical cancer centers as well as biopharmaceutical companies. Most recently, in December 2020, we launched two new capabilities that are integrated into our NeXT Platform: our Systemic HLA Epitope Ranking Pan Algorithm ("SHERPA") machine learning-based tool for the comprehensive identification and characterization of cancer neoantigens, as well as our Neoantigen Presentation Score ("NEOPS") for predicting cancer immunotherapy response. SHERPA enables the development of new neoantigen-based diagnostic biomarkers, such as our NEOPS, and novel personalized therapies.

In August 2021, we announced that we will relocate our corporate headquarters from Menlo Park to a new facility in Fremont, California. We signed a 13.5-year lease for the 100,000 square foot facility, which is approximately double the amount of space in our current Menlo Park location. The new facility is intended to allow for expansion of our CLIA-certified and CAP-accredited laboratory for clinical testing to support biopharma customers and clinical diagnostic testing. In addition, the new space is intended to support the expansion of research and development efforts to bring leading edge products and services to the marketplace. The new facility will also provide more office space for our selling, general and administrative workforce.

On January 29, 2021, we completed a follow-on equity offering in which we issued and sold 3,950,000 shares of common stock at a public offering price of $38.00 per share. We received net proceeds of $141.1 million after deducting underwriting discounts and commissions. The underwriters exercised their option to purchase an additional 592,500 shares shortly thereafter, resulting in additional net proceeds to us of $21.2 million after deducting underwriting discounts and commissions. In total, we raised net proceeds of $162.3 million after deducting underwriting discounts and commissions. We also incurred $0.3 million of offering costs, including legal, accounting, printing and other offering-related costs.

Our operations have been impacted by the ongoing COVID-19 pandemic. For example, the previous shelter-in-place order and health orders have negatively impacted productivity, disrupted our business, and slowed research and development activities due to us limiting access to our laboratory space that would otherwise be used by our research and development group, and, to the extent such orders return in similar or more stringent form, they may continue to cause such effects on our operations. The COVID-19 pandemic has also disrupted, and may continue to disrupt, the ability of our suppliers to fulfill our purchase orders in a timely manner or at all. Additionally, we are aware of increased demand in the market for certain consumables used in COVID-19 test kits and vaccines. We use such consumables in our operations, and we have faced, and may face in the future, difficulties in acquiring such consumables if our suppliers prioritize orders related to COVID-19. Several of our customers, including the VA MVP, were delayed in sending us samples in the prior year due to the inability to collect or ship samples during the COVID-19 pandemic, and these and additional customers may be disrupted from collecting samples or sending purchase orders and samples to us in the future.

While authorities in many areas have lifted or relaxed pandemic-related restrictions, in some cases they have subsequently re-imposed various restrictions after observing an increased rate of COVID-19 cases as the global COVID-19 pandemic continues to rapidly evolve and to present serious health risks. There is no guarantee when or if all such restrictions and recommendations will be eliminated, such that we and our customers, manufacturers and suppliers will be able to safely resume operations consistent with our pre-COVID-19 operations. The full extent of the impact of the COVID-19 pandemic on our business, operations and plans remains uncertain and will depend on future developments that cannot be predicted at this time. Such developments include the continued spread of the Delta variant in the U.S. and other countries and the potential emergence of other SARS-CoV-2 variants that may prove especially contagious or virulent, the ultimate duration of the pandemic and the resulting impact on our business and other third parties with whom we do business, and the effectiveness of actions taken globally to contain and treat the disease.

A continued and prolonged public health crisis such as the COVID-19 pandemic could have a material negative impact on our business, financial condition, and operating results.

Components of Operating Results

Revenue

We derive our revenue primarily from sequencing and data analysis services to support the development of next-generation cancer therapies and to support large-scale genetic research programs. We support our customers by providing high-accuracy, validated genomic sequencing and advanced analytics. Many of these analytics are related to state-of-the-art biomarkers, including those relevant to immuno-oncology therapeutics such as checkpoint inhibitors.

Our revenue is primarily generated through contracts with companies in the pharmaceutical industry, healthcare organizations, and government entities. Our ability to increase revenue will depend on our ability to further penetrate this market. To do this, we are developing a growing set of state-of-the-art products, advancing our operational infrastructure, expanding our international presence, building our regulatory credentials, and expanding our targeted marketing efforts. Unlike diagnostic or therapeutic companies, we have not to date sought reimbursement through traditional healthcare payors. We sell through a small direct sales force.

We derive a substantial portion of our current revenue from sales of our DNA sequencing and data analysis services to the VA MVP. Our contract with the VA MVP does not include specific testing turnaround times. Therefore, we have the ability to modulate the volume of samples processed for the VA MVP up or down to complement sample volumes from all other customers, which can vary from period to period.

We have one reportable segment from the sale of sequencing and data analysis services. Substantially all of our revenue to date has been derived from sales in the United States.

Costs and Expenses

Cost of Revenue

Cost of revenue consists of raw materials costs, personnel costs (salaries, bonuses, stock-based compensation, payroll taxes, and benefits), laboratory supplies and consumables, depreciation and maintenance on equipment, and allocated facilities and information technology (“IT”) costs. We expect cost of revenue to increase as our revenue grows, and in the short term cost of revenue may outpace revenue growth as we invest in expanding our laboratory capacity, including additional costs associated with our future laboratory in Fremont, California. Over time the cost per sample processed is expected to decrease due to economies of scale we may gain as volume increases, automation initiatives, and other cost reductions.

Research and Development Expenses

Research and development expenses consist of costs incurred for the research and development of our products. These expenses consist primarily of personnel costs (salaries, bonuses, stock-based compensation, payroll taxes, and benefits), laboratory supplies and consumables, costs of purchasing samples for research purposes, depreciation and maintenance on equipment, and allocated facilities and IT costs. We include in research and development expenses the costs to further develop software we use to operate our laboratory, analyze the data it generates, and automate our operations. These expenses also include costs associated with our collaborations, which we expect to increase over time.

We expense our research and development costs in the period in which they are incurred. We expect to increase our research and development expenses as we continue to develop new products and incur additional costs associated with our future headquarters in Fremont, California.

Selling, General and Administrative Expenses

Selling expenses consist of personnel costs (salaries, commissions, bonuses, stock-based compensation, payroll taxes, and benefits), customer support expenses, direct marketing expenses, and market research. Our general and administrative expenses include costs for our executive, accounting, finance, legal, and human resources functions. These expenses consist of personnel costs (salaries, bonuses, stock-based compensation, payroll taxes, and benefits), corporate insurance, audit and legal expenses, consulting costs, and allocated facilities and IT costs. We expense all selling, general and administrative costs as incurred.

We expect our selling expenses will continue to increase in absolute dollars, primarily driven by our efforts to expand our commercial capability and to expand our brand awareness and customer base through targeted marketing initiatives with an increased presence both within and outside the United States. We expect general and administrative expenses to increase as we scale our operations and incur additional costs associated with ramping up our new headquarters facility in Fremont, California.

Interest Income and Interest Expense

Interest income consists primarily of interest earned on our cash and cash equivalents and short-term investments. Since the first quarter of 2020, our interest income has been adversely impacted by declines in yields on debt securities. While our average balances of cash and cash equivalents and short-term investments have increased as compared to the same periods in the prior year (due primarily to our follow-on equity offerings), we expect that our interest income will not materially increase in the near future given the current low interest-rate environment. Interest expense in 2021 is the recognition of imputed interest on noninterest bearing loans.

Other Income (Expense), Net

Other income (expense), net consists primarily of foreign currency exchange gains and losses, and realized gains or losses associated with sales of marketable securities. We expect our foreign currency exchange gains and losses to continue to fluctuate in the future due to changes in foreign currency exchange rates.

Results of Operations

The following sets forth, for the periods presented, our unaudited condensed consolidated statements of operations and selected financial data (in thousands, except share and per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Revenue	$ 22,261	$ 19,816	$ 64,812	$ 58,472
Costs and expenses				
Cost of revenue	14,195	14,483	41,151	44,428
Research and development	13,617	7,193	34,800	20,048
Selling, general and administrative	12,140	7,793	33,989	22,772
Total costs and expenses	39,952	29,469	109,940	87,248
Loss from operations	(17,691)	(9,653)	(45,128)	(28,776)
Interest income	88	117	286	873
Interest expense	(60)	—	(125)	(2)
Other income (expense), net	5	(4)	(43)	5
Loss before income taxes	(17,658)	(9,540)	(45,010)	(27,900)
Provision for income taxes	12	5	17	39
Net loss	$ (17,670)	$ (9,545)	$ (45,027)	$ (27,939)
Net loss per share, basic and diluted	$ (0.40)	$ (0.27)	$ (1.03)	$ (0.85)
Weighted-average shares outstanding, basic and diluted	44,511,534	35,460,092	43,579,308	32,845,583

	September 30, 2021	December 31, 2020
Cash and cash equivalents, and short-term investments	$ 305,230	$ 203,290
Working capital	302,499	180,083
Total assets	406,694	244,842
Long-term obligations	54,882	9,261
Total liabilities	81,398	49,897
Total stockholders' equity	325,296	194,945

Revenue

The following table shows revenue by customer type (in thousands):

	Three Months Ended September 30,		Change	Nine Months Ended September 30,		Change
	2021	2020		2021	2020	
VA MVP	$ 13,650	$ 14,092	(3%)	$ 40,367	$ 43,598	(7%)
All other customers	8,611	5,724	50%	24,445	14,874	64%
Total revenue	$ 22,261	$ 19,816	12%	$ 64,812	$ 58,472	11%

The following table shows concentration of revenue by customer:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
VA MVP	61%	71%	62%	75%
Natera, Inc.	10%	*	*	*

* Less than 10% of revenue

VA MVP

The decrease of $0.4 million and $3.2 million in revenue from the VA MVP during the third quarter and first nine months of 2021 was primarily due to a decrease in the volume of samples we tested in each period. At the end of the third quarter of 2021, we had a remaining backlog of approximately $12.9 million under our current contract with the VA MVP, including the task order received in September 2021. We expect to convert such amount into revenue in the fourth quarter of 2021 and first quarter of 2022.

We anticipate participating in a potential bidding process in 2022 for a new contract with the VA MVP for additional sample analysis. The size of any such potential new contract, along with timing of when samples may be received and revenue recognized by us, are uncertain. However, the recognition of significant revenue from the VA MVP in future periods after the completion of our current backlog is likely contingent on a successful outcome in the anticipated potential 2022 bidding process. There may not be any such potential bidding process or potential new contract awarded in 2022 or thereafter, we may not win any such potential new contract in any such bidding process, the value of any such potential new contract or the VA MVP contracted orders thereunder may be lower than our current contract and historical contracted orders from the VA MVP, and/or the scope or nature of the services required under any such new contract may change such that we are unable to serve the VA MVP in the future. The task order received in September 2021 had a value of up to approximately $9.7 million, which represents a substantial decline compared to historical contracted orders. Unless we receive an additional task order and/or enter into a new services agreement with the VA MVP with a value comparable to that of our current contract and historical contracted orders, our revenue from the VA MVP will decline significantly after the first quarter of 2022.

All other customers

The increase of $2.9 million in revenue from all other customers during the third quarter of 2021 was primarily due to a $2.3 million increase in revenue from Natera, Inc. (“Natera”) due to increased sample receipts under our agreement to provide advanced tumor analysis for use in Natera’s MRD testing offerings. The remaining $0.6 million increase was primarily due to strong demand from large pharmaceutical customers for our NeXT Platform products, which resulted in an increase in the volume of samples we tested during the period. Revenue derived from our NeXT Platform products, which includes revenue from Natera, was $5.5 million during the third quarter of 2021, compared to $2.8 million during the third quarter of 2020.

The increase of $9.6 million in revenue from all other customers during the first nine months of 2021 was driven primarily by strong demand from large pharmaceutical customers for our NeXT Platform products, which resulted in an increase in the volume of samples we tested during the period. Additionally, revenue from Natera contributed $2.8 million of the increase. Revenue derived from our NeXT Platform products, which includes revenue from Natera, was $14.8 million during the first nine months of 2021, compared to $5.9 million during the same period of 2020.

Based on the relatively large dollar value of orders received from all other customers during the third quarter of 2021 and throughout fiscal 2021 in general, we anticipate that revenue from all other customers will make up the majority of our total revenue in fiscal year 2022.

Costs and Expenses

	Three Months Ended September 30,		Change	Nine Months Ended September 30,		Change
	2021	2020		2021	2020	
	(in thousands)			(in thousands)		
Cost of revenue	$ 14,195	$ 14,483	(2%)	$ 41,151	$ 44,428	(7%)
Research and development	13,617	7,193	89%	34,800	20,048	74%
Selling, general and administrative	12,140	7,793	56%	33,989	22,772	49%
Total costs and expenses	$ 39,952	$ 29,469	36%	$ 109,940	$ 87,248	26%

Cost of revenue

The decreases in cost of revenue in the third quarter and first nine months of 2021, despite revenue increases in the same periods, were primarily due to favorable customer mix and efficiencies within our laboratory operations. Raw materials costs were lower, relative to revenue, for non-VA MVP customer orders, resulting in favorable customer mix for the third quarter and first nine months of 2021. We also observed more efficient sample processing overall during each period, including less labor and overhead required per sample processed, which was favorable for both VA MVP and non-VA MVP orders.

The cost components related to the $0.3 million decrease in cost of revenue during the third quarter of 2021 were a $0.9 million decrease in indirect costs due to a higher utilization of our laboratory for research and development activities, partially offset by a $0.3 million increase in raw materials costs, a $0.2 million increase in depreciation and maintenance on lab equipment, and a $0.1 million increase in the cost of laboratory supplies and consumables.

The cost components related to the $3.3 million decrease in cost of revenue during the first nine months of 2021 were a $1.7 million decrease in raw materials costs due to favorable customer mix, a $1.7 million decrease in indirect costs due to a higher utilization of our laboratory for research and development activities, and a $0.7 million decrease in the cost of laboratory supplies and consumables, partially offset by a $0.6 million increase in depreciation and maintenance on lab equipment, and a $0.2 million increase in labor costs.

Research and development

The $6.4 million increase in research and development during the third quarter of 2021 was primarily due to the development of new products and lab automation efforts and consisted of a $3.5 million increase in personnel-related costs primarily related to increased headcount, a $1.7 million increase in sample processing costs incurred in our laboratory for new product development, a $1.0 million increase in IT and facilities costs, and a $0.2 million increase in consulting fees.

The $14.8 million increase in research and development during the first nine months of 2021 was primarily due to development of new products and lab automation efforts and consisted of a $9.3 million increase in personnel-related costs primarily driven by increased headcount, a $2.9 million increase in sample processing costs incurred in our laboratory for new product development, a $2.2 million increase in IT and facilities costs, and a $0.4 million increase in consulting fees.

Selling, general and administrative

The $4.3 million increase in selling, general and administrative during the third quarter of 2021 was primarily due to a $2.5 million increase in personnel-related costs related to increased headcount, a $1.3 million increase in professional services (including corporate insurance, audit fees, and legal expenses), a $0.4 million increase in rent expense, and a $0.1 million increase in travel-related costs primarily related to selling activities.

The $11.2 million increase in selling, general and administrative during the first nine months of 2021 was primarily due to a $7.4 million increase in personnel-related costs related to increased headcount, a $2.3 million increase in professional services (including corporate insurance, audit fees, and legal expenses), a $1.2 million charge in connection with the modification of stock options held by two non-employee board members, and a $0.3 million increase in other expenses.

Interest Income, Interest Expense, and Other Income (Expense), Net

	Three Months Ended September 30,		Change	Nine Months Ended September 30,		Change
	2021	2020		2021	2020	
Interest income	$ 88	$ 117	(25%)	$ 286	$ 873	(67)%
Interest expense	(60)	—		(125)	(2)	
Other income (expense), net	5	(4)		(43)	5	
Total	$ 33	$ 113		$ 118	$ 876	

Interest income and interest expense

The decreases in interest income during the third quarter and first nine months of 2021 were driven by declines in yields on debt securities, partially offset by higher average cash and investment balances subsequent to our follow-on equity offerings in August 2020 and January 2021. Interest expense in the third quarter and first nine months of 2021 is the recognition of imputed interest on noninterest bearing loans.

Other income (expense), net

Other income (expense), net in the third quarter and first nine months of 2021 consisted of foreign currency transaction gains and losses and remeasurements. Other income in the third quarter and first nine months of 2020 consisted of foreign currency remeasurements.

Liquidity and Capital Resources

The following tables present selected financial information and statistics as of and for the nine months ended September 30, 2021 and 2020 (in thousands):

	As of September 30,	
	2021	2020
Cash and cash equivalents, and short-term investments	$ 305,230	$ 206,063
Property and equipment, net	17,689	12,735
Contract liabilities	2,967	20,593
Working capital	302,499	187,689

	Nine Months Ended September 30,	
	2021	2020
Net cash used in operating activities	$ (55,554)	$ (40,121)
Net cash used in investing activities	(99,980)	(2,003)
Net cash provided by financing activities	168,353	120,327

From our inception through September 30, 2021, we have funded our operations primarily from $279.0 million in net proceeds from our follow-on equity offerings in January 2021 and August 2020, $144.0 million in net proceeds from our IPO in June 2019, and $89.6 million from issuance of redeemable convertible preferred stock, as well as cash from operations and debt financing. As of September 30, 2021, we held cash and cash equivalents in the amount of $79.6 million and short-term investments in the amount of $225.7 million.

We have incurred net losses since our inception. We anticipate that our current cash and cash equivalents and short-term investments, together with cash provided by operating activities, are sufficient to fund our near-term capital and operating needs for at least the next 12 months.

We have based these future funding requirements on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect. If our available cash balances, net proceeds from the offerings and anticipated cash flow from operations are insufficient to satisfy our liquidity requirements, including because of lower demand for our services or other risks described in this Quarterly Report on Form 10-Q, such as the COVID-19 pandemic, we may seek to sell additional common or preferred equity or convertible debt securities, enter into an additional credit facility or another form of third-party funding or seek other debt financing. The sale of equity and convertible debt securities may result in dilution to our stockholders and, in the case of preferred equity securities or convertible debt, those securities could provide for rights, preferences or privileges senior to those of our common stock. The terms of debt securities issued or borrowings pursuant to a credit agreement could impose significant restrictions on our operations. Additional capital may not be available on reasonable terms, or at all.

Our short-term investments portfolio is primarily invested in highly rated securities, with the primary objective of minimizing the potential risk of principal loss. Our investment policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer.

During the nine months ended September 30, 2021, cash used in operating activities of $55.6 million was a result of $45.0 million of net loss and the net negative change in operating assets and liabilities of $28.7 million ($18.1 million of which was related to reductions in outstanding customer prepayments as we fulfilled the related revenue contracts, $4.2 million due to an increase in outstanding customer accounts receivables, $3.5 million due to prepayments of insurance and other service contracts, and $3.5 million due to a decline in outstanding trade accounts payable), partially offset by non-cash adjustments to net income of $18.1 million (the most significant non-cash expenses for us in the nine months ended September 30, 2021 were $10.3 million of stock-based compensation and $4.4 million of depreciation and amortization).

During the nine months ended September 30, 2020, cash used in operating activities of $40.1 million was a result of $27.9 million of net loss and the net negative change in operating assets and liabilities of $22.3 million ($15.4 million of which was related to reductions in outstanding customer prepayments as we fulfilled the related revenue contracts), partially offset by non-cash adjustments to net income of $10.1 million (the most significant non-cash expenses for us in the nine months ended September 30, 2020 were $4.8 million of stock-based compensation and $4.3 million of depreciation and amortization).

During the nine months ended September 30, 2021, cash used in investing activities of $100.0 million consisted of a $92.5 million net investment of cash into short-term investments and $7.5 million in payments for property and equipment. Cash provided by financing activities of $168.4 million during the same period consisted of $162.3 million net proceeds from our January 2021 follow-on equity offering, $5.2 million proceeds from loans, and $3.1 million proceeds from stock option exercises and purchases under our ESPP, partially offset by $1.9 million repayments of loans and $0.3 million of offering costs.

During the nine months ended September 30, 2020, cash used in investing activities of $2.0 million consisted of $2.4 million in payments for property and equipment, partially offset by $0.4 million of net cash inflow from our investments activities. Cash provided by financing activities of $120.3 million during the same period consisted of $117.5 million net proceeds from our August 2020 follow-on equity offering, and $2.9 million proceeds from stock option exercises and purchases under our ESPP, partially offset by $0.1 million of offering costs.

Material Cash Requirements

From time to time in the ordinary course of business, we enter into agreements with vendors for the purchase of raw materials, laboratory supplies and consumables to be used in the sequencing of customer samples. However, we generally do not have binding and enforceable purchase orders beyond the short term, and the timing and magnitude of purchase orders beyond such period is difficult to accurately project.

We expect to increase capital expenditures in future periods to support our global growth initiatives. Such expenditures are expected to consist primarily of laboratory equipment, computer equipment, and expenditures in connection with our new headquarters and laboratory facility. Capital expenditures in fiscal 2021 will exceed total capital expenditures in fiscal 2020. We also expect capital expenditures to increase substantially in 2022, primarily driven by additions in connection with our new headquarters and laboratory facility. We expect capital expenditures to more than double in fiscal year 2022 as compared to fiscal year 2021. We anticipate fulfilling such expenditures with our existing cash and cash equivalents and short-term investments, which amounted to $305.2 million as of September 30, 2021.

Our noncancelable operating lease payments were $85.5 million as of September 30, 2021. The timing of these future payments, by year, can be found in Part I, Item 1 of this Form 10-Q in the Notes to Condensed Consolidated Financial Statements in Note 7, “Leases.”

During the second quarter of 2021, we entered into two noninterest bearing loans to finance the purchase of $5.5 million of computer hardware, internal use software licenses, and related ongoing support. We made payments of $1.9 million during the nine months ended September 30, 2021. We are required to make payments of $1.84 million in each of 2022 and 2023. Further discussion of this transaction can be found in Part I, Item 1 of this Form 10-Q in the Notes to Condensed Consolidated Financial Statements in Note 6, “Loans.”

Certain of our customers prepay us for a portion of the services that they expect to order from us before they place purchase orders and we deliver those services. In some cases, this prepayment can be substantial and may be paid months or a year or more in advance of these customers providing samples to us and before our delivery of the services to which some or all of the deposit relates. As of September 30, 2021, we had approximately $2.8 million in customer deposits, including $2.2 million from one customer. We are generally not required by our contracts to retain these deposits in cash or otherwise and we have generally used these deposits to make capital expenditures and fund our operations. When a customer that has prepaid us for future services cancels its contract with us, reduces the level of services that it expects to receive, or we determine that a prepayment is no longer necessary, we will repay that customer’s deposit. We do not expect such repayments to require material amounts of cash.

Critical Accounting Policies and Estimates

Our condensed consolidated financial statements are prepared in accordance with U.S. GAAP. The preparation of these condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, costs and expenses, and related disclosures. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, if different estimates reasonably could have been used, or if changes in the estimate that are reasonably possible could materially impact the financial statements. We believe that the assumptions and estimates associated with revenue recognition, stock-based compensation, and leases have the greatest potential impact on our condensed consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates.

There have been no material changes to our critical accounting policies and estimates as compared to the critical accounting policies and estimates described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 under the caption "Critical Accounting Policies and Estimates" in Management's Discussion and Analysis of Financial Condition and Results of Operations, set forth in Part II, Item 7, except for the incremental borrowing rate that was estimated in connection with a new lease as described below.

Incremental Borrowing Rate

Lease liabilities are recognized at the present value of the fixed lease payments, reduced by landlord incentives, using a discount rate based on the Company's current borrowing rate at the lease commencement date (the incremental borrowing rate), unless the rate implicit in the lease is readily determinable.

In August 2021, we entered into a 13.5-year lease for our new corporate headquarters. We estimated our incremental borrowing rate as the rate implicit in the lease was not readily determinable. To determine the incremental borrowing rate, we estimated our credit rating by comparing certain financial ratios and metrics of the Company to those of other issuers with publicly available credit ratings from Standard & Poor's (S&P). We then adjusted yields from publicly traded corporate bonds of companies of similar size and credit rating over a term approximating the term of our lease for the nature of the collateral. Our concluded incremental borrowing rate for this lease was 5.8%, which resulted in a lease liability and right-of-use asset of $44.7 million.

JOBS Act Accounting Election

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act (the "JOBS Act"). Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards, and therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Recent Accounting Pronouncements

See the sections titled "Summary of Significant Accounting Policies—Recent Accounting Pronouncements" and "—Recent Accounting Pronouncements Not Yet Adopted" in Note 2 to our unaudited condensed consolidated financial statements for additional information.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

As a "smaller reporting company," we are not required to provide the information under this item.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer, or CEO, and chief financial officer, or CFO, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or Exchange Act), as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on that evaluation, our CEO and CFO have concluded that as of September 30, 2021, our disclosure controls and procedures were effective in providing reasonable assurance that information required to be disclosed by us in 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 CEO and CFO, as appropriate to allow timely decisions regarding required disclosures.

Changes in Internal Control

None.

Limitations on Controls

Our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives as specified above. Management does not expect, however, that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all error and fraud. Any control system, no matter how well designed and operated, is based upon certain assumptions and can provide only reasonable, not absolute, assurance that its objectives will be met. Further, 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 the Company have been detected.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

None.

Item 1A. Risk Factors.

Summary of Risk Factors

The following is a summary of the principal risks and uncertainties that could materially adversely affect our business, financial condition, or results of operations. You should read this summary together with the more detailed description of risk factors below under the heading "Risk Factors".

Operational, Strategic and Business Risks

- We have a history of losses and we expect to incur significant losses for the foreseeable future and may not be able to generate sufficient revenue to achieve or sustain profitability.
- If we are unable to increase sales of our current services or successfully develop and commercialize other services or products, or if we are unable to execute our sales and marketing strategy for our services or unable to gain sufficient acceptance in the market, we may fail to generate sufficient revenue to achieve profitability and sustain our business.
- Our operations and employees face risks related to health crises, such as the ongoing COVID-19 pandemic, that could adversely affect our operations, our financial condition, and our operations results, and the business or operations of our customers or other third parties with whom we conduct business.
- A limited number of customers account for a substantial portion of our revenue and accounts receivable; in particular, we derive a substantial portion of our revenue from our largest customer, the VA MVP.
- We rely on a limited number of suppliers, or in some cases, a sole supplier, for some laboratory instruments and materials, and we may not be able to replace or immediately transition to alternative suppliers should we need to do so.
- We will need to invest in our infrastructure in advance of increased demand for our services; our failure to accurately forecast demand would have a negative impact on our business and our ability to achieve or sustain profitability.
- If our facilities become damaged or inoperable, or we are required to vacate the facilities, our ability to sell and provide our services and pursue our research and development efforts may be jeopardized.
- If we cannot develop services and products to keep pace with rapid advances in technology, medicine, and science our operating results and competitive position could be harmed.
- Personalized cancer therapies represent new therapeutic approaches that could result in heightened regulatory scrutiny, delays in clinical development, or delays in our inability to achieve regulatory approval, commercialization, or payor coverage, any of which could adversely affect our business.
- The loss of key members of our executive management team or the inability to hire, retain, or motivate highly skilled personnel could adversely affect our business.
- We may not be able to manage our future growth effectively, which could make it difficult to execute our business strategy.
- We may acquire businesses or assets, form joint ventures, or make investments in other companies or technologies that could harm our operating results, dilute stockholders' ownership, or cause us to incur debt or significant expense.
- Expansion into China and other international markets will subject us to increased regulatory oversight and regulatory, economic, social, health and political uncertainties.

Regulatory, Legal and Cybersecurity Risks

- Complying with numerous statutes and regulations pertaining to our business is an expensive and time-consuming process, and we may be subject to regulatory action if we or our service or product offerings do not comply with applicable requirements.
- Our internal information technology systems, or those of our third-party vendors, contractors, or consultants, may fail or suffer security breaches, loss or leakage of data, and other disruptions, which could adversely affect our business.
- The actual or perceived failure by us, our customers, or vendors to comply with increasingly stringent laws, regulations and contractual obligations relating to privacy, data protection, and data security could harm our reputation, and subject us to significant fines and liability.
- Our employees may engage in misconduct or other improper activities, such as noncompliance with regulatory standards and requirements, including the Foreign Corrupt Practices Act of 1977 and other anti-bribery laws, which could cause significant liability for us and harm our reputation.

- Changes in health care policy could increase our costs, decrease our revenue, and impact sales of and reimbursement for our tests. If we decide to grow our business by developing in vitro diagnostic tests, we may be subject to reimbursement challenges.
- The exit of the United Kingdom from the EU could lead to regulatory divergence and require us to incur additional expenses in order to develop, manufacture, and commercialize our products and services.

Intellectual Property Risks

- Litigation or other proceedings or claims of intellectual property infringement, misappropriation, breach of license terms or other violations may require us to spend significant time and money, including damages, and could prevent us from selling our tests.
- If we cannot license rights to use necessary technologies on reasonable terms, we may not be able to commercialize new products.
- If we are not able to obtain, maintain and enforce patent protection for our products, services or technologies, our competitors and other third parties could develop and commercialize products, services and technologies similar or identical to ours, and our ability to successfully commercialize our products, services, and technologies may be adversely affected.
- If we are unable to protect the confidentiality of our trade secrets and know-how, our business would be harmed.
- Our use of “open source” software could subject our proprietary software to general release, adversely affect our ability to sell our products and services, and subject us to possible litigation.
- If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Financial and Market Risks and Risks Related to Owning Our Common Stock

- Certain of our customers prepay us for a portion of the future services that they expect to order and we may be required to refund some or all of those prepayments if a customer cancels its contract with us or reduces the level of services that it expects to receive.
- Our inability to raise additional capital on acceptable terms in the future may limit our ability to continue to operate our business and further expand our operations.
- The market price of our common stock may be volatile or may decline steeply or suddenly regardless of our operating performance, we may not be able to meet investor or analyst expectations, and you may lose all or part of your investment.
- Our quarterly results may fluctuate significantly, which could adversely impact our common stock’s value.
- Insiders may exercise significant control over our company and will be able to influence corporate matters.
- Future sales of shares by existing stockholders, or the perception that such sales could occur, could cause the stock price of our common stock to decline.
- We do not currently intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation of the value of our common stock.
- If securities or industry analysts do not publish research or reports about our business, or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.
- Our ability to use net operating losses to offset future taxable income may be subject to limitations.
- Delaware law and provisions in our amended and restated certificate of incorporation and amended and restated bylaws could make a merger, tender offer, or proxy contest difficult, thereby depressing the trading price of our common stock; our amended and restated certificate of incorporation has an exclusive forum provision, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.
- Material weaknesses in our internal control over financial reporting may cause us to fail to timely and accurately report our financial results or result in a material misstatement of our financial statements. Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Risk Factors.

Our operations and financial results are subject to various risks and uncertainties including those described below. You should consider carefully the risks and uncertainties described below, in addition to other information contained in this Quarterly Report on Form 10-Q, including our unaudited condensed consolidated financial statements and related notes. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties that we are unaware of, or that we currently believe are not material, may also become important factors that adversely affect our business. If any of the following risks or others not specified below materialize, our business, financial condition, and results of operations could be materially and adversely affected. In that case, the trading price of our common stock could decline.

Operational, Strategic and Business Risks

We have a history of losses, and as our costs increase, we expect to incur significant losses for the foreseeable future and may not be able to generate sufficient revenue to achieve or sustain profitability.

We have incurred net losses since our inception. For the years ended December 31, 2020, 2019, and 2018 we had net losses of $41.3 million, $25.1 million, and $19.9 million, respectively. For the nine months ended September 30, 2021, we had a net loss of $45.0 million. As of September 30, 2021, we had an accumulated deficit of $226.9 million. To date, we have not generated sufficient revenue to achieve profitability, and we may never achieve or sustain profitability. In addition, we expect to continue to incur net losses for the foreseeable future, and we expect our accumulated deficit to continue to increase as we focus on scaling our business and operations. Our efforts to sustain and grow our business may be more costly than we expect, and we may not be able to increase our revenue sufficiently to offset our higher operating expenses. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital. Our failure to achieve and sustain profitability in the future would negatively affect our business, financial condition, results of operations, and cash flows, and could cause the market price of our common stock to decline.

If we are unable to increase sales of our current services or successfully develop and commercialize other services or products, or if we are unable to execute our sales and marketing strategy for our services or unable to gain sufficient acceptance in the market, we may fail to generate sufficient revenue to achieve profitability and sustain our business.

We currently derive substantially all of our revenue from sales of our services. We began offering our services through our Clinical Laboratory Improvement Amendments of 1988 ("CLIA")-certified, College of American Pathologists ("CAP")-accredited, and state-licensed laboratory in 2013. We are in varying stages of research and development for other services and products that we may offer. If we are unable to increase sales of our existing services or successfully develop and commercialize other services and products, we will not generate sufficient revenue to become profitable.

In addition, as a growing genomics company, we have engaged in targeted sales and marketing activities for our services. Although we have had revenue from sales of our services since 2013, our services may never gain significant acceptance in the marketplace and therefore may never generate substantial revenue or permit us to become profitable. We will need to further establish and grow the market for our services through the expansion of our current relationships and development of new relationships with biopharmaceutical customers. Gaining acceptance in medical communities can be supported by, among other things, publications in leading peer-reviewed journals of results from studies using our services. The process of publication in leading medical journals is subject to a peer review process and peer reviewers may not consider the results of our studies sufficiently novel or worthy of publication. Failure to have our studies published in peer-reviewed journals would limit the adoption of our services.

Our ability to successfully market our services that we have developed, and may develop in the future, will depend on numerous factors, including:

- our ability to demonstrate the utility and value of our services to our customers;
- the success of our commercial team, including sales and business development personnel;
- the recruitment, hiring, and retention of our commercial team personnel;
- whether biopharmaceutical companies accept that our services are sufficiently sensitive and specific;
- our ability to convince biopharmaceutical companies of the utility of the comprehensiveness of our services and of testing patients at multiple time points;
- our ability to continue to fund sales and marketing activities;
- whether our services are considered superior to those of our competitors;
- any negative publicity regarding our or our competitors' services resulting from defects or errors;

- our success obtaining and maintaining patent and trade secret protection for our services and technologies; and
- our success enforcing and defending intellectual property rights and claims.

Failure to achieve broad market acceptance of our services would materially harm our business, financial condition, and results of operations.

Our operations and employees face risks related to health crises, such as the ongoing COVID-19 pandemic, that could adversely affect our operations, our financial condition, and our operations results, and the business or operations of our customers or other third parties with whom we conduct business.

Our business could be adversely impacted by the effects of a health crisis, such as the ongoing COVID-19 pandemic, that could cause significant disruption in the operations of our customers and third-party suppliers upon whom we rely. Our laboratory facilities (other than the facilities being developed for our use in Shanghai, China), executive team, and most of our employees are located in the San Francisco Bay Area. In the event of a health crisis that becomes widespread in or around the San Francisco Bay Area, we may proactively, or be ordered by government officials to, take precautionary measures such as suspending our lab operations, implementing alternative work arrangements for our employees, and limiting our employees' travel activities.

Our operations have been impacted by the ongoing COVID-19 pandemic. For example, the previous shelter-in-place order and health orders have negatively impacted productivity, disrupted our business, and slowed research and development activities due to us limiting access to our laboratory space that would otherwise be used by our research and development group, and, to the extent such orders return in similar or more stringent form, they may continue to cause such effects on our operations. The COVID-19 pandemic has disrupted, and may continue to disrupt, the ability of our suppliers to fulfill our purchase orders in a timely manner or at all. Additionally, we are aware of increased demand in the market for certain consumables used in COVID-19 test kits and vaccines. We use such consumables in our operations, and we have faced, and may face in the future, difficulties in acquiring such consumables if our suppliers prioritize orders related to COVID-19. Several of our customers, including the VA MVP, were delayed in sending us samples in the prior year due to the inability to collect or ship samples during the COVID-19 pandemic, and these and additional customers may be disrupted from collecting samples or sending purchase orders and samples to us in the future.

While authorities in many areas have lifted or relaxed pandemic-related restrictions, in some cases they have subsequently re-imposed various restrictions after observing an increased rate of COVID-19 cases as the global COVID-19 pandemic continues to rapidly evolve and to present serious health risks. There is no guarantee when or if all such restrictions and recommendations will be eliminated, such that we and our customers, manufacturers and suppliers will be able to safely resume operations consistent with our pre-COVID-19 operations. The full extent of the impact of the COVID-19 pandemic on our business, operations and plans remains uncertain and will depend on future developments that cannot be predicted at this time. Such developments include the continued spread of the Delta variant in the U.S. and other countries and the potential emergence of other SARS-CoV-2 variants that may prove especially contagious or virulent, the ultimate duration of the pandemic and the resulting impact on our business and other third parties with whom we do business, and the effectiveness of actions taken globally to contain and treat the disease.

While vaccines for COVID-19 have been developed and administered, and the spread of COVID-19 may eventually be contained or mitigated, we cannot predict the timing of the vaccine roll-out globally (including boosters to vaccinations), the percentage of the population that becomes vaccinated, the efficacy of such vaccines against Delta or other variants, and we do not yet know how businesses, advertisers, or our partners will operate in a post COVID-19 environment. In addition, there is no guarantee that a future outbreak of this or any other widespread epidemics will not occur, or that the global economy will recover, either of which could seriously harm our business. The ultimate impact of the COVID-19 pandemic or a similar health epidemic on our business, operations, or the global economy as a whole remains highly uncertain.

A continued and prolonged public health crisis such as the COVID-19 pandemic could have a material negative impact on our business, financial condition, and operating results.

If we cannot compete successfully with our competitors, we may be unable to increase or sustain our revenue or achieve and sustain profitability.

Our principal competition comes from commercial and academic organizations using established and new laboratory tests to produce information that is similar to the information that we generate for our customers. These commercial and academic organizations may not utilize our services or may not believe them to be superior to those tests that they currently use or others that are developed. Further, it may be difficult to convince our customers to use our comprehensive test rather than simpler panels provided by our competitors. For example, the information that we provide may be more challenging or require additional resources for our customers to interpret than the information provided by our competitors' less comprehensive assays.

Some of our present or potential competitors, including Adaptive Biotechnologies Corporation, C2i Genomics, Inc., Caris Life Sciences, Inc., Covance Inc., which was acquired by Laboratory Corporation of America Holdings in February 2015, Foundation Medicine, Inc., which was acquired by Roche Holdings, Inc. in July 2018, Freenome, Inc., Genosity, Inc., which is in the process of being acquired by Invitae Corporation, Guardant Health, Inc., Inivata Limited, Invitae Corporation, Mount Sinai Genomics, Inc. which does business under the name Sema4, Natera, Inc., NanoString Technologies, Inc., NeoGenomics, Inc., Personal Genome Diagnostics, Inc., Roche Molecular Systems, Inc., and Tempus, Inc., may have more widespread brand recognition or substantially

greater financial or technical resources, development or production capacities, or marketing capabilities than we do. They may be able to devote greater resources to the development, promotion and sale of their products and services than we do or sell their products and services at prices designed to win more significant levels of market share. In addition, our present or potential competitors may be acquired by, receive investments from, or enter into other commercial relationships with larger, more well-established and well-financed companies. For example, in September 2020, Illumina, Inc. ("Illumina") announced it had entered into an agreement to acquire GRAIL, Inc. ("GRAIL"), a company focused on early cancer detection and potentially other forms of cancer analysis using next-generation sequencing technology, which we view as a potential competitor. Others may develop lower-priced, less complex products and services that pharmaceutical companies could view as functionally equivalent to our current or planned future services which could force us to lower the price of our services and impact our operating margins and our ability to achieve and maintain profitability. In addition, companies or governments that control access to genetic testing and related services through umbrella contracts or regional preferences could promote our competitors or prevent us from performing certain services. In addition, technological innovations that result in the creation of enhanced products or diagnostic tools that are more sensitive or specific than ours may enable other clinical laboratories, hospitals, physicians, or medical providers to provide specialized products or services similar to ours in a more patient-friendly, efficient, or cost-effective manner than is currently possible. If we cannot compete successfully against current or future competitors, we may be unable to ensure or increase market acceptance and sales of our current or planned future services, which could prevent us from increasing or sustaining our revenue or achieving or sustaining profitability.

We expect that biopharmaceutical companies will increasingly focus attention and resources on the targeted and personalized cancer diagnostic sector as the potential and prevalence of molecularly targeted oncology therapies approved by the U.S. Food and Drug Administration (the "FDA") along with companion diagnostics increases. For example, the FDA has approved several such targeted oncology therapies that use companion diagnostics, including the anaplastic lymphoma kinase FISH test from Abbott Laboratories, Inc. for use with Xalkori® from Pfizer Inc., the BRAF kinase V600 mutation test from Roche Molecular Systems, Inc. for use with Zelboraf® from Daiichi-Sankyo/Genentech/Roche, and the BRAF kinase V600 mutation test from bioMerieux for use with Tafinlar® from GlaxoSmithKline. Since companion diagnostic tests are part of FDA labeling, non-FDA cleared tests, such as the ones we currently offer as part of our services, would be considered an off-label use and this may limit our access to this market segment. Our customers and potential customers may request, or in some cases have requested, that we consider developing and seeking FDA approval for companion diagnostic tests to accompany those customers' therapeutic product candidates, and it may be necessary for us to do so in order to successfully compete for the business of these customers. If we do not successfully develop FDA-approved companion diagnostics, we may be at a competitive disadvantage and may be unable to increase market acceptance and sales of our other product offerings, which would prevent us from increasing or sustaining our revenue or achieving or sustaining profitability. If we were to develop one or more FDA-approved companion diagnostics, we would incur increased research and development expenses, and such activities may also divert our resources or the attention of our management and may create competing internal priorities for us.

Additionally, projects related to cancer diagnostics and particularly genomics have received increased government funding, both in the United States of America (the "U.S.") and internationally. As more information regarding cancer genomics becomes available to the public, we anticipate that more products and services aimed at identifying treatment options will be developed and that these products and services may compete with our services. In addition, competitors may develop their own versions of our current or planned future services in countries where we did not apply for or receive patents and compete with us in those countries, including encouraging the use of their products or services by biopharmaceutical companies in other countries.

We have substantial customer concentration, with a limited number of customers accounting for a substantial portion of our revenue and accounts receivable.

Like other genomic profiling companies that sell to the pharmaceutical industry, we have substantial customer concentration. We currently derive a significant portion of our revenue from the U.S. Department of Veterans Affairs (the "VA") Million Veteran Program (the "VA MVP"), which accounted for 61% and 62% of our revenue for the three and nine months ended September 30, 2021, and 71% and 75% of our revenue for the three and nine months ended September 30, 2020, respectively. Our top five customers, including the VA MVP, accounted for 85% of our revenue for each of the three and nine months ended September 30, 2021, and 85% and 88% of our revenue for the three and nine months ended September 30, 2020, respectively. There are inherent risks whenever a large percentage of revenue is concentrated with a limited number of customers. While we have attempted to grow our customer base and diversify our revenue concentration beyond the VA MVP, we may not be able to successfully do so in the future. Our predictions regarding the future level of demand for our services that will be generated by these customers may be wrong. In addition, revenue from our larger customers have historically fluctuated and may continue to fluctuate based on the commencement and completion of clinical trials or other projects, the timing of which may be affected by market conditions or other factors, some of which may be outside of our control. Further, while we have long-term contractual arrangements with certain of our customers, these customers are not required to purchase a minimum number of analyses. Some of our customers have in the past suspended or terminated clinical trials or projects, received less funding than expected, experienced declining or delayed sales, or otherwise decided to reduce or eliminate their use of our services, and these and other customers may also do so in the future. As a result, we could be pressured to reduce the prices we charge for our services, which would have an adverse effect on our margins and financial position, and which would likely negatively affect our revenue and results of operations. In particular, if the VA MVP terminates our services for convenience, which it is permitted to do, such termination would have a material adverse effect on our revenue, cash position, and results of operations. Similarly, if the VA MVP was eliminated, awarded its contract to one of our competitors, further reduced the size of our contract or failed to renew our contract in the future, then our revenue, cash position, and results of operations would be materially adversely impacted. Further, if any of our other significant customers were to cease using or stop payment for our services, it would have a material adverse effect on our accounts receivable, increasing our credit risk. The failure of these customers to pay their balances, or any customer to pay future outstanding balances, would result in an operating expense and reduce our cash flows.

We have derived a substantial portion of our revenue from DNA sequencing and data analysis services that we provided to our largest customer, the VA MVP. If the VA MVP's demand for and/or funding for our DNA sequencing and data analysis services continues to be substantially reduced, if the VA MVP conducts a competitive bid process for the next contract and we do not win, or if the VA MVP does not award any such contract on a timely basis or at all, our business, financial condition, revenue and other operating results, and cash flows will be materially harmed.

We derive a substantial portion of our current revenue from sales of our DNA sequencing and data analysis services to the VA MVP. In September 2017, we entered into a one-year contract with three one-year optional renewal periods with the VA for the VA MVP, pursuant to which we received contracted orders from the VA MVP in September 2017, 2018, 2019, 2020, and 2021. The current contract does not include a renewal option and the period for performance for the most recent task order under the current contract expires in March 2022. For us to provide additional services to the VA MVP after March 2022, we would need to receive an additional task order and/or enter into a new services agreement with the VA MVP, neither of which had occurred as of the date of filing this report.

The VA MVP may initiate a competitive bidding process for its next DNA sequencing and data analysis services contract, if any. However, there may not be any such potential bidding process or new contract awarded on a timely basis or at all, we may not win any such potential new contract in any such potential bidding process, the value of any such potential new contract or the VA MVP contracted orders thereunder may be lower than our current contract and historical contracted orders from the VA MVP, and/or the scope or nature of the services required under such new contract may change such that we are unable to serve the VA MVP in the future.

The VA MVP's contracted orders for DNA sequencing and data analysis services have fluctuated significantly in value over time and are subject to the availability of funding, enrollment of veterans in the VA MVP study, and the VA MVP's continued demand for our services among other factors. For example, the VA MVP contracted order received in September 2020 had a value of up to approximately $31 million, whereas the VA MVP contracted order received in September 2021 has a value of up to approximately $9.7 million, which represents a substantial decline. Unless we receive an additional task order and/or enter into a new services agreement with the VA MVP with a value comparable to that of our current contract and historical contracted orders, our revenue from the VA MVP will decline significantly in the future.

We have no certainty that funding will be made available for our services, or that the VA MVP will award any future contracts, contract renewals or contracted orders to us. If the priorities of the VA, the VA MVP, or the U.S. government have changed or change in the future, including in response to the COVID-19 pandemic for example, funding for our services may be limited or not available, and our business, financial condition, and operating results and cash flows will be materially harmed. Similarly, if we do not win future VA MVP contracts and renewals (whether due to being outbid by a competitor or the VA MVP's decision not to award a future contract on a timely basis or at all, or to terminate for convenience or failure to renew any contract, for whatever reason), our business, financial condition, revenue and other operating results and cash flows will be materially harmed. The success of our business and our future operating results are significantly dependent on the VA MVP's continued demand and receipt of funding for use of our services and the terms of our sales to the VA MVP, including the price per sample, the number of samples and the timing of the VA MVP's deliveries of samples. Furthermore, we only recognize revenue under our VA MVP contract upon the receipt and processing of samples, and the timing and number of VA MVP samples we receive has been and could in the future be negatively affected by factors beyond our control, which has resulted, and may result in the future, in delaying our ability to process and recognize revenue for such samples. For example, the revenue we recognized during the contract year that began in September 2020 significantly exceeded the value of the VA MVP contracted order we received in September 2020 because we continued to receive after such date, and subsequently processed, samples under VA MVP contracted orders that remained unfulfilled as of September 2020 due to the time required for the VA to select optimal samples from its collection for research and then provide us those samples. Therefore, period-to-period comparisons of our operating results relating to VA MVP contracted orders may not be meaningful and, even if we win a potential new VA MVP contract and order with a value comparable to that of the September 2020 contracted order, the revenue we recognize under such potential new contract and order may be less than the revenue we recognized during the 2020-2021 contract year. The timing and number of VA MVP samples may also have been or be negatively affected by the current COVID-19 pandemic. For example, in March 2020, the VA MVP announced that it was suspending sample collection due to the COVID-19 pandemic. In addition, we believe the COVID-19 pandemic may have been a contributing factor to the reduction in value of the September 2021 VA MVP contracted order compared to the September 2020 contracted order, as the VA MVP delayed new enrollment and also may have needed to divert resources to respond to the pandemic, and the COVID-19 pandemic may also negatively impact the value of any potential new VA MVP contract or order.

If we cannot maintain our current customer relationships, or fail to acquire new customers, our revenue prospects will be reduced. Many of our customers are biopharmaceutical companies engaged in clinical trials of new drug candidates, which trials are expensive, can take many years to complete, and have inherently uncertain outcomes.

Our customers other than the VA MVP are primarily biopharmaceutical companies that use our services to support clinical trials. Our future success is substantially dependent on our ability to maintain our customer relationships and to establish new ones. Many factors have the potential to impact our customer relations, including the type of support our customers and potential customers require and our ability to deliver it, our customers' satisfaction with our services, and other factors that may be beyond our control. Furthermore, our customers may decide to decrease or discontinue their use of our services due to changes in research and product development plans (including as a result of the COVID-19 pandemic), failures in their clinical trials, financial constraints, or utilization of internal testing resources or tests performed by other parties, or other circumstances outside of our control.

We engage in conversations with customers regarding potential commercial opportunities on an ongoing basis in the event that one of these customers' drug candidates is approved. There is no assurance that any of these conversations will result in a commercial agreement, or if an agreement is reached, that the resulting relationship will be successful or that clinical studies conducted as part of the engagement will produce successful outcomes. Speculation in the industry about our existing or potential relationships with biopharmaceutical companies could be a catalyst for adverse speculation about us, our services, and our technology, which can adversely affect our reputation and our business. In addition, the termination of these relationships could result in a temporary or permanent loss of revenue.

Our customers' clinical trials are expensive, can take many years to complete, and their outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through pre-clinical studies and early clinical trials. Many of the biopharmaceutical companies that are our customers do not have products approved for commercial sale and are not profitable. These customers must continue to raise capital in order to continue their development programs and to potentially continue as our customers. If our customers' clinical trials fail or they are unable to raise sufficient capital to continue investing in their clinical programs, our revenue from these customers may decrease or cease entirely, and our business may be harmed. Furthermore, even if these customers have a drug approved for commercial sale, they may not choose to use our services as a companion diagnostic with their drug, thereby limiting our potential revenue.

We rely on a limited number of suppliers, or in some cases, a sole supplier, for some of our laboratory instruments and materials, and we may not be able to find replacements or immediately transition to alternative suppliers should we need to do so.

We rely on a limited number of suppliers for sequencers and other equipment and materials that we use in our laboratory operations. For example, we rely on Illumina as the sole supplier of sequencers and various associated reagents, and as the sole provider of maintenance and repair services for these sequencers. Our master subcontractor agreement with Illumina is set to expire in March 2022, and our various pricing agreements with Illumina are set to expire on various dates up to December 2022. In September 2020, Illumina announced it had entered into an agreement to acquire GRAIL, a company focused on early cancer detection and potentially other forms of cancer analysis using next-generation sequencing technology. Any disruption in Illumina's operations, or our inability to negotiate an extension to our agreements with Illumina on acceptable terms, or at all, or any competitive pressure resulting from Illumina's anticipated acquisition of GRAIL, could negatively impact our supply chain and laboratory operations and our ability to conduct our business and generate revenue. Additionally, the COVID-19 pandemic has disrupted, and may continue to disrupt, the ability of our suppliers to fulfill our purchase orders in a timely manner or at all. Our suppliers could cease supplying these materials, reagents, and equipment at any time, or fail to provide us with sufficient quantities of materials or materials that meet our specifications. Our laboratory operations have been and in the future could be interrupted if we encounter delays or difficulties in securing equipment, materials, reagents, or sequencers, or if we cannot obtain an acceptable substitute. Any such interruption could significantly affect our business, financial condition, results of operations, and reputation.

We believe that there are only a few manufacturers other than Illumina that are currently capable of supplying and servicing the equipment necessary for our laboratory operations, including sequencers and various associated reagents. The use of equipment or materials provided by these replacement suppliers would require us to alter our laboratory operations. Transitioning to a new supplier would be time-consuming and expensive, would likely result in interruptions in our laboratory operations, could affect the performance specifications of our laboratory operations, or could require that we revalidate our tests. We cannot assure you that, if we were forced to replace Illumina or another supplier on which we rely, we would be able to secure alternative equipment, reagents, and other materials, and bring such equipment, reagents, and materials on line and revalidate them without experiencing interruptions in our workflow. If we encounter delays or difficulties in securing, reconfiguring, or revalidating the equipment and reagents we require for our services, our business, financial condition, results of operations, and reputation could be adversely affected.

In addition, the Device Master File that we have filed with the FDA, which is focused on the technology, quality management, and validation of our platform, specifically on its use for the development of personalized immunotherapies, is predicated on our use of specified equipment and processes, including Illumina sequencers and related equipment. The detailed information in the Device Master File is not shared with our customers, but with our permission they can reference our FDA file number in their Investigational New Drug filings with the FDA. If we were required to transition to a new supplier of sequencers or certain other equipment or processes in our laboratory, our Device Master File would need to be replaced or updated, and until such time as that occurred, customers for which we deliver services after the transition would not be able to reference our Device Master File, which would cause us to lose a competitive advantage.

We will need to invest in our infrastructure in advance of increased demand for our services; our failure to accurately forecast demand would have a negative impact on our business and our ability to achieve and sustain profitability.

In order to execute our business model, we need to invest in scaling our infrastructure, including hiring additional personnel and expanding laboratory capacity. We will also need to purchase additional equipment, some of which can take several months or more to procure, setup, and validate, and increase our software and computing capacity to meet increased demand. There is no assurance that any of these increases in scale, expansion of personnel, equipment, software, and computing capacities, or process enhancements will be successfully implemented, or that we will have adequate space in our laboratory facilities to accommodate such required expansion. We expect that much of this growth will be in advance of increased demand for our services. Our current and projected future expense levels are to a large extent fixed and are largely based on our current investment plans and our estimates of

future test volume. As a result, if revenue does not meet our expectations we may not be able to promptly adjust or reduce our spending to levels commensurate with our revenue. If we fail to generate demand commensurate with our infrastructure growth or if we fail to scale our infrastructure sufficiently in advance of demand to successfully meet such demand, our business, prospects, financial condition, and results of operations could be adversely affected.

As we commercialize additional services or products, we may need to incorporate new equipment, implement new technology systems and laboratory processes, or hire new personnel with different qualifications. Failure to manage this growth or transition could result in turnaround time delays, higher costs, declining service and/or product quality, deteriorating customer service, and slower responses to competitive challenges. A failure in any one of these areas could make it difficult for us to meet market expectations for our services, and could damage our reputation and the prospects for our business.

If our facilities become damaged or inoperable, or we are required to vacate the facilities, our ability to sell and provide our services and pursue our research and development efforts may be jeopardized.

We currently derive our revenue from our genomic analysis conducted in our laboratories. Currently, we do not have any clinical reference or research and development laboratory facilities other than our facilities in Menlo Park, California and the facilities being developed for our use in Shanghai, China and planned future facilities in Fremont, California. Our facilities and equipment could be harmed or rendered inoperable by natural or man-made disasters, including fires, earthquakes, flooding, and power outages, which may render it difficult or impossible for us to sell or perform our services for some period of time. Additionally, as a result of the ongoing COVID-19 pandemic, we have limited access to our office and laboratory facilities in Menlo Park to protect the health and safety of our employees and to comply with applicable state and local orders. Northern California has recently experienced serious fires and the San Francisco Bay Area is considered to lie in an area with earthquake risk. The inability to sell or to perform our sequencing and analysis services, disruptions in our operations, or the backlog of samples that could develop if our facilities are inoperable for even a short period of time, may result in the loss of customers or harm to our reputation or relationships with scientific or clinical collaborators, and we may be unable to regain those customers or repair our reputation or such relationships in the future. The limited access to our laboratory facilities as a result of the COVID-19 pandemic has resulted, and may in the future result, in a loss in productivity, including delays to research and development programs. Furthermore, our facilities and the equipment we use to perform our services and our research and development work could be costly and time-consuming to repair or replace.

Additionally, a key component of our research and development process involves using biological samples as the basis for the development of our services. In some cases, these samples are difficult to obtain. If the parts of our laboratory facilities where we store these biological samples were damaged or compromised, our ability to pursue our research and development projects, as well as our reputation, could be jeopardized. We carry insurance for damage to our property and the disruption of our business, but this insurance may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, if at all.

Further, if our laboratory facilities became inoperable, we would likely not be able to license or transfer our technology to other facilities with the qualifications, including state licensure and CLIA certification, that would be necessary to cover the scope of our current and our planned future services. Even if we were to find facilities with such qualifications to perform our services, they may not be available to us on commercially reasonable terms.

Our planned opening of our new headquarters and laboratory facilities in Fremont, California could divert management's attention and disrupt our ongoing business.

We plan to relocate our corporate headquarters to an existing building located in Fremont, California that was leased in August 2021. We also plan to build and operate new laboratory facilities in the building. These efforts will involve significant tenant improvements, construction and regulatory compliance activities to be undertaken, including state licensure and CLIA certification for such laboratory facilities. Such efforts may distract management from current operations, disrupt planned research, development or regulatory compliance activities, and result in greater than expected liabilities and expenses, any of which could result in a material adverse effect on our business prospects, financial condition, or results of operations.

Our success depends on our ability to provide reliable, high-quality genomic data and analyses and to rapidly evolve to meet our customers' needs.

Errors, including if our tests fail to accurately detect gene variants, or mistakes, including if we fail to or incompletely or incorrectly identify the significance of gene variants, could have a significant adverse impact on our business. We classify variants in accordance with guidelines that are subject to change and subject to our interpretation. There have also been and could in the future be flaws in the databases, third-party tools or algorithms we use, or in the software that handles automated parts of our classification protocol. If we receive poor quality or degraded samples, our tests may be unable to accurately detect gene variants or we may fail to or incompletely or incorrectly identify the significance of gene variants, which could have a significant adverse impact on our business.

Inaccurate results or misunderstandings of, or inappropriate reliance on, the information we provide to our customers could lead to, or be associated with, side effects or adverse events in patients who use our tests, including treatment-related death, and could lead to termination of our services or claims against us. A product liability or professional liability claim could result in substantial damages and be costly and time-consuming for us to defend.

Although we maintain liability insurance, including for errors and omissions and professional liability, we cannot assure you that our insurance would be sufficient to protect us from the financial impact of defending against these types of claims, or any judgments, fines, or settlement costs arising out of any such claims. Any liability claim, including an errors and omissions liability claim, brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future. Additionally, any liability lawsuit could cause injury to our reputation or cause us to suspend sales of our tests or cause a suspension of our license to operate. The occurrence of any of these events could have an adverse effect on our business, reputation, and results of operations.

If we cannot develop services and products to keep pace with rapid advances in technology, medicine, and science, or if we experience delays in developing such services and products, our operating results and competitive position could be harmed.

In recent years, there have been numerous advances in technologies relating to the diagnosis and treatment of cancer. Several new cancer drugs have been approved, and a number of new drugs are in pre-clinical and clinical development. There have also been advances in methods used to identify patients likely to benefit from these drugs based on analysis of biomarkers. We must continuously develop new services and products, enhance any existing services, and avoid delays in such developments and enhancements to keep pace with evolving technologies on a timely and cost-effective basis. Our current services and our planned future services and products could become obsolete unless we continually innovate and expand them to demonstrate benefit in the diagnosis, monitoring, or prognosis of patients with cancer. New cancer therapies typically have only a few years of clinical data associated with them, and much of that data may not be disclosed by the pharmaceutical company that conducted the clinical trials. This could limit our ability to develop services and products based on, for example, biomarker analysis related to the appearance or development of resistance to those therapies. If we cannot adequately demonstrate the clinical utility of our services and our planned future services and products to new treatments, sales of our services could decline, which would have a material adverse effect on our business, financial condition, and results of operations.

We are researching and developing improvements to our tests and test features on a continuous basis, but we may not be able to make these improvements on a timely basis, and even if we do, we may not realize the benefits of these efforts in our financial results.

To remain competitive, we must continually research and develop improvements to our tests or test features. However, we cannot assure you that we will be able to develop and commercialize the improvements to our tests or test features on a timely basis. Our competitors may develop and commercialize competing or alternative tests and improvements faster than we are able to do so. In addition, we must expend significant time and funds in order to conduct research and development, further develop and scale our laboratory processes, and further develop and scale our infrastructure. We may never realize a return on investment on this effort and expense, especially if our improvements fail to perform as expected. If we are not able to realize the benefits of our efforts to improve our tests or test features, it could have an adverse effect on our business, financial condition, and results of operations.

Personalized cancer therapies represent new therapeutic approaches that could result in heightened regulatory scrutiny, delays in clinical development, or delays in or inability to achieve regulatory approval, commercialization, or payor coverage, any of which could adversely affect our business.

We currently work with certain companies developing personalized cancer therapies, and our future success will in part depend on our personalized cancer customers obtaining regulatory approval for and commercializing their product candidates. Because personalized cancer therapies represent a new approach to immunotherapy for the treatment of cancer and other diseases, developing and commercializing personalized cancer therapies is subject to a number of challenges.

Actual or perceived safety issues, including adoption of new therapeutics or novel approaches to treatment, may adversely influence the willingness of subjects to participate in clinical studies, or if approved by applicable regulatory authorities, of physicians to subscribe to the novel treatment mechanics. The FDA or other applicable regulatory authorities may ask for specific post-market requirements, and additional information regarding benefits or risks of our services may emerge at any time prior to or after regulatory approval.

In the EEA (and Northern Ireland) the new European Union (“EU”) In Vitro Diagnostic Device Regulation (the “IVDR”) entered into force on May 25, 2017, replacing the In-Vitro Diagnostic Directive (the “IVDD”) (and national legislation that implemented the IVDD in member states) as the primary legislation governing in-vitro diagnostic devices (“IVD”). Most requirements under the IVDR will not apply until the end of a transition period which is expected to occur on May 26, 2022. The IVDR broadens the scope of the regulation of IVDs and, among other things, tightens the requirements for clinical evidence and conformity assessment, increases transparency requirements, and introduces a requirement for a unique device identifier for every IVD. Under the IVDR there are four classes of IVDs, referred to as classes A, B, C, and D. IVDs are placed into a class based on their perceived risk to the patient and wider public. The main requirements of the IVDR apply regardless of the class which the relevant device falls into, and class A devices (including instruments and specimen receptacles) are the only devices that can be self-certified as meeting the requirements of the IVDR. The IVDR explicitly includes software used for diagnostic purposes in its scope. The IVDR requires pre-registration and post-market data collection to ensure that the device meets the relevant requirements. It is also notable that diagnostic and therapeutic services offered to customers in the EEA (and Northern Ireland) (whether directly or via intermediaries) by providers that are based outside the EEA will be covered by the IVDR. The IVDR will not apply to Great Britain (England, Wales and Scotland). These additional regulatory requirements are likely to increase the cost and time required in order to obtain regulatory approval for products in the EEA where such

approval was already necessary, and in certain cases will introduce a new requirement to obtain regulatory approval where one did not exist under the IVDD arrangements. Further, the IVDR may result in devices being classified in a higher risk category than would have been the case under the existing IVDD arrangements.

Physicians, hospitals, and third-party payors often are slow to adopt new products, technologies, and treatment practices that require additional upfront costs and training. Physicians may not be willing to undergo training to adopt personalized cancer therapies, may decide that such therapies are too complex to adopt without appropriate training or not cost-efficient, and may choose not to administer these therapies. Based on these and other factors, hospitals and payors may decide that the benefits of personalized cancer therapies do not or will not outweigh their costs.

The loss of key members of our executive management team could adversely affect our business.

Our success in implementing our business strategy depends largely on the skills, experience, and performance of key members of our executive management team and others in key management positions, including John West, our Chief Executive Officer, Richard Chen, our Chief Medical Officer, and Aaron Tachibana, our Chief Financial Officer. The collective efforts of each of these persons and others working with them as a team are critical to us as we continue to develop our technologies, services, products, and research and development programs. As a result of the difficulty in locating qualified new management, the loss or incapacity of existing members of our executive management team could adversely affect our operations. If we were to lose one or more of these key employees, or if one or more of these key employees were to become unable to perform his or her duties due to contracting COVID-19, we could experience difficulties in finding qualified successors, competing effectively, developing our technologies, and implementing our business strategy. Each member of our executive management team has an employment agreement; however, the existence of an employment agreement does not guarantee retention of members of our executive management team, and we may not be able to retain those individuals. We do not maintain “key person” life insurance on any of our employees.

In addition, we rely on collaborators, consultants, and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our collaborators, consultants, and advisors are generally employed by employers other than us and may have commitments under agreements with other entities that may limit their availability to us.

The loss or extended illness of a key employee, the failure of a key employee to perform in his or her current position, or our inability to attract and retain skilled employees could result in our inability to continue to grow our business or to implement our business strategy.

We rely on highly skilled personnel in a broad array of disciplines and if we are unable to hire, retain, or motivate these individuals, or maintain our corporate culture, we may not be able to maintain the quality of our services or grow effectively.

Our performance, including our research and development programs and laboratory operations, largely depends on our continuing ability to identify, hire, develop, motivate, and retain highly skilled personnel for all areas of our organization. Competition in our industry for qualified employees is intense, and we may not be able to attract or retain qualified personnel in the future, including bioinformatic scientists, bioinformatic engineers, software engineers, statisticians, variant curators, clinical laboratory scientists, and genetic counselors, due to the competition for qualified personnel among life science businesses, technology companies, as well as universities and public and private research institutions, particularly in the San Francisco Bay Area. All of our U.S. employees are at-will, which means that either we or the employee may terminate their employment at any time. In addition, our compensation arrangements, such as our equity award programs, may not always be successful in attracting new employees and retaining and motivating our existing employees for reasons that may include movements in our stock price. If we are not able to attract and retain the necessary personnel to accomplish our business objectives, we may experience constraints that could adversely affect our ability to scale our business and support our research and development efforts and our laboratory operations. We believe that our corporate culture fosters innovation, creativity, and teamwork. However, as our organization grows, we may find it increasingly difficult to maintain the beneficial aspects of our corporate culture. This could negatively impact our ability to retain and attract employees and our future success.

We may not be able to manage our future growth effectively, which could make it difficult to execute our business strategy.

Our expected future growth could create a strain on our organizational, administrative, and operational infrastructure, including facilities (such as our planned future facilities in Fremont, California), laboratory operations, quality control, customer service, marketing and sales, and management. We may not be able to maintain the quality of or expected turnaround times for our tests, or satisfy customer demand as our test volume grows. Our ability to manage our growth properly will require us to continue to improve our operational, financial, and management controls, as well as our reporting systems and procedures. As a result of our growth, our operating costs may escalate even faster than planned, and some of our internal systems may need to be enhanced or replaced. If we are unable to manage our growth effectively, it may be difficult for us to execute our business strategy and our business could be harmed.

We may acquire businesses or assets, form joint ventures, or make investments in other companies or technologies 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 may pursue acquisitions of complementary businesses or assets, as well as technology licensing arrangements. We may also pursue strategic alliances that leverage our core technology and industry experience to expand our offerings or distribution, or make investments in other companies. As an organization, we have limited experience with respect to acquisitions as well as the formation of strategic alliances and joint ventures. We may not identify or complete these transactions in a timely manner, on a cost-effective basis, or at all, and we may not realize the anticipated benefits of any acquisition, technology license, strategic alliance, joint venture or investment, and their consideration may be distracting to our management or prevent us from pursuing other opportunities. In addition, we may not be able to find suitable partners or acquisition candidates, and we may not be able to complete such transactions on favorable terms, if at all. Any future such transactions by us also could result in significant write-offs, the incurrence of debt and contingent liabilities, exposure to additional liability, exposure to additional revenue concentration, additional regulatory obligations and exposure to additional potential liability, any of which could harm our operating results and future prospects. If we make any acquisitions in the future, we may not be able to integrate these acquisitions successfully into our existing business, and we could assume unknown or contingent liabilities. Integration of an acquired company or business also may require management resources that otherwise would be available for ongoing development of our existing business.

To finance any acquisitions or investments, we may choose to raise additional funds. The various ways we could raise additional funds carry potential risks. See "Financial and Market Risks and Risks Related to Owning Our Common Stock—Our inability to raise additional capital on acceptable terms in the future may limit our ability to continue to operate our business and further expand our operations." If the price of our common stock is low or volatile, we may not be able to acquire other companies using stock as consideration. Alternatively, it may be necessary for us to raise additional funds for these activities through public or private financings. Additional funds may not be available on terms that are favorable to us, or at all.

Ethical, legal, and social concerns related to the use of genetic information could reduce demand for our tests.

Genetic testing has raised ethical, legal, and social concerns regarding privacy and the appropriate uses of the resulting information. Governmental authorities have, through the Genetic Information Nondisclosure Act, and could further, for social or other purposes, limit or regulate the use of genetic information or genetic testing or prohibit testing for genetic predisposition to certain conditions, particularly for those that have no known cure. Ethical and social concerns may also influence governmental authorities to deny or delay the issuance of patents for technology relevant to our business. Similarly, these concerns may lead patients to refuse to use, or clinicians to be reluctant to order, genetic tests even if permissible. These and other ethical, legal, and social concerns may limit market acceptance of our tests or reduce the potential markets for our tests, either of which could have an adverse effect on our business, financial condition, or results of operations.

Any collaboration arrangements that we have entered into or may enter into in the future may not be successful, which could adversely affect our ability to develop and commercialize our services and products.

Any current or future collaborations, including any strategic alliances or any collaborations to develop companion diagnostic tests, that we have entered (for example, our collaboration with MapKure, LLC, which is jointly-owned by BeiGene, Ltd. and SpringWorks Therapeutics, Inc.) or may enter into may not be successful. The success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Collaborations are subject to numerous risks, which include that:

- we may incur increased research and development expenses, and such activities may also divert management attention and resources and/or create competing internal priorities for us, which could prevent us from successfully conducting other parts of our business or collaborating with others;
- collaborators have significant discretion in determining the efforts and resources that they will apply to collaborations;
- collaborators may not pursue development and commercialization of our services or products or may elect not to continue or renew development or commercialization programs based on trial or test results, changes in their strategic focus due to the acquisition of competitive services or products, availability of funding, or other external factors, such as a business combination that diverts resources or creates competing priorities for our collaborator;
- collaborators could independently develop, or develop with third parties, services or products that compete directly or indirectly with our services or products;
- collaborators with marketing, manufacturing, and distribution rights to one or more services or products may not commit sufficient resources to or otherwise not perform satisfactorily in carrying out these activities;
- we could grant exclusive rights to our collaborators that would prevent us from collaborating with others;
- a large percentage of our revenue may be concentrated with the collaborators if the collaborations are successful and we may experience further losses if they are or later become unsuccessful;

- collaborators may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;

- disputes may arise between us and a collaborator that causes the delay or termination of the research, development, or commercialization of our current or future services or products or that results in costly litigation or arbitration that diverts management attention and resources;

- collaborations may be terminated, and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable current or future services or products;

- collaborators may own or co-own intellectual property covering our services or products that results from our collaborating with them, and in such cases, we would not have the exclusive right to develop or commercialize such intellectual property;

- collaborators' activities or use of our services or deliverables may create additional regulatory obligations and could lead to side effects or adverse events in patients, exposing us to potential liability or regulatory review; and

- collaborators' sales and marketing activities or other operations may not be in compliance with applicable laws resulting in civil or criminal proceedings.

If we are unable to successfully obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights we have, we may have to abandon development of that program and our business and financial condition could suffer.

Our planned expansion into China entails substantial risks.

In June 2020, we announced a partnership with a clinical genomics and life sciences company headquartered in China as a means to expand business operations into China in the near term. Our first wholly owned subsidiary was formed in Shanghai in October 2020. Our expansion and investment plans are subject to substantial risks which may include, but are not limited to: the inability to protect our intellectual property rights under Chinese law, which may not offer as high a level of protection as U.S. law; unexpectedly long negotiation periods with Chinese suppliers and customers; quality issues related to supplies sourced from local vendors; unexpectedly high labor costs due to a tight labor supply; foreign investment restrictions; and difficulty in repatriating funds and selling or transferring assets. Our investments in China also expose us to additional foreign currency exchange risk. In addition, as tensions have escalated between the U.S. and China, we believe there is an enhanced risk that our planned investments in China may be subject to unforeseen risks or restrictions, which may include expropriation of the investments by the Chinese government. These and other risks may result in our not realizing a return on, or losing some, or all, of our planned investments in China, which could have a material adverse effect on our financial condition and financial performance.

Personal privacy, cyber security, and data protection are becoming increasingly significant issues in China. For example, the State Council of the People's Republic of China adopted the Regulations of the People's Republic of China on Administration of Human Genetic Resources, which went into effect on July 1, 2019. The regulations establish a framework for the collection, preservation, utilization, and supply abroad of human genetic resources of China. The regulations also establish a framework for the use of data and other information generated from use of human genetic resources of China. The regulations also provide that foreign organizations, individuals and entities established or controlled by them are prohibited to collect or preserve China's human genetic resources or transport them abroad. Due to the lack of detailed interpretations and implementations, it is not clear whether the agency in China responsible for enforcing the regulations will grant the necessary approvals for use by us and our partners of our NeXT Platform or our other current or future products in research or clinical projects involving China's human genetic resources or information generated therefrom. For example, we understand that the initial application by one of our pharmaceutical customers for such a project approval was recently rejected by such agency in China for reasons relating to data retention by our customer and sharing of rights to research results with our customer's collaborator in China. Although it is our understanding that the agency's decision was not based on the use of our NeXT Platform in the project, we are supporting and expect in the future to support the preparation of multiple such applications, and there is no guarantee that any such applications will be approved by such agency. The Chinese government separately has various regulations relating to the collection, use, storage, disclosure, and security of data, among other things, including the new Personal Information Protection Law ("PIPL") passed by the Standing Committee of China's National People's Congress on August 20, 2021, which took effect on November 1, 2021 and contains provisions similar to those of the General Data Protection Regulation (EU) 2016/679 ("GDPR") adopted by the EU, including extraterritorial reach, restrictions on data transfer, compliance obligations and sanctions for non-compliance. We cannot assure you that we will be able to comply with all these regulatory requirements. Any failure to comply with relevant regulations and policies could result in significant cost and liability to us and could adversely affect our business and results of operations. For example, the consequences for failing to comply with the PIPL could potentially include monetary penalties, business suspension and revocation of business licenses. Any additional new regulations or the amendment or modification of previously implemented regulations, or the failure to receive any necessary approvals for use of our products in connection with such projects, could require us and our partners to change our business plans and incur additional costs, and could limit our ability to generate revenue in China.

Expansion into international markets would subject us to increased regulatory oversight and regulatory, economic, social, health and political uncertainties, which could cause a material adverse effect on our business, financial position, and results of operations.

We may in the future expand our business and operations into international jurisdictions in which we have limited operating experience, including with respect to seeking regulatory approvals and marketing and selling products and services. For example, in June 2020, we announced our intention to expand into China. As we expand internationally, our operations in these jurisdictions may be adversely affected by general economic conditions and economic and fiscal policy, including changes in exchange rates and controls, interest rates and taxation policies, increased government regulation, social instability, local or regional health crises, and political, economic or diplomatic developments in the future. Certain jurisdictions have, from time to time, experienced instances of civil unrest and hostilities, both internally and with neighboring countries. Rioting, military activity, terrorist attacks, or armed hostilities could cause our operations in such jurisdictions to be adversely affected or suspended. We generally do not have insurance for losses and interruptions caused by terrorist attacks, military conflicts and wars. In addition, anti-bribery and anti-corruption laws may conflict with some local customs and practices in foreign jurisdictions. Our international operations may subject us to heightened scrutiny under the FCPA, the United Kingdom (the "U.K.") Bribery Act and similar anti-bribery laws, and could subject us to liability under such laws despite our best efforts to comply with such laws. As a result of our policy to comply with the FCPA, the U.K. Bribery Act and similar anti-bribery laws, we may be at a competitive disadvantage to competitors that are not subject to, or do not comply with, such laws. Further, notwithstanding our compliance programs, there can be no assurances that our policies will prevent our employees or agents from violating these laws or protect us from any such violations. Additionally, we cannot predict the nature, scope or impact of any future regulatory requirements that may apply to our international operations or how foreign governments will interpret existing or new laws. Alleged, perceived, or actual violations of any such existing or future laws by us or due to the acts of others, may result in criminal or civil sanctions, including contract cancellations or debarment, and damage to our reputation, any of which could have a material adverse effect on our business.

Regulatory, Legal and Cybersecurity Risks

Our tests may be subject to regulatory action if regulatory agencies determine that our tests do not appropriately comply with statutory and regulatory requirements enforced by the U.S. Food and Drug Administration, and/or CLIA requirements for quality laboratory testing.

The laws and regulations governing the marketing of clinical laboratory tests are extremely complex and in many instances there are no significant regulatory or judicial interpretations of these laws and regulations. The Federal Food, Drug and Cosmetic Act (the "FDC Act") defines a medical device to include any instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent or other similar or related article, including a component, part, or accessory, intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment or prevention of disease, in man or other animals. Some of our tests may be considered by the FDA to be in vitro diagnostic products that are subject to regulation as medical devices. Among other things, pursuant to the FDC Act and its implementing regulations, the FDA regulates the research, testing, manufacturing, safety, labeling, storage, recordkeeping, premarket clearance or approval, marketing and promotion, and sales and distribution of medical devices in the U.S. to ensure that medical products distributed domestically are safe and effective for their intended uses. In addition, the FDA regulates the import and export of medical devices.

Although the FDA has statutory authority to assure that medical devices are safe and effective for their intended uses, the FDA has generally exercised its enforcement discretion and not enforced applicable regulations with respect to laboratory developed tests ("LDTs"), which are a subset of in vitro diagnostic devices that are intended for clinical use and designed, manufactured, and used entirely within a single laboratory. We currently market our tests as LDTs and, therefore, we believe that they are not currently subject to the FDA's enforcement of its medical device regulations and the applicable FDC Act provisions. Despite the FDA's historic enforcement discretion policy with respect to LDTs, in November 2017, the FDA finalized a classification order setting out the regulatory requirements that apply to certain genetic health risk tests and revised a separate classification order exempting certain carrier screening tests from FDA premarket clearance and approval requirements when certain regulatory requirements are met. None of our tests comply with these classification orders because we market our tests as LDTs that are subject to the FDA's policy of enforcement discretion. However, the FDA may find that our tests do not fall within the definition of an LDT, and may determine that our tests are subject to the FDA's enforcement of its medical device regulations, including the recent classification orders, and the applicable FDC Act provisions. While we believe that we are currently in material compliance with applicable laws and regulations, we cannot assure you that the FDA or other regulatory agencies would agree with our determination, and a determination that we have violated these laws, or a public announcement that we are being investigated for possible violations of these laws, could adversely affect our business, prospects, results of operations or financial condition. If the FDA determines that our tests are subject to enforcement as medical devices, we could be subject to enforcement action, including administrative and judicial sanctions, and additional regulatory controls and submissions for our tests, all of which could be burdensome. See "—Failure to comply with federal, state, and foreign laboratory licensing requirements and the applicable requirements of the FDA or any other regulatory authority, could cause us to lose the ability to perform our tests, experience disruptions to our business or become subject to administrative or judicial sanctions."

Moreover, LDTs may in the future become subject to more onerous regulation by the FDA. A significant change in any of the laws, regulations, or policies may require us to change our business model in order to maintain regulatory compliance. At various times since 2006, the FDA has issued documents outlining its intent to require varying levels of FDA oversight of many types of LDTs. In October 2014, the FDA issued two non-binding draft guidance documents that set forth a proposed risk-based regulatory framework that would apply varying levels of FDA oversight to LDTs. The FDA indicated that it did not intend to implement its proposed framework

until the draft guidance documents are finalized. The FDA was expected to finalize its proposal for the oversight of LDTs before the end of 2016, but in November 2016, the FDA announced that it would halt finalizing of the guidance documents and continue to work with stakeholders, the incoming administration, and Congress on the approach to LDT regulation. This announcement was followed by the issuance of an information discussion paper on January 13, 2017, in which the FDA outlined a substantially revised "possible approach" to the oversight of LDTs. The discussion paper explicitly states that it is not a final version of the 2014 draft guidance and that it is not enforceable and does not represent the FDA's "formal position." It is unclear at this time if or when the FDA will finalize its plans to end enforcement discretion for LDTs, and even then, whether the new regulatory requirements are expected to be phased-in over time. However, the FDA may decide to regulate certain LDTs on a case-by-case basis at any time, which could result in delay or additional expense in offering our tests and tests that we may develop in the future.

Legislative proposals addressing oversight of genetic testing and LDTs have been introduced in previous Congresses, and we expect that new legislative proposals will be introduced from time to time in the future. We cannot provide any assurance that FDA regulation, including pre-market review, will not be required in the future for our tests, whether through finalization of guidance issued by the FDA, new enforcement policies adopted by the FDA or new legislation enacted by Congress. It is possible that legislation will be enacted into law or guidance could be issued by the FDA that may result in increased regulatory burdens for us to continue to offer our tests or to develop and introduce new tests. This legislative and regulatory uncertainty exposes us to the possibility of enforcement action or additional regulatory controls and submissions for our tests, both of which could be burdensome. We cannot be certain that the FDA will not enact rules or guidance documents that could impact our ability to purchase certain materials necessary for the performance of our tests, such as products labeled for research use only. Should any of the reagents obtained by us from suppliers and used in conducting our tests be affected by future regulatory actions, our business could be adversely affected by those actions, including increasing the cost of testing or delaying, limiting, or prohibiting the purchase of reagents necessary to perform testing.

Additionally, the Centers for Medicare & Medicaid Services ("CMS"), and certain state agencies regulate the performance of LDTs (as authorized under CLIA and state law, respectively). Our tests are developed in compliance with CLIA requirements. However, if our laboratory fails to comply with the prescribed quality requirements for laboratory testing or other requirements for CLIA, we could lose CLIA certification. That in turn would impact our ability to operate our laboratory and provide results to our customers, which could negatively impact our business operations.

The IVDR includes limited exemptions for LDTs, but such exemptions only apply to laboratories that are part of health institutions established in the EEA, and so any services undertaken outside of the EEA (for example at our facilities in the U.S.) will not be covered by such exemptions. In any event, such exemptions are limited in their scope, and only apply if a number of conditions are met, including that the health institution justifies that the "target patient group's specific needs cannot be met, or cannot be met at the appropriate level of performance by an equivalent device available on the market" and do not cover devices that are manufactured on an "industrial scale". Even where an exemption is applicable, such IVDs will still be subject to certain requirements under the IVDR. It is therefore unlikely that our tests will benefit from any exemption on the basis of being LDTs and will have to comply with the IVDR in full if we offer such tests to customers in the EEA (and Northern Ireland) (whether directly or via intermediaries).

If the FDA determines that our services are subject to enforcement as medical devices, we could incur substantial costs and time delays associated with satisfying statutory and regulatory requirements such as pre-market clearance or approval and we could incur additional expense in offering our tests and tests that we may develop in the future.

If the FDA determines that our tests and associated software do not fall within the definition of an LDT, or there are regulatory or legislative changes, we may be required to obtain premarket clearance for our tests and associated software under Section 510(k) of the FDC Act or approval of a premarket approval application ("PMA"). We would also be subject to ongoing regulatory requirements such as registration and listing requirements, medical device reporting requirements, and quality control requirements. If our tests are considered medical devices not subject to enforcement discretion, the regulatory requirements to which our tests are subject would depend on the FDA's classification of our tests. The FDA has issued regulations classifying over 1,700 different generic types of medical devices into one of three regulatory control categories (Class I, Class II, or Class III) depending on the degree of regulation that the FDA finds necessary to provide reasonable assurance of their safety and effectiveness. The class into which a device is placed determines the requirements that a medical device manufacturer must meet both pre- and post-market.

Generally, Class I devices do not require premarket authorization, but are subject to a comprehensive set of regulatory authorities referred to as general controls. Class II devices, in addition to general controls, generally require special controls and premarket clearance through the submission of a section 510(k) premarket notification. Class III devices are subject to general controls and special controls, and also require premarket approval prior to commercial distribution, which is a more rigorous process than premarket clearance. Under the FDC Act, a device that is first marketed after May 28, 1976 is by default a Class III device requiring premarket approval unless it is within a type of generic device class that has been classified as Class I or Class II. Even if a device falls under an existing Class II, non-exempt, device classification, the product must also be shown to be "substantially equivalent" to a legally marketed predicate device through submission of a section 510(k) premarket notification. If after reviewing a firm's 510(k) premarket notification, the FDA determines that a device is not substantially equivalent to a legally marketed predicate device, the new device is classified into Class III, requiring premarket approval. It is possible for a manufacturer to obtain a Class I or Class II designation without an appropriate predicate by submitting a *de novo* request for reclassification.

The process for submitting a 510(k) premarket notification and receiving FDA clearance usually takes from three to 12 months, but it can take significantly longer and clearance is never guaranteed. The process for submitting and obtaining FDA approval of a PMA is much more costly, lengthy, and uncertain. It generally takes from one to three years or even longer and approval is not guaranteed. PMA approval typically requires extensive clinical data and can be significantly longer, more expensive and more uncertain than the 510(k) clearance process. Despite the time, effort and expense expended, there can be no assurance that a particular device ultimately will be cleared or approved by the FDA through either the 510(k) clearance process or the PMA process on a timely basis, or at all.

If our tests are considered medical devices not subject to enforcement discretion, one classification regulation that could be relevant to one or more of our tests is a recently finalized classification for genetic health risk ("GHR") assessment tests. On April 6, 2017, in response to a *de novo* request for reclassification submitted by another company, the FDA issued an order classifying genetic tests known as genetic health risk assessment systems ("GHR tests") as Class II devices subject to premarket notification and specified special controls requirements. On November 7, 2017, the FDA codified this classification at 21 C.F.R. § 866.5950. If our tests are considered medical devices that are not subject to enforcement discretion and one or more of our tests is considered to fall under the 21 C.F.R. § 866.5950 classification regulation for GHR tests, or under another Class II classification that is subject to a premarket notification requirement, we would be required to obtain marketing clearance for such tests. Further, if considered to fall under the 21 C.F.R. § 866.5950 classification for GHR tests, our tests would be required to adhere to specified special controls, such as labeling and testing specifications and information about the test to be posted on the manufacturer's website. If any of our current or pipeline tests are not considered by the FDA to be GHR tests or do not qualify for the limited exemption for a sponsor's subsequent GHR tests once the assessment system has been reviewed and cleared by FDA, or if any of our tests fall under a different non-exempt classification or are unclassified, we could be required to obtain 510(k) clearance or approval of a PMA for such test in the future.

If premarket review of our tests is required, the premarket review process may involve, among other things, successfully completing additional clinical trials. If we are required to conduct premarket clinical trials, whether using prospectively acquired samples or archival samples, delays in the commencement or completion of clinical testing could significantly increase our product development costs, delay commercialization of any future products, and interrupt sales of our current products. Many of the factors that may cause or lead to a delay in the commencement or completion of clinical trials may also ultimately lead to delay or denial of regulatory clearance or approval. The commencement of clinical trials may be delayed due to insufficient patient enrollment, which is a function of many factors, including the size of the patient population, the concerns around genetic testing, the nature of the protocol, the proximity of patients to clinical sites, and the eligibility criteria for the clinical trial.

If we are required to conduct clinical trials, we and any third-party contractors we engage would be required to comply with good clinical practices ("GCPs"), which are regulations and guidelines enforced by the FDA, for products in clinical development. The FDA enforces these GCPs through periodic inspections of trial sponsors, principal investigators, and trial sites. If we or any third-party contractor fails to comply with applicable GCPs, the clinical data generated in clinical trials may be deemed unreliable and the FDA may require us to perform additional clinical trials before clearing or approving our marketing applications. A failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory clearance or approval process. In addition, if these parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, or if the quality, completeness or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or for other reasons, our clinical trials may have to be extended, delayed or terminated. Many of these factors would be beyond our control. We may not be able to enter into replacement arrangements without undue delays or considerable expenditures. If there are delays in testing or approvals as a result of the failure to perform by third parties, our research and development costs would increase, and we may not be able to obtain regulatory clearance or approval for our tests. In addition, we may not be able to establish or maintain relationships with these parties on favorable terms, if at all. Each of these outcomes would harm our ability to market our tests or to achieve or sustain profitability.

The FDA requires medical device manufacturers to comply with, among other things, current good manufacturing practices for medical devices, set forth in the Quality System Regulation at 21 C.F.R. Part 820, which requires manufacturers to follow elaborate design, testing, control, documentation, and other quality assurance procedures during the manufacturing process; the medical device reporting regulation, which requires that manufacturers report to the FDA if their device or a similar device they market may have caused or contributed to a death or serious injury or malfunctioned in a way that would likely cause or contribute to a death or serious injury if it were to recur; labeling regulations, including the FDA's general prohibition against promoting products for unapproved or "off-label" uses; the reports of corrections and removals regulation, which requires manufacturers to report to the FDA if a device correction or removal was initiated to reduce a risk to health posed by the device or to remedy a violation of the FDC Act caused by the device which may present a risk to health; and the establishment registration and device listing regulation.

Moreover, there can be no assurance that any cleared or approved labeling claims will be consistent with our current claims or adequate to support continued adoption of our products. If premarket review is required for some or all of our products, the FDA may require that we stop selling our products pending clearance or approval, which would negatively impact our business. Even if our products are allowed to remain on the market prior to clearance or approval, demand for our products may decline if there is uncertainty about our products, if we are required to label our products as investigational by the FDA, or if the FDA limits the labeling claims we are permitted to make for our products. As a result, we could experience significantly increased development costs and a delay in generating additional revenue from our services, or from other services or products now in development.

In addition, any clearance or approval we obtain for our products may contain requirements for costly post-market testing and surveillance to monitor the safety or efficacy of the product. The FDA has broad post-market enforcement powers, and if unanticipated

problems with our products arise, or if we or our suppliers fail to comply with regulatory requirements following FDA clearance or approval, we may become subject to enforcement actions such as:

- restrictions on manufacturing processes;
- restrictions on product marketing;
- warning letters;
- withdrawal or recall of products from the market;
- refusal to approve pending PMAs, 510(k)s, or supplements to approved PMAs or cleared 510(k)s that we submit;
- fines, restitution, or disgorgement of profits or revenue;
- suspension or withdrawal of regulatory clearances or approvals;
- limitation on, or refusal to permit, import or export of our products;
- product seizures;
- injunctions; or
- imposition of civil or criminal penalties.

Moreover, the FDA strictly regulates the promotional claims that may be made about medical devices. In particular, a medical device may not be promoted for uses that are not approved by the FDA as reflected in the device's approved labeling. However, companies may share truthful and not misleading information that is otherwise consistent with the product's FDA approved labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant civil, criminal, and administrative penalties.

Failure to comply with federal, state, and foreign laboratory licensing requirements and the applicable requirements of the FDA or any other regulatory authority, could cause us to lose the ability to perform our tests, experience disruptions to our business, or become subject to administrative or judicial sanctions.

We are subject to CLIA, a federal law that regulates clinical laboratories that perform testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention, or treatment of disease. CLIA regulations establish specific standards with respect to personnel qualifications, facility administration, proficiency testing, quality control, quality assurance, and inspections. We have a current CLIA certificate to conduct our tests at our laboratory in Menlo Park, California. To renew this certificate, we are subject to survey and inspection every two years. Moreover, CLIA inspectors may make random inspections of our clinical reference laboratory.

We are also required to maintain a license to conduct testing in California. California laws establish standards for day-to-day operation of our clinical reference laboratory in Menlo Park, including the training and skills required of personnel and quality control. Several other states in which we operate also require that we hold licenses to test specimens from patients in those states, under certain circumstances. For example, our clinical reference laboratory is required to be licensed on a product-specific basis by New York as an out-of-state laboratory, and our products, as LDTs, must be approved by the New York State Department of Health (the "NYDOH") on a product-by-product basis before they are offered in New York. We are subject to periodic inspection by the NYDOH and are required to demonstrate ongoing compliance with NYDOH regulations and standards. To the extent NYDOH identified any non-compliance and we are unable to implement satisfactory corrective actions to remedy such non-compliance, the State of New York could withdraw approval for our tests. Additionally, states such as Maryland, Pennsylvania, and Rhode Island may also require us to maintain out-of-state licenses. Other states may have similar requirements or may adopt similar requirements in the future. Although we have obtained licenses from states where we believe we are required to be licensed, we may become aware of other states that require out-of-state laboratories to obtain licensure in order to accept specimens from the state, and it is possible that other states currently have such requirements or will have such requirements in the future. We may also be subject to regulation in foreign jurisdictions as we seek to expand international utilization of our tests or such jurisdictions adopt new licensure requirements, which may require review of our tests in order to offer them or may have other limitations such as restrictions on the transport of human blood necessary for us to perform our tests that may limit our ability to make our tests available outside of the U.S. Complying with licensure requirements in new jurisdictions may be expensive and/or time-consuming, may subject us to significant and unanticipated delays, or may be in conflict with other applicable requirements.

Failure to comply with applicable clinical laboratory licensure requirements may result in a range of enforcement actions, including license suspension, limitation, or revocation, directed plan of action, onsite monitoring, civil monetary penalties, and criminal sanctions as well as significant adverse publicity. Any sanction imposed under CLIA, its implementing regulations or state or foreign laws or regulations governing clinical laboratory licensure, or our failure to renew our CLIA certificate, a state or foreign license or accreditation, could have a material adverse effect on our business, financial condition, and results of operations. Even if we were able to bring our laboratory back into compliance, we could incur significant expenses and potentially lose revenue in doing so.

Failure to comply with the IVDR may result in a range of enforcement actions. Penalties under the IVDR are devolved to national governments, but the IVDR requires that such measures are "effective, proportionate, and dissuasive." Initial indications suggest that penalties for breaches of the IVDR are likely to include fines and, potentially, prison sentences.

Although we market our tests as LDTs that are currently subject to the FDA's exercise of enforcement discretion, if we fail to operate within the conditions of that exercise of enforcement discretion, or if any of our products otherwise fail to comply with FDA regulatory requirements as enforced, we would be subject to the applicable requirements of the FDC Act and the FDA's implementing regulations. The FDA is empowered to impose sanctions for violations of the FDC Act and the FDA's implementing regulations, including warning letters, civil and criminal penalties, injunctions, product seizure or recall, import bans, restrictions on the conduct of our operations and total or partial suspension of production. Any of the aforementioned sanctions could cause reputational damage, undermine our ability to maintain and increase our revenue, and harm our business, financial condition, and results of operations. In particular, if we or the FDA discover that any of our products have defects that call into question the accuracy of their results, we may be required to undertake a retest of all results and analyses provided during the period relevant to the defect, or recall the affected products. The direct costs incurred in connection with such a recall in terms of management time, administrative, and legal expenses and lost revenue, together with the indirect costs to our reputation could harm our business, financial condition, and results of operations, and our ability to execute our business strategy. While we believe that we are currently in material compliance with applicable laws and regulations as currently enforced, the FDA or other regulatory agencies may not agree, and a determination that we have violated these laws or a public announcement that we are being investigated for possible violations of these laws could adversely affect our business, financial condition, results of operations, and prospects.

If our security measures are compromised, or our information technology systems or those of our vendors, and other relevant third parties fail or suffer security breaches, loss or leakage of data, and other disruptions, this could result in a material disruption of our services, compromise sensitive information related to our business, harm our reputation, trigger breach notification obligations, prevent us from accessing critical information, and expose us to liability or other adverse effects to our business.

In the ordinary course of our business, we collect, process, and store proprietary, confidential, and sensitive information, including protected health information ("PHI"), personally identifiable information ("PII"), credit card and other financial information, intellectual property, trade secrets, and proprietary business information owned or controlled by ourselves or our customers, payors, and other parties. It is critical that we do so in a secure manner to maintain the confidentiality, integrity, and availability of such information. We depend on information technology and telecommunications systems for significant elements of our operations and we have installed, and expect to expand, a number of enterprise software systems that affect a broad range of business processes and functional areas, including, for example, systems handling human resources, financial reporting and controls, customer relationship management, regulatory compliance, and other infrastructure operations. We face a number of risks relative to protecting this critical information, including loss of access risk, inappropriate use or disclosure, inappropriate modification, and the risk of our being unable to adequately monitor, audit, and modify our controls over our critical information. This risk extends to the third-party vendors and subcontractors, as we have outsourced elements of our operations to third parties and as a result a number of third-party vendors and other contractors and consultants have access to our proprietary, confidential, and sensitive information.

We manage and maintain our applications and data utilizing a combination of on-site systems and cloud-based data centers. We utilize external security and infrastructure vendors to manage parts of our data centers. We also communicate sensitive data, including patient data, electronically, and through relationships with multiple third-party vendors and their subcontractors. These applications and data encompass a wide variety of business-critical information, including research and development information, patient data, commercial information, and business and financial information. Despite the precautionary measures we have taken to prevent unanticipated problems that could affect our information technology and telecommunications systems, failures or significant downtime of our information technology or telecommunications systems or those used by our third-party service providers could prevent us from conducting tests, preparing and providing reports to our customers, billing customers, collecting revenue, handling inquiries from our customers, conducting research and development activities, and managing the administrative aspects of our business. For example, in the first quarter of 2018, we experienced downtime in our information technology systems in connection with the adoption of certain new information technology, and our results of operations in the first and second quarters of 2018 were adversely affected as a result. Any disruption or loss of information technology or telecommunications systems on which critical aspects of our operations depend could have an adverse effect on our business.

Notwithstanding the implementation of security measures, given the size and complexity of our internal information technology systems and those of our third-party vendors and other contractors and consultants, and the increasing amounts of proprietary, confidential, and sensitive information that they maintain, such information technology systems are potentially vulnerable to breakdown, service interruptions, system malfunction, natural disasters, terrorism, war, and telecommunication and electrical failures, as well as security breaches from inadvertent or intentional actions by our personnel, third-party vendors, contractors, consultants, business partners, and/or other third parties, or from cyber-attacks by malicious third parties (including the deployment of harmful malware, ransomware, denial-of-service attacks, social engineering, and other means to affect service reliability and threaten the confidentiality, integrity, and availability of information), which may compromise our system infrastructure, or that of our third-party vendors and other contractors and consultants, or lead to data leakage. The risk of a security breach or disruption, particularly through accidental actions or omissions by trusted insiders, cyber-attacks or cyber intrusions, including by computer hackers, viruses, foreign governments, and cyber terrorists, has generally increased as the number, intensity, and sophistication of attempted attacks and intrusions from around the world have increased; in particular, during the COVID-19 pandemic we have observed an increase in attempted attacks against our data systems. Additionally, in connection with the ongoing COVID-19 pandemic, most of our personnel are working remotely, which

may increase the risk of security breaches, loss of data, and other disruptions as a consequence of more personnel accessing sensitive and critical information from remote locations. We may not be able to anticipate all types of security threats, and we may not be able to implement preventive measures effective against all such security threats. The techniques used by cyber criminals change frequently, may not be recognized until launched, and can originate from a wide variety of sources, including outside groups such as external service providers, organized crime affiliates, terrorist organizations, hostile foreign governments or agencies, or cybersecurity researchers. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or those of our third-party vendors and other contractors and consultants, or inappropriate disclosure of confidential or proprietary information, we could incur liability and reputational damage and the further development and commercialization of our services could be delayed. The costs related to significant security breaches or disruptions could be material and exceed the limits of the cybersecurity insurance we maintain against such risks. If the information technology systems of our third-party vendors and other contractors and consultants become subject to disruptions or security breaches, we may have insufficient recourse against such third parties and we may have to expend significant resources to mitigate the impact of such an event, and to develop and implement protections to prevent future events of this nature from occurring.

We cannot assure you that our data protection efforts and our investment in information technology will prevent significant breakdowns, data leakages, breaches in our systems, or those of our third-party vendors and other contractors and consultants, or other cyber incidents that could have a material adverse effect upon our reputation, business, operations, or financial condition. For example, if such an event were to occur and cause interruptions in our operations, or those of our third-party vendors and other contractors and consultants, it could result in a material disruption of our programs and the development of our services and technologies could be delayed. Furthermore, significant disruptions of our internal information technology systems or those of our third-party vendors and other contractors and consultants, or security breaches could result in the loss, misappropriation, and/or unauthorized access, use, or disclosure of, or the prevention of access to, confidential information (including trade secrets or other intellectual property, proprietary business information, and personal information), which could result in financial, legal, business, and reputational harm to us. For example, any such event that leads to unauthorized access, use, or disclosure of personal information, including personal information regarding our customers or employees, could harm our reputation directly, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal information, which could result in significant legal and financial exposure and reputational damages that could potentially have an adverse effect on our business.

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 personnel 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, liability under domestic or foreign privacy, data protection, and data security laws such as the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) and the Health Information Technology for Economic and Clinical Health Act (“HITECH”), and penalties. Notice of certain security breaches must be made to affected individuals, the Secretary of the Department of Health and Human Services (“HHS”), 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. Although we have implemented security measures and a formal, dedicated enterprise security program to prevent unauthorized access to patient data, such data is currently accessible through multiple channels, and there is no guarantee we can protect our data from breach. Unauthorized access, loss, or dissemination could also damage our reputation or disrupt our operations, including our ability to conduct our analyses, deliver test results, process claims and appeals, provide customer assistance, conduct research and development activities, collect, process, and prepare company financial information, provide information about our tests and other patient and physician education and outreach efforts through our website, and manage the administrative aspects of our business.

Penalties for violations of these laws vary. For instance, penalties for failure to comply with a requirement of HIPAA and HITECH vary significantly, and include significant civil monetary penalties and, in certain circumstances, criminal penalties with fines up to $250,000 per violation and/or imprisonment. A person who knowingly obtains or discloses individually identifiable health information in violation of HIPAA may face a criminal penalty of up to $50,000 and up to one-year imprisonment. The criminal penalties increase if the wrongful conduct involves false pretenses or the intent to sell, transfer or use identifiable health information for commercial advantage, personal gain or malicious harm.

Further, various states, such as California and Massachusetts, have implemented similar privacy laws and regulations, such as the California Confidentiality of Medical Information Act, that impose restrictive requirements regulating the use and disclosure of health information and other personally identifiable information. These laws and regulations are not necessarily preempted by HIPAA, particularly if a state affords greater protection to individuals than HIPAA. Where state laws are more protective, we have to comply with the stricter provisions. In addition to fines and penalties imposed upon violators, some of these state laws also afford private rights of action to individuals who believe their personal information has been misused. California’s patient privacy laws, for example, provide for penalties of up to $250,000 and permit injured parties to sue for damages. Similarly, the California Consumer Privacy Act (“CCPA”) allows consumers a private right of action when certain personal information is subject to unauthorized access and exfiltration, theft or disclosure due to a business’ failure to implement and maintain reasonable security procedures. The interplay of federal and state laws may be subject to varying interpretations by courts and government agencies, creating complex compliance issues for us and data we receive, use and share, potentially exposing us to additional expense, adverse publicity and liability. Further, as regulatory focus on privacy issues continues to increase and laws and regulations concerning the protection of personal information expand and become

more complex, these potential risks to our business could intensify. Changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as PHI or PII, for the treatment of genetic data, along with increased customer demands for enhanced data security infrastructure, could greatly increase our cost of providing our services, decrease demand for our services, reduce our revenue and/or subject us to additional liabilities.

The actual or perceived failure by us, our customers, or vendors to comply with increasingly stringent laws, regulations and contractual obligations relating to privacy, data protection, and data security could harm our reputation, and subject us to significant fines and liability.

We are subject to numerous domestic and foreign laws and regulations regarding privacy, data protection, and data security, the scope of which is changing, subject to differing applications and interpretations and may be inconsistent among countries, or conflict with other rules. We are also subject to the terms of our contractual obligations to customers and third parties related to privacy, data protection, and data security. The actual or perceived failure by us, our customers, our vendors, or other relevant third parties to address or comply with these laws, regulations, and obligations could increase our compliance and operational costs, expose us to regulatory scrutiny, actions, fines and penalties, result in reputational harm, lead to a loss of customers, reduce the use of our services, result in litigation and liability, and otherwise cause a material adverse effect on our business, financial condition, and results of operations.

For example, the EU adopted the GDPR, which imposes onerous and comprehensive privacy, data protection, and data security obligations onto data controllers and processors, including, as applicable, contractual privacy, data protection, and data security commitments, expanded disclosures to data subjects about how their personal information is used, honoring individuals' data protection rights, limitations on retention of personal information, additional requirements pertaining to sensitive information (such as health data) and pseudonymized (i.e., key-coded) data, data breach notification requirements, and higher standards for obtaining consent from data subjects. Penalties for non-compliance with the GDPR can be significant and include fines in the amount of the greater of €20 million or 4% of global turnover and restrictions or prohibitions on data processing, which could limit our ability to do business in the EU, reduce demand for our services, and adversely impact our business and results of operations. The GDPR also provides that EU member states may introduce further conditions, including limitations, to make their own further laws and regulations limiting the processing of genetic, biometric, or health data, which could limit our ability to collect, use and share European data, or could cause our compliance costs to increase, require us to change our practices, adversely impact our business, and harm our financial condition. Assisting our customers, partners, and vendors in complying with the GDPR, or complying with the GDPR ourselves, may cause us to incur substantial operational costs or require us to change our business practices.

European privacy, data protection, and data security laws, including the GDPR, generally restrict the transfer of personal information from the U.K., EEA and Switzerland to the U.S. and most other countries unless the parties to the transfer have implemented specific safeguards to protect the transferred personal information. There is uncertainty on how to implement such safeguards and how to conduct such transfers in compliance with the GDPR, and certain safeguards may not be available or applicable with respect to some or all of the personal information processing activities necessary to research, develop and market our products and services. One of the primary safeguards allowing U.S. companies to import personal information from Europe has been certification to the EU-U.S. Privacy Shield and Swiss-U.S. Privacy Shield frameworks. However, the EU-U.S. Privacy Shield framework was invalidated in July 2020 in a decision by the Court of Justice of the EU and the Swiss-U.S. Privacy Shield Framework was declared as inadequate by the Swiss Federal Data Protection and Information Commissioner. The decision by the Court of Justice and the announcement by the Swiss Commissioner both raised questions about whether one of the primary alternatives to the Privacy Shield frameworks, the European Commission's Standard Contractual Clauses, can lawfully be used for personal information transfers from Europe to the U.S. or most other countries. Authorities in the U.K. may similarly invalidate use of the EU-U.S. Privacy Shield and raise questions on the viability of the Standard Contractual Clauses. In November 2020, EU regulators proposed a new set of Standard Contractual Clauses, which impose additional obligations and requirements with respect to the transfer of EU personal data to other jurisdictions, which may increase the legal risks and liabilities under the GDPR and local EU laws associated with cross-border data transfers, and result in material increased compliance and operational costs. If we are unable to implement a valid solution for personal information transfers to the U.S. and other countries, we will face increased exposure to regulatory actions, substantial fines, and injunctions against processing or transferring personal information from Europe, and we may be required to increase our data processing capabilities in Europe at significant expense. Inability to import personal information from Europe to the U.S. or other countries may decrease demand for our products and services as our customers that are subject to the GDPR may seek alternatives that do not involve personal information transfers out of Europe. At present, there are few, if any, viable alternatives to the Privacy Shield and the Standard Contractual Clauses.

In addition, it is unclear whether the transfer of personal information from the EU to the U.K. will continue to remain lawful under the GDPR in light of Brexit. Pursuant to a post-Brexit trade deal between the U.K. and the EU, transfers of personal information from the EEA to the U.K. are not considered restricted transfers under the GDPR for a period of up to six months from January 1, 2021. However, unless the EU Commission makes an adequacy finding with respect to the U.K. before the end of that period, the U.K. will be considered a "third country" under the GDPR and transfers of European personal information to the U.K. will require an adequacy mechanism to render such transfers lawful under the GDPR. Additionally, although U.K. privacy, data protection and data security law is designed to be consistent with the GDPR, uncertainty remains regarding how data transfers to and from the U.K. will be regulated notwithstanding Brexit.

Regulation of privacy, data protection, and data security has also become more stringent in the U.S. New laws are also being considered at both the state and federal levels, and legislatures of states such as California have already passed and enacted privacy legislation. For example, the CCPA, which took effect on January 1, 2020, gives California residents expanded rights to access and

delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. The CCPA may increase our compliance costs and potential liability. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent state privacy, data protection and data security legislation in the U.S., which could increase our potential liability and adversely affect our business. The CCPA will be expanded substantially on January 1, 2023, when the California Privacy Rights Act of 2020 ("CPRA") becomes fully operative. The CPRA imposes additional obligations relating to consumer data on companies doing business in California beginning January 1, 2022, with implementing regulations expected on or before July 1, 2022, and enforcement beginning July 1, 2023. The CPRA significantly modifies the CCPA and will, among other things, give California residents the ability to limit use of certain sensitive personal information, further restrict the use of cross-contextual advertising, establish restrictions on the retention of personal information, expand the types of data breaches subject to the CCPA's private right of action, provide for increased penalties for CPRA violations concerning California residents under the age of 16, and establish a new California Privacy Protection Agency to implement and enforce the new law.

Compliance with U.S. and foreign privacy, data protection, and data security laws and regulations, including the PIPL in China that took effect on November 1, 2021 and contains provisions similar to those of the GDPR, could cause us to incur substantial costs or require us to change our business practices and compliance procedures in a manner adverse to our business. Moreover, complying with these various laws could require us to take on more onerous obligations in our contracts, restrict our ability to collect, use and disclose data, or in some cases, impact our ability to operate in certain jurisdictions. We typically rely on our customers to obtain valid and appropriate consents from data subjects whose genetic samples and data we process on such customers' behalf. Given that we do not typically obtain direct consent from such data subjects and we do not audit our customers to ensure that they have obtained the necessary consents required by law, the failure of our customers to obtain consents that are valid under applicable law could result in our own non-compliance with privacy laws. Such failure to comply with U.S. and foreign privacy, data protection, and data security laws and regulations could result in government enforcement actions (which could include civil or criminal penalties), private litigation and/or adverse publicity and could negatively affect our operating results and business. Claims that we have violated individuals' privacy rights, failed to comply with privacy, data protection, and data security laws, or breached our contractual obligations, even if we are not found liable, could be expensive and time consuming to defend, could result in adverse publicity and could have a material adverse effect on our business, financial condition, and results of operations.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could cause significant liability for us and harm our reputation.

We are exposed to the risk of employee fraud or other misconduct, including intentional failures to comply with government regulations, including federal and state healthcare fraud and abuse laws and regulations, to misuse information, including patient information, and to report financial information or data accurately or disclose unauthorized activities to us. Such misconduct could also involve the improper use of information obtained in the course of clinical studies, which could result in regulatory sanctions and cause serious harm to our reputation. We have a code of conduct and ethics for our directors, officers and employees, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of significant administrative, civil and criminal penalties, damages, fines, imprisonment, exclusion from government healthcare programs, contractual damages, refunding of payments received by us, reputational harm, additional reporting, or oversight obligations if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with the law and curtailment or restructuring of our operations. Whether or not we are successful in defending against such actions or investigations, we could incur substantial costs, including legal fees, and divert the attention of management in defending ourselves against any of these claims or investigations.

Complying with numerous statutes and regulations pertaining to our business is an expensive and time-consuming process, and any failure to comply could result in substantial penalties.

Our operations may be subject to other extensive federal, state, local, and foreign laws and regulations, all of which are subject to change. These laws and regulations currently include, among others:

- the federal Anti-Kickback Statute, which prohibits knowingly and willfully offering, paying, soliciting, or receiving remuneration, directly or indirectly, overtly or covertly, in cash or in kind, in return for or to induce such person to refer an individual, or to purchase, lease, order, arrange for, or recommend purchasing, leasing or ordering, any good, facility, item or service that is reimbursable, in whole or in part, under a federal healthcare program. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the false claims statutes;

- the federal Stark physician self-referral law, which prohibits a physician from making a referral for certain designated health services covered by the Medicare program, including laboratory and pathology services, if the physician or an immediate family member has a financial relationship with the entity providing the designated health services, and prohibits that entity from billing or presenting a claim for the designated health services furnished pursuant to the

prohibited referral, unless an exception applies. Failure to refund amounts received as a result of a prohibited referral on a timely basis may constitute a false or fraudulent claim under the False Claims Act;

- the "Anti-Markup Rule" and similar state laws, among other things, prohibit a physician or supplier billing the Medicare program from marking up the price of a purchased diagnostic service performed by another laboratory or supplier that does not "share a practice" with the billing physician or supplier. Penalties may apply to the billing physician or supplier if Medicare or another payer is billed at a rate that exceeds the performing laboratory's charges to the billing physician or supplier, and the performing laboratory could be at risk under false claims laws, described below, for causing the submission of a false claim;

- the federal civil and criminal false claims laws, including the False Claims Act, which impose liability on any person or entity that, among other things, knowingly presents, or causes to be presented, a false or fraudulent claim for payment to the federal government. These laws can apply to entities that provide information on coverage, coding, and reimbursement of their products and assistance with obtaining reimbursement to persons who bill payors. Private individuals can bring False Claims Act "qui tam" actions, on behalf of the government and such individuals, commonly known as "whistleblowers," may share in amounts paid by the entity to the government in fines or settlement;

- the federal Civil Monetary Penalties Law, which prohibits, among other things, the offering or transfer of remuneration to a Medicare or state healthcare program beneficiary if the person knows or should know it is likely to influence the beneficiary's selection of a particular provider, practitioner, or supplier of services reimbursable by Medicare or a state healthcare program, unless an exception applies;

- the federal Physician Payments Sunshine Act, which requires certain manufacturers of drugs, biologicals, and medical devices or supplies that require premarket approval by or notification to the FDA, and for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program ("CHIP"), with certain exceptions, to report annually to CMS information related to (i) payments and other transfers of value to physicians (defined to include doctors, dentists, optometrists, podiatrists, and chiropractors) and teaching hospitals, and (ii) ownership and investment interests held by physicians and their immediate family members, which will be expanded beginning in 2022, to require applicable manufacturers to report information regarding payments and other transfers of value provided to physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists, anesthesiologist assistants, and certified nurse midwives during the previous year;

- the HIPAA fraud and abuse provisions, which created federal civil and criminal statutes that prohibit, among other things, defrauding healthcare programs, willfully obstructing a criminal investigation of a healthcare offense, and falsifying or concealing a material fact or making any materially false statements in connection with the payment for healthcare benefits, items or services. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;

- the Eliminating Kickbacks in Recovery Act of 2018 ("EKRA"), which prohibits payments for referrals to recovery homes, clinical treatment facilities, and laboratories. EKRA's reach extends beyond federal health care programs to include private insurance (i.e., it is an "all payer" statute);

- other federal and state fraud and abuse laws, such as anti-kickback laws, prohibitions on self-referral, fee-splitting restrictions, insurance fraud laws, prohibitions on the provision of tests at no or discounted cost to induce physician or patient adoption, and false claims acts, which may extend to services reimbursable by any payer, including private insurers;

- the prohibition on reassignment of Medicare claims, which, subject to certain exceptions, precludes the reassignment of Medicare claims to any other party;

- state laws that prohibit other specified practices, such as billing physicians for testing that they order; waiving coinsurance, copayments, deductibles, and other amounts owed by patients; billing a state Medicaid program at a price that is higher than what is charged to one or more other payors; employing, exercising control over, licensed professionals in violation of state laws prohibiting corporate practice of medicine and other professions, and prohibitions against the splitting of professional fees with licensed professionals; and

- similar foreign laws and regulations that apply to us in the countries in which we operate or may operate in the future.

As a clinical laboratory, our business practices may face additional scrutiny from government regulatory agencies such as the Department of Justice, the HHS Office of Inspector General (the "OIG"), and CMS. Certain arrangements between clinical laboratories and referring physicians have been identified in fraud alerts issued by the OIG as implicating the Anti-Kickback Statute. The OIG has stated that it is particularly concerned about these types of arrangements because the choice of laboratory, as well as the decision to order laboratory tests, typically are made or strongly influenced by the physician, with little or no input from patients. Moreover, the provision of payments or other items of value by a clinical laboratory to a referral source could be prohibited under the Stark Law unless the arrangement meets all criteria of an applicable exception. The government has been active in enforcement of these laws as they apply to clinical laboratories.

The growth of our business and our expansion outside of the U.S. may increase the potential of violating these laws or our internal policies and procedures. The risk of our being found in violation of these or other laws and regulations is further increased by the fact that many have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Any action brought against us for violation of these or other laws or regulations, even if we successfully defend against it, could cause us to incur significant legal expenses and reputational harm and divert our management's attention from the operation of our business. If our operations are found to be in violation of any of these laws and regulations, we may be subject to any applicable penalty associated with the violation, including significant administrative, civil and criminal penalties, damages, fines, imprisonment, exclusion from participation in federal healthcare programs, refunding of payments received by us, integrity oversight and reporting obligations, and curtailment or cessation of our operations. Any of the foregoing consequences could seriously harm our business and our financial results.

We could be adversely affected by violations of the Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"), and other worldwide anti-bribery laws.

We are subject to the FCPA, which prohibits companies and their intermediaries from making payments in violation of law to non-U.S. government officials for the purpose of obtaining or retaining business or securing any other improper advantage. Other U.S. companies in the medical device and pharmaceutical fields have faced criminal penalties under the FCPA for allowing their agents to deviate from appropriate practices in doing business with these individuals. We are also subject to similar anti-bribery laws in the jurisdictions in which we operate, including the U.K.'s Bribery Act of 2010, which also prohibits commercial bribery and makes it a crime for companies to fail to prevent bribery. These laws are complex and far-reaching in nature, and, as a result, we cannot assure you that we would not be required in the future to alter one or more of our practices to be in compliance with these laws or any changes in these laws or the interpretation thereof. Any violations of these laws, or allegations of such violations, could disrupt our operations, involve significant management distraction, involve significant costs and expenses, including legal fees, and could result in a material adverse effect on our business, prospects, financial condition or results of operations. We could also incur severe penalties, including criminal and civil penalties, disgorgement, and other remedial measures.

If we decide to grow our business by developing in vitro diagnostic tests, we may be subject to reimbursement challenges.

The coverage and reimbursement status of newly approved or cleared laboratory tests, including our NeXT Dx test, is uncertain. If we decide to seek reimbursement for our NeXT Dx test or other in vitro diagnostic tests we may develop, and if such tests are inadequately covered by insurance or ineligible for such reimbursement, this could limit our ability to market any such future tests. The commercial success of future products in both domestic and international markets may depend in part on the availability of coverage and adequate reimbursement from third-party payors, including government payors, such as the Medicare and Medicaid programs, managed care organizations, and other third-party payors. The government and other third-party payors are increasingly attempting to contain health care costs by limiting both insurance coverage and the level of reimbursement for new diagnostic tests. As a result, they may not cover or provide adequate payment for any future in vitro diagnostic tests that we develop. These payors may conclude that our products are less safe, less effective, or less cost-effective than existing or later-introduced products. These payors may also conclude that the overall cost of using one of our tests exceeds the overall cost of using a competing test, and third-party payors may not approve any future in vitro diagnostic tests we develop for insurance coverage and adequate reimbursement.

Changes in health care policy could increase our costs, decrease our revenue, and impact sales of and reimbursement for our tests.

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (the "ACA"), became law. This law substantially changed the way health care is financed by both commercial payers and government payers, and significantly impacts our industry. The ACA contains a number of provisions that are expected to impact the business and operations of our customers, some of which in ways we cannot currently predict, including those governing enrollment in state and federal health care programs, reimbursement changes, and fraud and abuse, which will impact existing state and federal health care programs and will result in the development of new programs.

Among other things, the ACA:

- expanded eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for individuals with income at or below 133% of the federal poverty level, thereby potentially increasing manufacturers' Medicaid rebate liability;

- established a new Patient-Centered Outcomes Research Institute to oversee and identify priorities in comparative clinical efficacy research in an effort to coordinate and develop such research; and

- established a Center for Medicare and Medicaid Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending.

There remain judicial and Congressional challenges to certain aspects of the ACA, as well as efforts by the former Trump administration to repeal or replace certain aspects of the ACA. Since January 2017, former President Trump signed several Executive Orders and other directives to delay the implementation of certain requirements of the ACA. Concurrently, Congress considered

legislation that would repeal, or repeal and replace, all or part of the ACA. While Congress has not passed comprehensive repeal legislation, it has enacted laws that modify certain provisions of the ACA such as removing penalties, starting January 1, 2019, for not complying with the ACA's individual mandate to carry health insurance and eliminating the implementation of certain ACA-mandated fees. On December 14, 2018, a Texas U.S. District Court Judge ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Cuts and Jobs Act. Additionally, on December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. For example, efforts to repeal, substantially modify or invalidate some or all of the provisions of the Patient Protection and the ACA, some of which have been successful, create considerable uncertainties for all businesses involved in healthcare, including our own. It is unclear how this, subsequent appeals, and other efforts to repeal and replace the ACA will impact the ACA and our business. Additional legislation may be enacted that further amends, or repeals, the ACA, which could result in lower numbers of insured individuals, reduced coverage for insured individuals and adversely affect our and our customers' business.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. On August 2, 2011, the Budget Control Act of 2011 was signed into law, which, among other things, reduced Medicare payments to providers by 2% per fiscal year, effective on April 1, 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2030, with the exception of a temporary suspension from May 1, 2020 through March 31, 2021, unless additional Congressional action is taken. On January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, reduced Medicare payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. The Medicare Access and CHIP Reauthorization Act of 2015, enacted on April 16, 2015 ("MACRA"), repealed the formula by which Medicare made annual payment adjustments to physicians and replaced the former formula with fixed annual updates, and established a quality payment incentive program, also referred to as the Quality Payment Program. This program provides clinicians with two ways to participate, including through the Advanced Alternative Payment Models, or APMs, and the Merit-based Incentive Payment System, or MIPS. In November 2019, CMS issued a final rule finalizing the changes to the Quality Payment Program. At this time, it is unclear how the introduction of the Quality Payment Program will impact overall physician reimbursement under the Medicare program. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors.

In April 2014, Congress passed the Protecting Access to Medicare Act of 2014 ("PAMA"), which included substantial changes to the way in which clinical laboratory services are paid under Medicare. Under PAMA, laboratories that receive the majority of their Medicare revenue from payments made under the Medicare Clinical Laboratory Fee Schedule, or the Physician Fee Schedule are required to report to CMS, beginning in 2017 and every three years thereafter (or annually for "advanced diagnostic laboratory tests"), private payer payment rates and volumes for their tests. CMS will use this data to calculate a weighted median payment rate for each test, which will be used to establish revised Medicare reimbursement rates for the tests. Laboratories that fail to report the required payment information may be subject to substantial civil monetary penalties. In January 2020, CMS announced that data reporting for clinical diagnostic laboratory tests is delayed by one year. Moreover, the Coronavirus Aid, Relief, and Economic Security ("CARES") Act, enacted in March 2020, further delays the reporting period by an additional year. Therefore, data that was originally supposed to be reported between January 1, 2020 and March 31, 2020 must now be reported between January 1, 2022 and March 31, 2022. Covered laboratories must report data from the original data collection period of January 1, 2019 through June 30, 2019. Data reporting for these tests will then resume on a three year cycle beginning in 2025. The payment rate applies to laboratory tests furnished by a hospital laboratory if the test is separately paid under the hospital outpatient prospective payment system. It is still too early to predict the full impact on reimbursement for our products in development. In addition, CMS updated the statutory phase-in provisions such that, for 2020, the rates for clinical diagnostic laboratory tests may not be reduced by more than 10% of the rates for 2019. Pursuant to the CARES Act, the statutory phase-in of payment reductions has been extended through 2024 with a 0% reduction cap for 2021 and a 15% reduction cap for each of 2022, 2023, and 2024. It is unclear what impact new quality and payment programs, such as MACRA, or new pricing structures, such as those adopted under PAMA, may have on our business, financial condition, results of operations, or cash flows.

Further, it is possible that additional governmental action is taken to address the COVID-19 pandemic. We also anticipate there will continue to be proposals by legislators at both the federal and state levels, regulators and private payers to reduce costs while expanding individual healthcare benefits. Certain of these changes could impose additional limitations on the prices we will be able to charge for our tests, the coverage of or the amounts of reimbursement available for our tests from payers, including commercial payers and government payers.

If we use hazardous materials in a manner that causes injury, we could be liable for resulting damages.

Our activities currently require the use of hazardous chemicals and biological material. We cannot eliminate the risk of an accidental environmental release or injury to employees or third parties from the use, storage, handling, or disposal of these materials. In the event of an environmental release or injury, we could be held liable for any resulting damages, and any liability could exceed our resources or any applicable insurance coverage we may have. Additionally, we are subject on an ongoing basis to federal, state, and local laws and regulations governing the use, storage, handling, and disposal of these materials and specified waste products. The cost of maintaining compliance with these laws and regulations may become significant and our failure to comply may result in substantial fines or other consequences, and either could negatively affect our operating results.

The 2017 tax reform law, as modified by 2020 tax legislation, and possible future changes in tax laws or regulations could adversely affect our business and financial condition.

On December 22, 2017, former President Trump signed into law comprehensive tax legislation (the "Tax Cuts and Jobs Act") that significantly revised the Internal Revenue Code of 1986, as amended (the "Code"). Future guidance from the U.S. Internal Revenue Service and other tax authorities with respect to the Tax Cuts and Jobs Act may affect us, and certain aspects of the Tax Cuts and Jobs Act could be repealed or modified in future legislation. For example, on March 27, 2020, the CARES Act was enacted, which includes changes to the tax provisions that benefit business entities and makes certain technical corrections to the Tax Cuts and Jobs Act. President Biden is considering further repeals and/or replacement of the Tax Cuts and Jobs Act which may affect us. On June 29, 2020, California Assembly Bill 85 (AB 85) was signed into law, which suspends the use of California net operating losses and limits the use of California research tax credits for tax years beginning in 2020 and before 2023. On December 27, 2020, the Consolidated Appropriations Act, a coronavirus relief package that extended and expanded various tax provisions, was signed into law. Changes in corporate tax rates, the realization of net deferred tax assets relating to our U.S. operations, the taxation of foreign earnings, and the deductibility of expenses under the Tax Cuts and Jobs Act, the CARES Act, or future tax reform legislation could have a material impact on the value of our deferred tax assets, could result in significant one-time charges in the current or future taxable years, and could increase our future U.S. tax expense. The foregoing items, as well as any other future changes in tax laws, could have a material adverse effect on our business, cash flow, financial condition, or results of operations. In addition, it is uncertain if and to what extent various states will conform to the Tax Cuts and Jobs Act, the CARES Act, or any newly enacted federal tax legislation.

Our effective tax rate may fluctuate, and we may incur obligations in tax jurisdictions in excess of accrued amounts.

We are subject to taxation in numerous U.S. states and territories, as well as various non-U.S. jurisdictions. As a result, our effective tax rate is derived from a combination of applicable tax rates in the various jurisdictions that we operate. In preparing our financial statements, we estimate the amount of tax that will become payable in each jurisdiction. Nevertheless, our effective tax rate may be different than experienced in the past due to numerous factors, including passage of the Tax Cuts and Jobs Act and the CARES Act, changes in the mix of our profitability from state to state, the results of examinations and audits of our tax filings, our inability to secure or sustain acceptable agreements with tax authorities, changes in accounting for income taxes and changes in tax laws. Any of these factors could cause us to experience an effective tax rate significantly different from previous periods or our current expectations and may result in tax obligations in excess of amounts accrued in our financial statements.

The exit of the U.K. from the EU, commonly referred to as "Brexit" could lead to regulatory divergence and require us to incur additional expenses in order to develop, manufacture, and commercialize our products and services.

Following the result of a referendum in 2016, the U.K. left the EU on January 31, 2020, commonly referred to as "Brexit." Pursuant to the formal withdrawal arrangements agreed between the U.K. and the EU, the U.K. was subject to a transition period until December 31, 2020 (the "Transition Period"), during which EU rules continued to apply. A deal that outlines the future trading relationship between the U.K. and the EU was agreed in December 2020 and has been approved by each EU member state and the U.K.

While the deal provides for, in most cases, tariff-free trade of goods between the U.K. and the EU, there are additional non-tariff costs to such trade which did not exist prior to the end of the Transition Period. For example, a UKCA mark will be required to sell medical devices to customers in Great Britain, rather than a CE mark.

Should the U.K. or Great Britain further diverge from the EU from a regulatory perspective (for example, by not mirroring the provisions of the IVDR), tariffs could be put into place in the future. We could therefore, both now and in the future, face significant additional expenses (when compared to the position prior to the end of the Transition Period) to operate our business, which could significantly and materially harm or delay our ability to generate revenue or achieve profitability of our business. Any further changes in international trade, tariff and import/export regulations as a result of Brexit or otherwise may impose unexpected duty costs or other non-tariff barriers on us. These developments, or the perception that any of them could occur, may significantly reduce global trade and, in particular, trade between the impacted nations and the U.K. It is also possible that Brexit may negatively affect our ability to attract and retain employees, particularly those from the EU.

Intellectual Property Risks

Litigation or other proceedings or third-party claims of intellectual property infringement, misappropriation or other violations may require us to spend significant time and money, and could in the future prevent us from selling our tests or impact our stock price, any of which could have a material adverse effect.

Our commercial success will depend in part on our avoiding infringement of patents and infringement, misappropriation or other violations of other proprietary rights of third parties, including, for example, the intellectual property of competitors. There is extensive intellectual property litigation involving the biotechnology and pharmaceutical industries and genetic sequencing technology. Our activities may be subject to claims that we infringe or otherwise violate patents owned or controlled by third parties. Numerous U.S. and foreign patents and pending patent applications exist in the genetic testing market and are owned by third parties. We cannot assure you that our operations do not, or will not in the future, infringe existing or future patents. For example, we are aware of several third-party issued U.S. patents and pending patent applications with claims relating to genetic sequencing technology and methodology that may be asserted against us and may be construed to encompass our products and services. In order to avoid infringing these third-

party patents, we may find it necessary or prudent to initiate invalidity proceedings against such patents or to obtain licenses from such third-party intellectual property holders. If we are not able to invalidate such patents or obtain or maintain a license on commercially reasonable terms and such third parties assert infringement claims against us, we may be prevented from exploiting our technology and our business, financial condition, results of operations, and prospects may be materially and adversely affected. We may also be unaware of patents that a third party, including for example a competitor in the genetic testing market, might assert are infringed by our business. There may also be patent applications that, if issued as patents, could be asserted against us. Patent applications in the U.S. and elsewhere are typically published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Certain U.S. patent applications that will not be filed outside the U.S. can remain confidential until patents issue. Therefore, patent applications covering our products, services, or technologies could have been filed by third parties without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our products, services, technologies, and their use. The scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent, and the patent's prosecution history and can involve other factors such as expert opinion. Our interpretation of the relevance or the scope of claims in a patent or a pending application may be incorrect, which may negatively impact our ability to market our products and services. Further, we may incorrectly determine that our technologies, products, or services are not covered by a third-party patent or may incorrectly predict whether a third party's pending patent application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the U.S. or abroad that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our products or services.

Third-party intellectual property right holders may also actively bring infringement or other intellectual property-related claims against us, even if we have received patent protection for our technologies, products, and services. Regardless of the merit of third parties' claims against us for infringement, misappropriation, or violations of their intellectual property rights, such third parties may seek and obtain injunctive or other equitable relief, which could effectively block our ability to perform our tests. Further, if a patent infringement suit were brought against us, we could be forced to stop or delay our development or sales of any tests or other activities that are the subject of such suit. Defense of these claims, even if such claims are resolved in our favor, could cause us to incur substantial expenses and be a substantial diversion of our employee resources even if we are ultimately successful. Any adverse ruling or perception of an adverse ruling in defending ourselves could have a material adverse impact on our cash position and stock price. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios.

As we continue to commercialize our tests in their current or an updated form, launch different and expanded tests, and enter new markets, other competitors might claim that our tests infringe, misappropriate, or violate their intellectual property rights as part of business strategies designed to impede our successful commercialization and entry into new markets. If such a suit were brought, regardless of merit, there is no assurance that a court would find in our favor on questions of infringement, validity, enforceability, or priority. Even if we are successful in defending against such a suit, we could incur substantial costs and diversion of the attention of our management and technical personnel in defending ourselves against such claims. A court of competent jurisdiction could hold that third-party patents asserted against us are valid, enforceable, and infringed, which could materially and adversely affect our ability to commercialize any products, services or technologies we may develop and any other technologies covered by the asserted third-party patents and any adverse ruling or perception of an adverse ruling in defending ourselves could have a material adverse impact on our cash position and stock price. If we are found to infringe, misappropriate, or otherwise violate a third party's intellectual property rights, and we are unsuccessful in demonstrating that such rights are invalid or unenforceable, we may be required to pay substantial damages, including treble damages and attorneys' fees for willful infringement; obtain one or more licenses from third parties in order to continue developing and marketing our products and technology, which may not be available on commercially reasonable terms (if at all) or may be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us; pay substantial royalties and other fees; and redesign any infringing tests or other activities, which may be impossible or require substantial time and monetary expenditure; or be prohibited from commercializing certain tests, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Where we collaborate with third parties in the development of technology, our collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information. Further, collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability. Also, we may be obligated under our agreements with our collaborators, licensors, suppliers, and others to indemnify and hold them harmless for damages arising from intellectual property infringement by us.

If we cannot license rights to use technologies on reasonable terms, we may not be able to commercialize new products in the future.

In the future, we may identify additional third-party intellectual property we may need to license in order to engage in our business, including to develop or commercialize new products or services. However, such licenses may not be available on acceptable terms, or at all. Even if such licenses are available, we may be required to pay the licensor substantial royalties based on sales of our products and services. Such royalties are a component of the cost of our products or services and may affect the margins on our products and services. In addition, such licenses may be nonexclusive, which could give our competitors access to the same intellectual property licensed to us. If we are unable to enter into the necessary licenses on acceptable terms or at all, if any necessary

licenses are subsequently terminated, if our licensors fail to abide by the terms of the licenses, if our licensors fail to prevent infringement by third parties, or if the licensed patents or other rights are found to be invalid or unenforceable, our business, financial condition, results of operations, and prospects could be materially and adversely affected.

If licenses to third-party intellectual property rights are or become required for us to engage in our business, the rights may be non-exclusive, which could give our competitors access to the same technology or intellectual property rights licensed to us. Moreover, we could encounter delays in the introduction of tests while we attempt to develop alternatives. Defense of any lawsuit or failure to obtain any of these licenses on favorable terms could prevent us from commercializing tests, which could materially affect our ability to grow and thus adversely affect our business and financial condition.

Developments or uncertainty in the patent statute, patent case law, or U.S. Patent and Trademark Office ("USPTO"), rules and regulations may impact the validity, scope or enforceability of our patent rights, thereby impairing our ability to protect our products.

Our patent rights, their associated costs, and the enforcement or defense of such patent rights may be affected by developments or uncertainty in the patent statute, patent case law, or USPTO rules and regulations.

There are a number of recent changes to the patent laws that may have a significant impact on our ability to protect our technology and enforce our intellectual property rights. For example, the Leahy-Smith America Invents Act (the "AIA") involves significant changes in patent legislation. These include provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. As an example, assuming that other requirements for patentability are met, prior to March 2013, in the U.S., the first to invent the claimed invention was entitled to the patent, while outside the U.S., the first to file a patent application was entitled to the patent. On or after March 16, 2013, under the AIA, the U.S. transitioned to a first inventor to file system in which, assuming that other requirements for patentability are met, means that the party that is first to file in the U.S. generally is awarded the patent rights, regardless of whether such party invented the claimed invention first.

The AIA also includes a number of significant changes that affect the way patent applications are prosecuted and also may affect patent litigation. These include allowing third party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post-grant proceedings, including post-grant review, *inter partes* review, and derivation proceedings. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. The AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Further, the standards applied by the USPTO and foreign patent offices in granting patents are not always applied uniformly or predictably. For example, there is no uniform worldwide policy regarding patentable subject matter or the scope of claims allowable in biotechnology patents. As such, we do not know the degree of future protection that we will have on our technologies, products, and services. While we will endeavor to try to protect our technologies, products, and services with intellectual property rights such as patents, as appropriate, the process of obtaining patents is time-consuming, expensive, and sometimes unpredictable.

In addition, the patent position of companies engaged in the development and commercialization of diagnostic tests is particularly uncertain. Various courts, including the Supreme Court have rendered decisions that affect the scope of patentability of certain inventions or discoveries relating to certain diagnostic tests and related methods. These decisions state, among other things, that a patent claim that recites an abstract idea, natural phenomenon or law of nature (for example, the relationship between particular genetic variants and cancer) are not themselves patentable. Precisely what constitutes a law of nature or abstract idea is uncertain, and it is possible that certain aspects of genetic diagnostics tests would be considered natural laws. Accordingly, the evolving case law in the U.S. may adversely affect our ability to obtain patents and may facilitate third-party challenges to any owned or licensed patents. The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the U.S., and we may encounter difficulties in protecting and defending such rights in foreign jurisdictions. The legal systems of many other countries do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology, which could make it difficult for us to stop the infringement of our patents in such countries. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business.

Patent terms may be inadequate to protect our competitive position for an adequate amount of time.

Patents have a limited lifespan. In the U.S., the natural expiration of a patent is generally 20 years after its first effective non-provisional filing date. Although various extensions may be available, the life of a patent, and the protection it affords, is limited. Even if patents covering our technologies, products, and services are obtained, once the patent life has expired, we may be open to competition from competitive products. Our issued patents will expire on dates ranging from 2033 to 2038, subject to any patent extensions that may be available for such patents. If patents are issued on our pending patent applications, the resulting patents are projected to expire on dates ranging from 2033 to 2041. In addition, although upon issuance in the U.S., a patent's life can be increased based on certain delays caused by the USPTO, this increase can be reduced or eliminated based on certain delays caused by the

patent applicant during patent prosecution. If we do not have sufficient patent life to protect our technologies, products and services, our competitive position, business, financial condition, results of operations, and prospects will be adversely affected.

If we are not able to obtain and enforce patent protection for any products we develop and for our technologies, or if the scope of patent protection obtained is not sufficiently broad, our competitors and other third parties could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize our products, services, and technologies may be adversely affected.

We have applied, and we intend to continue applying, for patents covering such aspects of our technologies as we deem appropriate. However, the patent process is expensive, time consuming, and complex, and we may not be able to apply for patents on certain aspects of our services, products, and other technologies in a timely fashion, at a reasonable cost, in all jurisdictions or at all, and any potential patent coverage we obtain may not be sufficient to prevent substantial competition.

Moreover, the patent position of biotechnology companies can be highly uncertain because it involves complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in such companies' patents has emerged to date in the U.S. or elsewhere. Courts frequently render opinions in the biotechnology field that may affect the patentability of certain inventions or discoveries, including opinions that may affect the patentability of methods for analyzing nucleic acid sequences.

Others may independently develop similar or alternative technologies or design around technologies for which we may not be able to obtain patent protection. In addition, any patent applications we file may be challenged and may not result in issued patents or may be invalidated, rendered unenforceable or narrowed in scope after they are issued, and there is no guarantee any of our issued patents include or will include claims that are sufficiently broad to cover our products, services, and other technologies or to provide meaningful protection from our competitors. Consequently, we do not know whether any of our platform advances, products, services, and other technologies will be protectable or remain protected by valid and enforceable patents. Our competitors or other third parties may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner.

Even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property, provide exclusivity for our technologies, products, and services, or prevent others from designing around our claims. Any finding that our patents or applications are invalid, unpatentable, or unenforceable could harm our ability to prevent others from practicing the related technology, and a finding that others have inventorship or ownership rights to our patents and applications could require us to obtain certain rights to practice related technologies, which may not be available on favorable terms, if at all. If we initiate lawsuits to protect or enforce our patents, or litigate against third-party claims, which would be expensive, and, if we lose, we may lose some of our intellectual property rights. Furthermore, these lawsuits may divert the attention of our management and technical personnel. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

Once granted, patents may remain open to opposition, interference, re-examination, post-grant review, *inter partes* review, nullification or derivation action in court or before patent offices or similar proceedings for a given period after allowance or grant, during which time third parties can raise objections against such initial grant. In the course of such proceedings, which may continue for a protracted period of time, the patent owner may be compelled to limit the scope of the granted claims thus attacked, or may lose the granted claims altogether. An adverse determination in any such proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to commercialize our products, services and technologies without infringing third-party patent rights. Such proceedings also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us. If the breadth or strength of protection provided by our patents and patent applications is threatened, regardless of the outcome, it could dissuade companies from collaborating with us to license, develop or commercialize current or future products or technologies. In addition, there can be no assurance that:

- others will not or may not be able to make, use, offer to sell, or sell tests that are the same as or similar to our products or services but that are not covered by the claims of the patents that we own or license;
- we or our future licensors or collaborators are the first to make the inventions covered by each of our issued patents and pending patent applications that we own or license;
- we or our future licensors or collaborators are the first to file patent applications covering certain aspects of our inventions;
- others will not independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- a third party may not challenge our patents and, if challenged, a court would hold that our patents are valid, enforceable, and infringed;
- any issued patents that we own or may license will provide us with any competitive advantages, or will not be challenged by third parties;

- we may develop or in-license additional proprietary technologies that are patentable;
- pending patent applications that we own or may license will lead to issued patents;
- the patents of others will not have a material or adverse effect on our business, financial condition, results of operations, and prospects; and
- our competitors do not conduct research and development activities in countries where we do not have enforceable patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets.

The issuance of a patent is not conclusive as to its inventorship, scope, validity, or enforceability. Some of our patents or patent applications may be challenged at a future point in time in opposition, derivation, reexamination, *inter partes* review, post-grant review, or interference proceedings. Any successful opposition to these patents or any other patents owned by or, if applicable in the future, licensed to us could deprive us of rights necessary for the practice of our technologies or the successful commercialization of any products or technologies that we may develop, which could lead to increased competition to our business and harm our business. Since patent applications in the U.S. and most other countries are confidential for a period of time after filing, we cannot be certain that we or our licensors were the first to file any patent application related to our technologies, products, or services. Furthermore, an interference proceeding can be provoked by a third party or instituted by the USPTO to determine who was the first to invent any of the subject matter covered by the patent claims of our applications for any application with an effective filing date before March 16, 2013.

Where we obtain licenses from or collaborate with third parties, in some circumstances, we may not have the right to control the preparation, filing, and prosecution of patent applications, or to maintain the patents, covering technology that we license from third parties. We may also require the cooperation of our licensors and collaborators to enforce any licensed patent rights, and such cooperation may not be provided. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. Moreover, if we do obtain necessary licenses, we will likely have obligations under those licenses, and any failure to satisfy those obligations could give our licensor the right to terminate the license. Termination of a necessary license could have a material adverse impact on our business.

It is also possible that we fail to file patent applications covering inventions made in the course of development and commercialization activities before a competitor or another third party files a patent application covering, or publishes information disclosing, a similar, independently-developed invention. Such competitor's patent application may pose obstacles to our ability to obtain or limit the scope of patent protection we may obtain. Although we enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, collaborators, contract manufacturers, consultants, advisors, and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. In addition, publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the U.S. and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we or our licensors were the first to make the inventions claimed in our owned or licensed patents or pending patent applications, or were the first to file for patent protection of such inventions. To determine the priority of these inventions, we may have to participate in interference proceedings, derivation proceedings, *inter partes* review proceedings, or other post-grant proceedings declared by the USPTO that could result in substantial cost to us. The outcome of such proceedings is uncertain. No assurance can be given that other patent applications will not have priority over our patent applications. In addition, changes to the patent laws of the U.S. allow for various post-grant opposition proceedings, such as *inter partes* review proceedings, providing additional methods for others to challenge our patents. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms or at all, or if a non-exclusive license is offered and our competitors gain access to the same technology. Furthermore, if third parties bring these proceedings against our patents, we could experience significant costs and management distraction.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property, which could be expensive, time consuming, and unsuccessful.

Competitors may also infringe our patents or the patents of our licensing partners. In addition, our patents or the patents of our licensors may become involved in inventorship, priority, or validity disputes. To counter or defend against such claims can be expensive and time consuming. In an infringement proceeding, a court may refuse to stop the other party from using the technology at issue on the grounds that our owned and in-licensed patents do not cover the technology in question. Further in such proceedings, the defendant could counterclaim that our asserted patent covering our product is invalid or unenforceable, and the court may agree that our asserted patent is invalid or unenforceable. In patent litigation in the U.S., defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with the prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the U.S. or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review, *inter partes* review, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in revocation or amendment to our patents in such a way that they no longer cover our product or the products of our competitors. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. An adverse result in any litigation or

other proceeding could put one or more of our owned or in-licensed patents at risk of being invalidated or interpreted narrowly. Such a loss of patent protection could have a material adverse impact on our business. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions, or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

If we are unable to protect the confidentiality of our trade secrets and know-how, our business and competitive position would be harmed.

We seek protection for certain aspects of our technologies, products, and services through the filing of patents, registration of copyrights, and use of non-disclosure agreements. In addition, we also rely on trade secrets and proprietary know-how protection for our confidential and proprietary information, and we have taken security measures to protect this information. These measures, however, may not provide adequate protection for our trade secrets, know-how, or other confidential information. Among other things, we seek to protect our trade secrets, know-how, and confidential information by entering into confidentiality agreements with parties who have access to them, such as our employees, collaborators, contract manufacturers, consultants, advisors, and other third parties. We cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology and processes. Moreover, there can be no assurance that any confidentiality agreements that we have with our employees, consultants, or other third parties will provide meaningful protection for our trade secrets, know-how, and confidential information or will provide adequate remedies in the event of unauthorized use or disclosure of such information. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. Accordingly, there also can be no assurance that our trade secrets or know-how will not otherwise become known or be independently developed by competitors.

Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive, and time-consuming, and the outcome is unpredictable. In addition, trade secrets may be independently developed by others in a manner that could prevent legal recourse by us. If any of our confidential or proprietary information, such as our trade secrets, were to be disclosed or misappropriated, or if any such information was independently developed by a competitor, our competitive position would be materially and adversely harmed.

Trade secrets and know-how can be difficult to protect as trade secrets and know-how will over time be disseminated within the industry through independent development, the publication of journal articles, and the movement of personnel skilled in the art from company to company or academic to industry scientific positions. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position. Because from time to time we expect to rely on third parties in the development, manufacture and distribution of our products and provision of our services, we must, at times, share trade secrets with them. We seek to protect our proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, license agreements, collaboration agreements, supply agreements, consulting agreements, or other similar agreements with our advisors, employees, collaborators, licensors, suppliers, third-party contractors, and consultants prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets and know-how. Despite the contractual provisions employed when working with third parties, the need to share trade secrets, know-how, and other confidential information increases the risk that such trade secrets and know-how become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor’s discovery of our trade secrets or know-how, or other unauthorized use or disclosure would impair our competitive position and may have an adverse effect on our business and results of operations.

In addition, these agreements typically restrict the ability of our advisors, employees, collaborators, licensors, suppliers, third-party contractors, and consultants to publish data potentially relating to our trade secrets or know-how, although our agreements may contain certain limited publication rights. Despite our efforts to protect our trade secrets and know-how, our competitors may discover our trade secrets or know-how, either through breach of our agreements with third parties, independent development, or publication of information by any of our third-party collaborators. A competitor’s discovery of our trade secrets or know-how would impair our competitive position and have a material adverse impact on our business.

We may not be able to enforce our intellectual property rights throughout the world.

Filing, prosecuting, maintaining, defending, and enforcing patents on our products, services, and technologies in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the U.S. can be less extensive than those in the U.S. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection or licenses but enforcement is not as strong as that in the U.S. These products may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. In addition, the laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the U.S., and many companies have encountered significant challenges in establishing and enforcing their proprietary rights outside of the U.S. These challenges can be caused by the absence or inconsistency of the application of rules and methods for the establishment and enforcement of intellectual property rights outside of the U.S. In addition, the legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to healthcare. This could make it difficult for us to stop the infringement of our patents, if obtained, or the misappropriation of our other intellectual property rights. For example, many foreign countries, including EU countries, India, Japan, and China, have compulsory licensing laws under which a patent owner may be compelled under specified circumstances to grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit given that we may have limited remedies available if patents are infringed or if we are compelled to grant a license to a third party, which could materially diminish the value of those patents and limit our potential revenue opportunities. Furthermore, patent protection must ultimately be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries.

Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate. In addition, changes in the law and legal decisions by courts in the U.S. and foreign countries may affect our ability to obtain adequate protection for our products, services and other technologies and the enforcement of intellectual property. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

Obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment, and other provisions during the patent application and prosecution process. Periodic maintenance fees, renewal fees, annuity fees, and various other governmental fees on patents and/or applications will be due to be paid to the USPTO and various other governmental patent agencies outside of the U.S. in several stages over the lifetime of the patents and/or applications. We employ reputable professionals and rely on such third parties to help us comply with these requirements and effect payment of these fees with respect to the patents and patent applications that we own. Noncompliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official communications within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which noncompliance can result in abandonment or lapse of a patent or patent application, resulting in loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case, which could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

Third parties may assert that our employees or consultants have wrongfully used or disclosed confidential information or misappropriated trade secrets.

We employ individuals who were previously employed or otherwise engaged with universities or genetic testing, diagnostic or other healthcare companies, including our competitors or potential competitors.

Although we have policies to ensure that our employees and consultants do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees or consultants have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third parties. Further, we may be subject to ownership disputes in the future arising, for example, from conflicting obligations of consultants or others who are involved in developing our intellectual property. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Such claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The

assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

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

A portion of the products or technologies licensed, developed, and/or distributed by us incorporate so-called "open source" software and we may incorporate open source software into other products in the future. Such open source software is generally licensed by its authors or other third parties under open source licenses. Some open source licenses contain requirements that we disclose source code for modifications we make to the open source software and that we license such modifications to third parties at no cost. In some circumstances, distribution of our software in connection with open source software could require that we disclose and license some or all of our proprietary code in that software, as well as distribute our products or provide our services that use particular open source software at no cost to the user. We monitor our use of open source software in an effort to avoid uses in a manner that would require us to disclose or grant licenses under our proprietary source code; however, there can be no assurance that such efforts will be successful. Open source license terms are often ambiguous and such use could inadvertently occur. There is little legal precedent governing the interpretation of many of the terms of these licenses, and the potential impact of these terms on our business may result in unanticipated obligations regarding our products and technologies. Companies that incorporate open source software into their products have, in the past, faced claims seeking enforcement of open source license provisions and claims asserting ownership of open source software incorporated into their products. If an author or other third party that distributes such open source software were to allege that we had not complied with the conditions of an open source license, we could incur significant legal costs defending ourselves against such allegations. In the event such claims were successful, we could be subject to significant damages or be enjoined from the distribution of our products. In addition, if we combine our proprietary software with open source software in certain ways, under some open source licenses, we could be required to release the source code of our proprietary software, which could substantially help our competitors develop products that are similar to or better than ours and otherwise adversely affect our business. These risks could be difficult to eliminate or manage, and, if not addressed, could have a material adverse effect on our business, financial condition, and results of operations.

If we fail to comply with our obligations under license or technology agreements with third parties, we may be required to pay damages and we could lose license rights that are critical to our business.

We license certain intellectual property that is important to our business, and in the future we may enter into additional agreements that provide us with licenses to valuable intellectual property or technology. For example, our agreements with third parties, such as Illumina, include certain non-exclusive license rights that are essential to the operation of our business as it is currently conducted. If we fail to comply with any of the obligations under our license agreements, we may be required to pay damages and the licensor may have the right to terminate the license. Termination by the licensor would cause us to lose valuable rights, and could prevent us from selling our products and services, or inhibit our ability to commercialize future products and services. Our business would suffer if any current or future licenses terminate, if the licensors fail to abide by the terms of the license, if the licensors fail to enforce licensed patents against infringing third parties, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms. In addition, our rights to certain technologies, including those of Illumina, are licensed to us on a non-exclusive basis. The owners of these non-exclusively licensed technologies are therefore free to license them to third parties, including our competitors, on terms that may be superior to those offered to us, which could place us at a competitive disadvantage. Moreover, our licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing or otherwise violating the licensor's rights.

We may be subject to claims challenging the inventorship of our patents and other intellectual property.

We, or our licensors, may be subject to claims that former employees, collaborators, or other third parties have an interest in our patents, trade secrets, or other intellectual property as an inventor or co-inventor. For example, we, or our licensors, may have inventorship disputes arise from conflicting obligations of employees, consultants, or others who are involved in developing our products, services, or technologies. Litigation may be necessary to defend against these and other claims challenging inventorship or our licensors' ownership of our owned or in-licensed patents, trade secrets, or other intellectual property. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property that is important to our products, services, or technologies. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our trademarks or trade names may be challenged, infringed, circumvented, or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. During trademark registration proceedings, we may receive rejections. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO 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. If we are unable to establish brand name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

Financial and Market Risks and Risks Related to Owning Our Common Stock

Certain of our customers prepay us for a portion of the services that they expect to order from us in the future and we may be required to refund some or all of those prepayments if a customer cancels its contract with us or reduces the level of services that it expects to receive.

Certain of our customers prepay us for a portion of the services that they expect to order from us before they place purchase orders and we deliver those services. In some cases, this prepayment can be substantial and may be paid months or a year or more in advance of these customers providing samples to us and before our delivery of the services to which some or all of the deposit relates. As of September 30, 2021, we had approximately $2.8 million in customer deposits, including $2.2 million from one customer. However, as of that date, we had $305.2 million of cash and cash equivalents, and short-term investments. We are generally not required by our contracts to retain these deposits in cash or otherwise and we have generally used these deposits to make capital expenditures and fund our operations. When a customer that has prepaid us for future services cancels its contract with us, reduces the level of services that it expects to receive, or we determine that a prepayment is no longer necessary, we will repay that customer's deposit. We may not have the cash or other available resources to satisfy that repayment obligation. Even if we are able to satisfy the repayment obligation from available resources, we may need to seek additional sources of capital to fund our operations, which funding may not be available when needed or on acceptable terms. In either of those circumstances, our business, financial condition, results of operations, and reputation would be materially and adversely affected. Furthermore, in the future, customers may elect not to prepay us for our services in which case we would have to find other sources of funding for our capital expenditures and operations, which would be costly relative to the aforementioned cost-free customer deposit funding and which may not be available when needed or on acceptable terms.

Our inability to raise additional capital on acceptable terms in the future may limit our ability to continue to operate our business and further expand our operations.

We expect capital expenditures and operating expenses to increase over the next several years as we continue to operate our business and expand our infrastructure, commercial operations, and research and development activities. Additionally, if we decide to grow our business by developing in vitro diagnostic tests, our capital expenditures and operating expenses would significantly increase. We may seek to raise additional capital through equity offerings, debt financings, collaborations, or licensing arrangements. Additional funding may not be available to us on acceptable terms, or at all.

The various ways we could raise additional capital carry potential risks. If we raise funds by issuing equity securities, dilution to our stockholders would result. Any equity securities issued may also provide for rights, preferences, or privileges senior to those of holders of our common stock. In addition, the issuance of additional equity securities by us, or the possibility of such issuance, may cause the market price of our common stock to decline. If we raise funds by issuing debt securities, those debt securities would have rights, preferences, and privileges senior to those of holders of our common stock. The terms of debt securities issued or borrowings pursuant to a credit agreement, if available, could impose significant restrictions on our operations. The incurrence of additional indebtedness or the issuance of certain equity securities could result in increased fixed payment obligations and could also result in restrictive covenants, such as limitations on our ability to incur additional debt or issue additional equity, limitations on our ability to acquire or license intellectual property rights, and other operating restrictions that could adversely affect our ability to conduct our business. In the event that we enter into collaborations or licensing arrangements to raise capital, we may be required to accept unfavorable terms. These agreements may require that we relinquish or license to a third party on unfavorable terms our rights to tests we otherwise would seek to develop or commercialize ourselves, or reserve certain opportunities for future potential arrangements when we might be able to achieve more favorable terms.

If we are not able to secure additional funding when needed, we may have to delay, reduce the scope of or eliminate one or more research and development programs or sales and marketing initiatives. Our ability to raise additional capital may be adversely impacted by potential worsening global economic conditions and the recent disruption to and volatility in the credit and financial markets in the U.S. and worldwide resulting from the ongoing COVID-19 pandemic. In addition, we may have to work with a partner on one or more aspects of our tests or market development programs, which could lower the economic value of those tests or programs to us. While we believe our existing cash and cash equivalents, and short-term investments will be sufficient to meet our anticipated cash requirements for at least the next 12 months, we cannot assure you that we will generate sufficient revenue from commercial sales to adequately fund our operating needs or achieve or sustain profitability.

The market price of our common stock may be volatile or may decline steeply or suddenly regardless of our operating performance, we may not be able to meet investor or analyst expectations, and you may lose all or part of your investment.

The market price of our common stock may fluctuate or decline significantly in response to numerous factors, many of which are beyond our control, including:

- actual or anticipated fluctuations in our operating results;
- failure to meet or exceed financial estimates and projections of the investment community or that we provide to the public;

- issuance of new or updated research reports by securities analysts or changed recommendations for our stock;
- competition from existing tests or new tests that may emerge;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations, capital commitments, or by or pertaining to our customers, particularly the VA MVP, as our largest customer;
- the timing and amount of our investments in the growth of our business;
- actual or anticipated changes in regulatory oversight of our business or issues we may face with regulators;
- additions or departures of key management or other personnel;
- inability to obtain additional funding;
- sales of our common stock by us or our stockholders in the future;
- disputes or other developments related to our intellectual property or other matters, including litigation;
- the long-term macroeconomic effects of the COVID-19 pandemic, including potential global, regional or national economic slowdowns, recessions, depressions or other economic downturns; and
- general economic, industry, and market conditions, including factors unrelated to our operating performance or the operating performance of our competitors.

In addition, the stock market in general, and the market for life sciences companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies, including very recently in connection with the ongoing COVID-19 pandemic, which has resulted in depressed stock prices for many companies notwithstanding the lack of a fundamental change in their underlying business models or prospects. Broad market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance. In addition, in the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

Moreover, because of these fluctuations, comparing our operating results on a period-to-period basis may not be meaningful. You should not rely on our past results as an indication of our future performance. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated revenue or earnings forecasts that we may provide.

Our quarterly results may fluctuate significantly, which could adversely impact the value of our common stock.

Our quarterly results of operations, including our revenue, gross margin, profitability, and cash flows, may vary significantly in the future, and period-to-period comparisons of our operating results may not be meaningful. Accordingly, our quarterly results should not be relied upon as an indication of future performance. Our quarterly financial results may fluctuate as a result of a variety of factors, many of which are outside of our control. For example, the VA MVP and other large customers are not obliged to deliver tissue samples or other specimens to us at any particular time or at all. The rate at which we receive tissue samples or other specimens can vary dramatically from quarter to quarter, and is difficult or impossible for us to accurately forecast. Our receipt and processing of tissue samples and other specimens from our customers leads to our recognition of revenue, and as such the variable rates of delivery of customer samples will lead to variations in our revenue from quarter to quarter. For example, we often see fluctuations in receipt and processing of samples and revenue in the fourth quarter due, in part, to the concentration of holidays in late November and in December, and some of our biopharmaceutical customers have fiscal years ending in December, which we believe may impact the timing of samples or payments provided by such customers. Fluctuations in quarterly results may adversely impact the value of our common stock. Factors that may cause fluctuations in our quarterly financial results include, without limitation, those listed elsewhere in this "Risk Factors" section. We also may face competitive pricing pressures, and we may not be able to maintain our pricing in the future, which would adversely affect our operating results.

Insiders may exercise significant control over our company and will be able to influence corporate matters.

Acting together, our directors, executive officers and their affiliates, and holders of greater than five percent of our outstanding common stock are able to exercise significant influence over our management and affairs and matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions, such as mergers, consolidations or the sale of substantially all of our assets. This concentration of ownership may have the effect of delaying or preventing a third party from acquiring control of our company and could adversely affect the market price of our common stock and may not be in the best interests of our other stockholders.

Future sales of shares by existing stockholders, or the perception that such sales could occur, could cause our stock price to decline.

Sales of a substantial number of shares of our common stock into the public market, including sales by members of our management or board of directors or entities affiliated with such members, could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock and could impair our ability to raise capital through the sale of additional equity or equity-related securities. We are unable to predict the effect that such sales may have on the prevailing market price of our common stock. As of September 30, 2021, we had 44,706,263 shares of common stock outstanding, all of which shares were eligible as of such date for sale in the public market, subject in some cases to the volume limitations and manner of sale and other requirements under Rule 144. In addition, upon issuance, shares of common stock subject to outstanding options under our stock option plans as of September 30, 2021 will become eligible for sale in the public market in the future, subject to certain legal and contractual limitations. Moreover, certain holders of shares of our common stock have the right to require us to register these shares under the Securities Act pursuant to an investors' rights agreement. If our existing stockholders sell substantial amounts of our common stock in the public market, or if the public perceives that such sales could occur, this could have an adverse effect on the market price of our common stock.

We do not currently intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation of the value of our common stock.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain any future earnings to finance the operation and expansion of our business, and we do not expect to pay any cash dividends on our common stock in the foreseeable future. In addition, our ability to pay cash dividends on our capital stock is limited by our credit agreement and may be prohibited or limited by the terms of any future debt financing arrangement. As a result, any investment returns on our common stock will depend upon increases in the value for our common stock, which are not certain.

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and could cause the stock price of our common stock to decline.

In the future, we may sell common stock, rights to purchase common stock, convertible securities, or other equity securities in one or more transactions at prices and in a manner we determine from time to time. We also expect to issue common stock to employees, directors, and consultants pursuant to our equity incentive plans. If we sell common stock, rights to purchase common stock, convertible securities, or other equity securities in subsequent transactions, or common stock is issued pursuant to equity incentive plans, investors may be materially diluted. In addition, new investors in such subsequent transactions could gain rights, preferences, and privileges senior to those of holders of our common stock.

If securities or industry analysts do not publish research or reports about our business, or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that equity research analysts publish about us and our business. We do not control these analysts or the content and opinions included in their reports. Securities analysts may elect not to provide research coverage of our company, and such lack of research coverage may adversely affect the market price of our common stock. The price of our common stock could also decline if one or more equity research analysts downgrade our common stock or issue other unfavorable commentary or cease publishing reports about us or our business. If one or more equity research analysts cease coverage of our company, we could lose visibility in the market, which in turn could cause our stock price to decline.

Holders of our common stock could be adversely affected if we issue preferred stock.

Pursuant to our amended and restated certificate of incorporation, our board of directors is authorized to issue up to 10,000,000 shares of preferred stock without any action on the part of our stockholders. Our board of directors will also have the power, without stockholder approval, to set the terms of any series of preferred stock that may be issued, including voting rights, dividend rights, preferences over our common stock with respect to dividends or in the event of a dissolution, liquidation, or winding up, and other terms. In the event that we issue preferred stock in the future that has preferences over our common stock with respect to payment of dividends or upon our liquidation, dissolution, or winding up, or if we issue preferred stock that is convertible into our common stock at greater than a one-to-one ratio, the voting and other rights of the holders of our common stock or the market price of our common stock could be adversely affected.

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

As of December 31, 2020, we had federal and state net operating loss carryforwards of approximately $159.2 million and approximately $112.7 million, respectively. Certain of our federal and state net operating loss carryforwards will begin to expire, if not utilized, beginning in 2031. These net operating loss carryforwards could expire unused and be unavailable to offset future income tax liabilities. Under the Tax Cuts and Jobs Act, as modified by the CARES Act, federal net operating losses incurred in tax years beginning in 2018 and in future years may be carried forward indefinitely, but the deductibility of such federal net operating losses for tax years beginning after 2020 is limited. It is uncertain if and to what extent various states will conform to the Tax Cuts and Jobs Act, as modified

by the CARES Act. In addition, under Section 382 of the Code, and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50% change, by value, in its equity ownership over a three-year period, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes (including certain tax credits) to offset its post-change income or taxes may be limited. We have experienced ownership changes in the past, and we may experience ownership changes in the future as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. If an ownership change occurs and our ability to use our net operating loss carryforwards is materially limited, it could harm our future operating results by effectively increasing our future tax obligations. In addition, for California income tax purposes, California net operating losses and California research tax credits will be suspended and limited, respectively, for tax years beginning after 2019 but before 2023.

Delaware law and provisions in our amended and restated certificate of incorporation and amended and restated bylaws could make a merger, tender offer, or proxy contest difficult, thereby depressing the trading price of our common stock.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could depress the trading price of our common stock by acting to discourage, delay or prevent a change of control of our company or changes in our management that the stockholders of our company may deem advantageous. These provisions include the following:

- establish a classified board of directors so that not all members of our board of directors are elected at one time;
- authorize the issuance of "blank check" preferred stock that our board of directors could use to implement a stockholder rights plan;
- permit the board of directors to establish the number of directors and fill any vacancies and newly-created directorships;
- provide that directors may only be removed for cause;
- require super-majority voting to amend some provisions in our certificate of incorporation and bylaws;
- eliminate the ability of our stockholders to call special meetings of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- provide that the board of directors is expressly authorized to make, alter, or repeal our bylaws;
- restrict the forum for certain litigation against us to Delaware; and
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

Any provision of our amended and restated certificate of incorporation or amended and restated bylaws, or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware and the federal district courts of the U.S. will be the exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty;
- any action asserting a claim against us arising under the Delaware General Corporation Law, our amended and restated certificate of incorporation, or our amended and restated bylaws; and
- any action asserting a claim against us that is governed by the internal-affairs doctrine.

This provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and

restated certificate of incorporation further provides that the federal district courts of the U.S. will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nonetheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions, and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

These exclusive forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers, and other employees. If a court were to find either exclusive forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with resolving the dispute in other jurisdictions, all of which could seriously harm our business.

The requirements of being a public company consume substantial resources, may result in litigation and may divert management's attention.

As a public company, we are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), the Sarbanes-Oxley Act of 2002, as amended (the "Sarbanes-Oxley Act"), the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Global Market and other applicable securities rules and regulations. Complying with these rules and regulations has increased and will increase our legal and financial compliance costs, make some activities more difficult, time-consuming, or costly and increase demand on our systems and resources, particularly after we are no longer an "emerging growth company" as defined in the Jumpstart our Business Startups Act of 2012 (the "JOBS Act"). The Exchange Act requires, among other things, that we file annual, quarterly, and current reports with respect to our business and operating results. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are required to disclose changes made in our internal control and procedures on a quarterly basis. In order to maintain and, if required, improve our disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight may be required. As a result, management's attention may be diverted from other business concerns, which could adversely affect our business and operating results. We may be required to hire additional employees or engage outside consultants to comply with these requirements, which will increase our costs and expenses.

In addition, changing laws, regulations, and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs and making some activities more time-consuming. These laws, regulations, and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations, and standards, and this investment will result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate legal proceedings against us and our business may be adversely affected. By disclosing information in this prospectus and in filings required of a public company, our business and financial condition will become more visible, which we believe may result in threatened or actual litigation, including by competitors and other third parties. If those claims are successful, our business could be seriously harmed. Even if the claims do not result in litigation or are resolved in our favor, the time and resources needed to resolve them could divert our management's resources and seriously harm our business.

As a public company, it may be increasingly expensive for us to obtain director and officer liability insurance and, in the future, we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our board of directors, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

In addition, as a result of our disclosure obligations as a public company, we have reduced strategic flexibility as compared to our competitors that are privately-held companies, and are under pressure to focus on short-term results, which may materially and adversely affect our ability to achieve long-term profitability.

We are an emerging growth company, and any decision on our part to comply only with certain reduced reporting and disclosure requirements applicable to emerging growth companies could make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and, for as long as we continue to be an emerging growth company, we may choose to take advantage of exemptions from various reporting requirements applicable to other public companies but not to emerging growth companies, including:

- not being required to have our independent registered public accounting firm audit our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act;

- reduced disclosure obligations regarding executive compensation in our periodic reports and annual report on Form 10-K; and
- exemptions from the requirements of holding non-binding advisory votes on executive compensation and stockholder approval of any golden parachute payments not previously approved.

Our status as an emerging growth company will end on December 31, 2021, because we will qualify as a “large accelerated filer” as of such date since we had at least $700 million of equity securities held by non-affiliates on June 30, 2021.

We cannot predict if investors will find our common stock less attractive if we choose to rely on any of the exemptions afforded emerging growth companies. If some investors find our common stock less attractive because we rely on any of these exemptions, there may be a less active trading market for our common stock and the market price of our common stock may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this accommodation and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Material weaknesses in our internal control over financial reporting may cause us to fail to timely and accurately report our financial results or result in a material misstatement of our financial statements. Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Management evaluates our internal control systems, processes, and procedures for compliance with the requirements of an emerging growth company under Section 404 of the Sarbanes-Oxley Act of 2002 (“Section 404”). This evaluation includes disclosure of any material weaknesses identified by our management in our internal control over financial reporting. A “material weakness” is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

In connection with the preparation of our financial statements for the years ended December 31, 2017 and 2018, management identified a material weakness in our internal controls due to a lack of sufficient full-time accounting staff with requisite experience and deep technical accounting knowledge to (i) identify and resolve complex accounting issues under generally accepted accounting principles in the U.S. and (ii) allow for appropriate segregation of duties. The identified material weakness could result in misstatements to our consolidated financial statements that would be material and would not be prevented or detected on a timely basis.

We implemented additional procedures to remediate this material weakness, however, we cannot assure you that these or other measures will prevent future material weaknesses from occurring. Remediation of the material weakness involved hiring a Chief Financial Officer in March 2019 and four additional accounting resources in the second, third, and fourth quarters of 2019, including two Certified Public Accountants with the specific technical accounting and financial reporting experience necessary for a public company. We will continue to assess the adequacy of our accounting personnel and resources, and will add additional personnel, as well as adjust our resources, as necessary, commensurate with any increase in the size and complexity of our business.

If we identify future material weaknesses in our internal controls over financial reporting or fail to meet the demands that are placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act, we may be unable to accurately report our financial results or report them within the timeframes required by law or stock exchange regulations. Failure to comply with Section 404 could also potentially subject us to sanctions or investigations by the U.S. Securities and Exchange Commission (the “SEC”) or other regulatory authorities. If additional material weaknesses exist or are discovered in the future, and we are unable to remediate any such material weakness, our reputation, financial condition, and operating results could suffer.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

We have implemented disclosure controls and procedures designed to provide reasonable assurance that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple errors or mistakes. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. As a result, because of these inherent limitations in our control system, misstatements or omissions due to error or fraud may occur and may not be detected, which could result in failures to file required reports in a timely manner and filing reports containing incorrect information. Any of these outcomes could result in SEC enforcement actions, monetary fines or other penalties, damage to our reputation, and harm to our financial condition.

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

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

Exhibit Number	Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation of the Registrant.	8-K	001-38943	3.1	June 24, 2019
3.2	Amended and Restated Bylaws of the Registrant.	8-K	001-38943	3.2	June 24, 2019
10.1	Lease, by and between Ardenwood Ventures I, LLC and the Registrant, dated August 25, 2021.				
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1†	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
32.2†	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101	Inline XBRL Document Set for the condensed consolidated financial statements and accompanying notes in Part I, Item 1, “Financial Statements” of this Quarterly Report on Form 10-Q.				
104	Inline XBRL for the cover page of this Quarterly Report on Form 10-Q, included in the Exhibit 101 Inline XBRL Document Set.				

† The certifications attached as Exhibit 32.1 and Exhibit 32.2 that accompany this Quarterly Report on Form 10-Q are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of the registrant 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 Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Date: November 4, 2021

Personalis, Inc.

By: /s/ Aaron Tachibana
Aaron Tachibana
Chief Financial Officer (Duly Authorized Officer)

LEASE

BY AND BETWEEN

ARDENWOOD VENTURES I, LLC,
a Delaware limited liability company

as Landlord

and

PERSONALIS, INC.,
a Delaware corporation

as Tenant

August 24, 2021

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LEASE

THIS LEASE, dated August 24, 2021 for reference purposes only, is made by and between **Ardenwood Ventures I, LLC**, a Delaware limited liability company ("**Landlord**") and **Personalis, Inc.**, a Delaware corporation ("**Tenant**"), to be effective and binding upon the parties as of the date the last of the designated signatories to this Lease shall have executed this Lease (the "**Effective Date of this Lease**").

ARTICLE 1
REFERENCE

1.1 References

. All references in this Lease (subject to any further clarifications contained in this Lease) to the following terms shall have the following meaning or refer to the respective address, person, date, time period, amount, percentage, calendar year or fiscal year as below set forth:

Intended Commencement Date:	June 1, 2022
Term:	Thirteen (13) years and six (6) months
Lease Expiration Date:	Thirteen (13) years and six (6) months from the Lease Commencement Date (defined in Paragraph 2.3 below), unless earlier terminated by Landlord in accordance with the terms of this Lease, or extended by Tenant pursuant to Article 15.
Options to Extend:	Two (2) option(s) to extend, each for a term of five (5) years.
First Month's Prepaid Rent:	$447,587.52, consisting of Base Monthly Rent of $372,989.60 and estimated Additional Rent of $74,597.92.
Tenant's Security Deposit:	$1,790,350.08
Late Charge Amount:	Five Percent (5%) of the Delinquent Amount
Tenant's Required Liability Coverage:	$10,000,000 Combined Single Limit
Tenant's Broker(s):	Newmark
Landlord's Broker:	Cushman & Wakefield
Property:	That certain real property situated in the City of Fremont, County of Alameda, State of California, as presently improved with the Building, which real property is shown on the Site Plan attached hereto as **Exhibit A**, is assigned Assessor's Parcel No. 543-0439-146, and is commonly known as or otherwise described as follows: 6600 Dumbarton Circle, Fremont, California. The Property consists of the Building and the Outside Areas.

Building:	That certain two (2) story building currently existing on the Property (the "**Building**"), which Building is shown outlined on **Exhibit A** hereto.
Buildings:	The Building and the Proposed Building (as defined in Paragraph 16.1(a)).
Outside Areas:	The "**Outside Areas**" shall mean all areas within the Property which are located outside the Building, such as pedestrian walkways, parking areas, circulation roads and ways, parking structures and surface parking areas, landscaped areas, open areas and enclosed trash disposal areas.
Parking:	So long as Tenant's Expense Share is 100%, Tenant shall be entitled to exclusively utilize all parking areas of the Property, subject only to Paragraph 2.2 and Article 18. Notwithstanding the foregoing, at all times during the Lease Term, Landlord shall provide no less than 3.6 unreserved and unassigned parking spaces for each 1,000 rentable square feet of Leased Premises (the "**Parking Ratio**"), as the same may change from time to time in accordance with the terms of this Lease or an amendment hereto, such spaces to be located in the parking area of the Outside Areas. For the avoidance of doubt, Tenant shall have rights to at least 392 unreserved parking spaces as of the date of this Lease.
HVAC:	Heating, ventilating, and/or air conditioning.
Leased Premises:	The entire Building, consisting of the exterior, including the roof, and all the interior space within the Building, including stairwells, connecting walkways, and atriums, consisting of 100,808 rentable square feet, which rentable square footage has been determined based on the Building Owners and Managers Association Standard Methods of Measurement – ANSI/BOMA Z65.1-2017 – Single Tenant – Gross Area, and, for purposes of this Lease, the Leased Premises is agreed to contain said number of rentable square feet . The Leased Premises are not subject to re-measurement unless, pursuant to a written amendment to this Lease, space is subtracted therefrom or additional space is added thereto. Recognizing that both Landlord and Tenant have agreed to the foregoing rentable square footage number and have agreed that there will be no re-measurement except as expressly provided above, Landlord has given Tenant the opportunity to measure the Leased Premises and has encouraged Tenant to do so, and Tenant hereby confirms that it has elected, in its sole discretion and without reliance on any representation by Landlord or its agents or any brokers, not to measure the Leased Premises.

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Tenant's Expense Share:	The term "**Tenant's Expense Share**" shall mean the percentage obtained by dividing the rentable square footage of the Leased Premises at the time of calculation by the rentable square footage of the Buildings at the time of calculation. Such percentage is currently 100%. In the event that any portion of the Property is sold by Landlord, or the rentable square footage of the Leased Premises or the Property is otherwise changed, or upon Commencement of Building 2 Construction (as defined in Paragraph 2.2), Tenant's Expense Share shall be recalculated based on the planned square footage of the Proposed Building, to equal the percentage described in the first sentence of this paragraph, so that the aggregate Tenant's Expense Share of all tenants of the Property shall equal 100%.
Standard Interest Rate:	The term "**Standard Interest Rate**" shall mean the greater of (a) 5%, or (b) the sum of that rate quoted by Wells Fargo Bank, N.T. & S. A., from time to time as its prime rate, plus two percent (2%), but in no event more than the maximum rate of interest not prohibited or made usurious.
Default Interest Rate:	The term "**Default Interest Rate**" shall mean the Standard Interest Rate, plus three percent (3%), but in no event more than the maximum rate of interest not prohibited or made usurious.
Base Monthly Rent:	The term "**Base Monthly Rent**" shall mean the following:

Months	Base Monthly Rent
1 through 6	$0.00
7 through 12	$277,500.00
13 through 24	$372,989.60
25 through 36	$384,179.29
37 through 48	$395,704.67
49 through 60	$407,575.81
61 through 72	$419,803.08
73 through 84	$432,397.17
85 through 96	$445,369.09
97 through 108	$458,730.16
109 through 120	$472,492.07
121 through 132	$486,666.83
133 through 144	$501,266.83
145 through 156	$516,304.84
157 through 162	$531,793.98

Permitted Use:	General office, research and development (including genomic research), laboratory, manufacturing, and uses ancillary to each of the foregoing, to the extent in compliance with all Laws and Restrictions.
Submarket:	Tech-Industrial Districts of the City of Fremont, California.
Exhibits:	The term "**Exhibits**" shall mean the Exhibits of this Lease which are described as follows: **Exhibit A** - Site Plan showing the Property and delineating the Building in which the Leased Premises are located. **Exhibit B –** Draft Site Plan showing the proposed location of the Proposed Building. **Exhibit C** – Work Letter **Exhibit D** – Lease Commencement Date Certificate **Exhibit E** – Sample Letter of Credit **Exhibit F** – Form of Tenant Estoppel Certificate

ARTICLE 2
LEASED PREMISES, TERM AND POSSESSION

2.1 Demise Of Leased Premises

. Landlord hereby leases to Tenant and Tenant hereby leases from Landlord for Tenant's own use in the conduct of Tenant's business and not for purposes of speculating in real estate, for the Lease Term and upon the terms and subject to the conditions of this Lease, the Leased Premises. Tenant's lease of the Leased Premises, together with the appurtenant right to use the Outside Areas as described in Article 1 above and Paragraphs 2.2 and 4.10 below, shall be conditioned upon and be subject to the continuing compliance by Tenant with (i) all the terms and conditions of this Lease, (ii) all Laws and Restrictions governing the use or occupancy of the Leased Premises and the Property, (iii) all easements and other matters now of public record respecting the use of the Leased Premises and Property and provided to Tenant in writing, which do not adversely affect Tenant's use of or access to the Leased Premises or rights under this Lease, and (iv) except during the period(s) when the Tenant's Expense Share shall equal 100%, including Tenant's subtenants and

assignees, all reasonable rules and regulations from time to time established by Landlord and provided to Tenant in writing.

2.2 Right To Use Outside Areas

. As an appurtenant right to Tenant's right to the use and occupancy of the Leased Premises, Tenant shall have the right to access, use, and occupy portions of the Outside Areas in conjunction with its use of the Leased Premises, including outside storage of Tenant's property and materials in compliance with all applicable Laws and Restrictions, solely for the purposes for which they were designed and intended and for no other purposes whatsoever. Tenant's right to so use the Outside Areas shall (i) be subject to the limitations on such use as set forth in Article 1, (ii) during any period that Tenant's Expense Share is less than 100%, be subject to reasonable written rules and regulations established by Landlord, and (iii) shall terminate concurrently with any termination of this Lease. Tenant shall be entitled to access to the Leased Premises, the loading docks of the Building, parking areas and the Generator Area (as defined below) seven (7) days per week, twenty-four (24) hours per day, every day of the year. Landlord has informed Tenant that Landlord is presently considering developing a new, two-story building containing approximately 75,000 rentable square feet of space as preliminarily delineated on the Draft Site Plan attached hereto as **Exhibit B** (the "**Proposed Building**"). Landlord's development of the Proposed Building and all construction work and storage shall be subject to satisfaction of the Required Conditions (as defined in Paragraph 18.2 below). Upon the date Landlord commences construction of the Proposed Building (the "**Commencement of Building 2 Construction**"), Tenant shall no longer have exclusive access to the Outside Area unless and until the date the Proposed Building is completed and added to the Leased Premises in accordance with Paragraph 16 below. Upon the Commencement of Building 2 Construction, Tenant's Expense Share shall be recalculated based upon the total square footage of the Building and the proposed square footage of the Proposed Building, as set forth in the construction plans. In addition, Tenant's Expense Share shall be recalculated upon Landlord's substantial completion of the Proposed Building, and include the actual total square footage of the Proposed Building, as measured and certified by Landlord's architect or general contractor.

During any period ("**Tenant's Exclusivity Period**") that both (i) Tenant's Expense Share is 100% (including for such purposes the rentable square footage of subtenants and Permitted Occupants as defined in Paragraph 7.9 below), and (ii) the Proposed Building (as defined below) has been completed (or physical work on-site has not yet commenced) or Landlord has notified Tenant in writing that Landlord has decided not to develop the Proposed Building, the following shall apply, provided there is full compliance at all times with all applicable Laws and Restrictions, and subject to Landlord's rights and obligations in this Lease (including but not limited to Landlord's right to further develop the Property set forth in Article 18 below):

(a) After completion of development of (or the decision not to develop) the Proposed Building, and then for the duration of the Lease Term, including all extensions, renewals or additional terms, Tenant shall have the exclusive right to access, use and occupy all areas of the Property designated for Tenant's off-site equipment, the loading docks for the Building and the Generator (as defined below), and all immediately surrounding areas of the Property.

(b) Tenant shall have the sole and exclusive access, use and occupancy of the Outside Areas, and Tenant may control access to the Outside Areas in its sole and absolute discretion. In connection with Tenant's access control of the Outside Areas and subject to Paragraphs 2.6 and 6.1, Tenant may add security gates at all driveways and points of vehicular ingress and egress to the Property.

2.3 Lease Commencement Date And Lease Term

. The term of this Lease shall begin, and the Lease Commencement Date shall be deemed to have occurred, on the later of the Intended Commencement Date, as set forth in Article 1, or the date Landlord substantially completes the "**Landlord's Work**" described and defined in Paragraph 1 of the Work Letter attached as **Exhibit C** to

and made a part of this Lease (the "**Work Letter**"), the terms and provisions of which are hereby incorporated into this Lease (such later date, the "**Lease Commencement Date**"); provided, however, that if the Landlord's Work is not Substantially Completed on or prior to March 1, 2022 for any reason other than Tenant Delay (as defined in the Work Letter), and such failure actually delays Tenant's completion of the Tenant Improvements, then the Lease Commencement Date shall be delayed by the number of days Tenant is so delayed in completing the Tenant Improvements. Promptly upon request by the other after the Lease Commencement Date has occurred, Landlord and Tenant agree to execute and deliver a Lease Commencement Date Certificate in the form of **Exhibit D** attached hereto, provided that failure of the parties to execute a Lease Commencement Date Certificate shall not defer the Lease Commencement Date or otherwise invalidate this Lease. The term of this Lease shall in all events end on the Lease Expiration Date (as set forth in Article 1). The Lease Term shall be that period of time commencing on the Lease Commencement Date and ending on the Lease Expiration Date (the "**Lease Term**").

2.4 Delivery Of Possession

. Landlord shall deliver to Tenant, and Tenant shall accept, possession of the Leased Premises in its AS IS condition one (1) business day after the Effective Date of this Lease (the "**Delivery Date**"), provided that Landlord shall remain obligated to complete the Landlord's Work. Landlord warrants to Tenant that upon delivery of the Leased Premises to Tenant on the Delivery Date, the base Building, structural portions of the Building and all plumbing, sewer, drainage, electrical, fire protection, passenger elevator, life safety, security systems and equipment, HVAC systems, and all other mechanical, electrical and communications systems and equipment of the Building (collectively, the "**Building Systems**") shall be in good working condition and repair, the roof shall be water-tight, and the power facilities to the Building shall allow electrical capacity of at least 3,000 amps at 277/480 power (collectively, the "**Landlord Warranty**"). The foregoing Landlord Warranty shall include Landlord's obligation to obtain all permits and inspections necessary for the use of all passenger elevators within the Leased Premises, and shall expire twelve (12) months after the Lease Commencement Date, after which Landlord shall have no liability relating thereto except solely for (a) written claims (for matters covered by the Landlord Warranty) delivered to Landlord prior to said expiration date specifying the claimed issue in in reasonable detail and (b) Landlord's maintenance obligations under this Lease. Tenant and its contractors, subcontractors, agents, and employees shall be permitted to enter the Leased Premises from and after the Delivery Date for the purpose of constructing and installing the Tenant Improvements (as defined below), occupying and operating for the Permitted Use, and installing furniture, fixtures, and equipment (the "**Early Access Period**"), provided that (a) Tenant shall comply with all provisions of this Lease during the Early Access Period other than (i) the payment of Base Monthly Rent or Additional Rent (but Tenant shall pay for utilities after the Landlord's Work has been substantially completed), and (ii) Paragraphs 5.1(a) and 5.2, and (b) such early access shall not unreasonably interfere with Landlord's performance of the Landlord's Work. The parties agree to coordinate and reasonably cooperate to perform, and cause their contractors to perform, all work within the Leased Premises during the Early Access Period in a manner designed to minimize interference with the other party's work. In the event such interference occurs, any delay caused thereby shall constitute a Tenant Delay (as defined in the Work Letter), and Landlord shall have the right to notify Tenant in writing of same, and if such interference is not remedied within two (2) business days after receipt of such notice, Tenant shall upon Landlord's written request, cause all of the Tenant Parties (as defined in Paragraph 4.2 below) to vacate the Leased Premises until the Landlord's Work (or the portion thereof to which such interference relates) is completed.

2.5 Performance Of Improvement Work; Acceptance Of Possession

. Tenant shall, pursuant to the Work Letter, be entitled to perform the work and make the installations in the Leased Premises substantially as set forth in Paragraph 2 of the Work Letter (such work and installations hereinafter referred to as the "**Tenant Improvements**"). It is agreed that by accepting possession of the Leased Premises, Tenant formally accepts same and acknowledges that the Leased Premises are in the

condition called for hereunder, subject only to (a) Landlord's completing the Landlord's Work and (b) Landlord's obligations with respect to the Landlord Warranty. In addition, Landlord will be responsible for causing the exterior of the Building, the existing Building entrances, and all Outside Areas (including all parking areas) to be in compliance with applicable Laws, including the Americans with Disabilities Act of 1990, as amended, except to the extent non-compliance is a result of the Tenant Improvements; in other words, this obligation will be deemed satisfied if such compliance would have been achieved upon completion Landlord's Work had work on the Tenant Improvements not yet been commenced.

2.6 Surrender Of Possession

. Immediately prior to the expiration or upon the sooner termination of this Lease, Tenant shall remove all of Tenant's signs from the exterior of the Building and shall remove all of Tenant's equipment, trade fixtures, furniture, supplies, wall decorations and other personal property from the Leased Premises and the Outside Areas, and shall vacate and surrender the Leased Premises, the Outside Areas and the Property to Landlord in good working condition, broom clean, reasonable wear and tear, casualty and condemnation excepted. Tenant shall repair all damage to the Leased Premises, the exterior of the Buildings and the Outside Areas caused by Tenant's removal of Tenant's property. Additionally, to the extent that Landlord shall have notified Tenant in writing at the time required under Paragraph 6.1, Tenant shall, upon the expiration or sooner termination of this Lease, remove any Required Removables (as defined below) and repair all damage caused by such removal. Notwithstanding the foregoing, under no circumstance shall Tenant be required to remove or restore (or pay for any removal or restoration of) the Tenant Improvements or Permitted Alterations (as defined below). Landlord shall be entitled to take this non-removal right of Tenant into account in approving any Tenant Improvements or alterations for which Landlord's consent is required pursuant to this Lease or the Work Letter. If the Leased Premises, the Outside Areas and the Property are not surrendered to Landlord in the condition required by this Lease at the expiration or sooner termination of this Lease, following thirty (30) days' prior written notice to Tenant, Landlord may, at Tenant's expense, so remove Tenant's signs, property and/or applicable improvements not so removed and make such repairs and replacements not so made or hire, at Tenant's expense, independent contractors to perform such work. Tenant shall be liable to Landlord for all third-party out-of-pocket costs incurred by Landlord in returning the Leased Premises and the Outside Areas to the required condition within thirty (30) days after Landlord's billing Tenant for same. Any amounts not so paid shall incur interest at the Default Interest Rate from the date overdue. Notwithstanding the foregoing, Landlord may consent (in its sole and absolute discretion, which consent may be withheld for any reason or no reason) to accept a cash payment from Tenant in lieu of Tenant completing all or any portion of the work required pursuant to this paragraph, such consent to be in a written notice specifying the work from which Tenant shall be excused. If Tenant holds over without Landlord's permission following the expiration or sooner termination of this Lease, such holdover shall be an Event of Default by Tenant requiring no notice from Landlord, and Tenant shall indemnify Landlord against loss or liability resulting from delay by Tenant in surrendering the Leased Premises, including, without limitation, any claims made by any succeeding tenant.

2.7 Accessibility

. In accordance with California Civil Code Section 1938, Landlord hereby informs Tenant that as of the Effective Date of this Lease, the Leased Premises have not been inspected by a Certified Access Specialist (as defined in California Civil Code Section 55.52(3)) ("**CASp**"). Civil Code Section 1938(e) provides:

"A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the

CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises."

Accordingly, Landlord and Tenant hereby mutually agree that if Tenant desires to obtain a CASP inspection, (i) the CASP inspection shall be at Tenant's sole cost and expense, (ii) the inspection shall be performed by a CASp that is currently certified in California and has been reasonably approved by Landlord, (iii) the CASp inspection shall take place during regular business hours with at least five (5) business day's prior written notice to Landlord, (iv) Tenant shall promptly provide Landlord with a copy of the final report prepared in connection with the CASp inspection (the "**CASp Report**"), and (v) Tenant shall be solely responsible for making any repair or modifications to the Leased Premises necessary to correct violations of construction-related accessibility standards that are noted in the CASp Report, except to the extent such correction obligations are required of Landlord under a different section of this Lease (the "**Required Modifications**"), and shall defend with competent counsel, indemnify and hold Landlord harmless from any claims, damages or liability during the Lease Term resulting from Tenant's failure to make such repairs. The Required Modifications shall not proceed until Landlord has approved in writing: (i) Tenant's contractor, and (ii) reasonably complete and detailed plans and specifications for the Required Modifications. The Required Modifications shall be performed in a good and workmanlike manner in compliance with all of the terms of this Lease, including without limitation Article 6 of this Lease. At Landlord's sole discretion, Landlord may elect to complete the Required Modifications. If Landlord elects to complete the Required Modifications, Landlord may forward invoices and bills for the expenses of the Required Modifications to Tenant, and Tenant shall, as Additional Rent (as defined below), pay such invoices or bills and deliver satisfactory evidence of such payment to Landlord.

Tenant hereby acknowledges and agrees that the CASp Report is to be kept strictly confidential, except as necessary for Tenant to complete repairs and correct violations of construction-related accessibility standards as noted in the CASp Report. Accordingly, except as provided above or as may be required by law or court order, Tenant shall not release, publish or otherwise distribute (and shall not authorize or permit any other person or entity to release, publish or otherwise distribute) any information contained in the CASp Report, except as may be reasonably necessary in connection with Tenant's enforcement of rights under this Lease. Tenant's obligations hereunder shall survive the expiration or sooner termination of this Lease.

ARTICLE 3
RENT, LATE CHARGES AND SECURITY DEPOSITS

3.1 Base Monthly Rent

. Commencing on the Lease Commencement Date (as determined pursuant to Paragraph 2.3 above) and continuing throughout the Lease Term, Tenant shall pay to Landlord, without prior demand therefor, in advance on the first day of each calendar month, cash or other immediately available good funds in the amount set forth as Base Monthly Rent in Article 1. As reflected in Article 1, the Base Monthly Rent for months 1 through 6 is fully abated, and the Base Monthly Rent for months 7 through 12 is payable only on 75,000 rentable square feet of the Leased Premises.

3.2 Additional Rent

. Commencing on the Lease Commencement Date (as determined pursuant to Paragraph 2.3 above) and continuing throughout the Lease Term, in addition to the Base Monthly Rent and to the extent not required by Landlord to be contracted for and paid directly by Tenant, Tenant shall pay to Landlord as additional rent (the "**Additional Rent**"), cash or other immediately available good funds in the following amounts:

(a) An amount equal to all Property Operating Expenses (as defined in Article 13) incurred or to be incurred by Landlord. Payment shall be made by Tenant as follows: Landlord shall

deliver to Tenant a reasonably detailed statement of Landlord's reasonable estimate of Property Operating Expenses, which it anticipates will be paid or incurred for the ensuing calendar or fiscal year, as Landlord may reasonably determine, and Tenant shall pay to Landlord an amount equal to the estimated amount of such Property Operating Expenses for such year in equal monthly installments during such year with the installments of Base Monthly Rent. Landlord reserves the right to revise such estimate from time to time;

(b) Landlord's share of the assignment consideration or excess rentals received by Tenant upon certain assignments and sublettings as required by Article 7; and

(c) Any legal fees, costs, and other charges or reimbursements due Landlord from Tenant pursuant to the terms of this Lease.

Landlord shall pay Real Property Taxes prior to delinquency directly to the applicable taxing authority, and Tenant shall reimburse Landlord for such payments in accordance with subparagraph (a) above. Notwithstanding the foregoing, under no circumstance shall Tenant be responsible for any fines, penalties, interest and damages for late payment of such Real Property Taxes due to Landlord's failure to timely comply with its obligation to pay Real Property Taxes.

3.3 Year-End Adjustments

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(a) Landlord shall furnish to Tenant within four months following the end of the applicable calendar or fiscal year, as the case may be, a statement (the "**Year-End Statement**") setting forth (i) the amount of such expenses actually paid or incurred during the just ended calendar or fiscal year, as appropriate, and (ii) the amount that Tenant has paid to Landlord for credit against such expenses for such period. If Tenant shall have paid more than its obligation for such expenses for the stated period, Landlord shall, at its election, either (i) credit the amount of such overpayment toward the next ensuing payment or payments of Additional Rent that would otherwise be due or (ii) refund in cash to Tenant the amount of such overpayment within thirty (30) days of such statement. If such Year-End Statement shall show that Tenant did not pay its obligation for such expenses in full, then Tenant shall pay to Landlord the amount of such underpayment within thirty (30) days from Landlord's billing of same to Tenant. The provisions of this Paragraph shall survive the expiration or sooner termination of this Lease.

(b) Landlord agrees to retain the books and records substantiating the Property Operating Expenses incurred in each calendar year for a period of at least one (1) year from the date Landlord submits a Year-End Statement to Tenant. Tenant or its designee shall have the right, for one hundred eighty (180) days after receipt of the Year-End Statement, during business hours and upon reasonable prior notice, from time to time to inspect Landlord's books and records relating to Property Operating Expenses (a "**Tenant Review**"), and/or to have such books and records audited (a "**Third-Party Audit**") at Tenant's expense by an unaffiliated, third party certified public accountant who is not compensated on any type of contingent basis, designated by Tenant and approved by Landlord which approval shall not be unreasonably withheld, conditioned or delayed. A Tenant Review will not be binding on Landlord or Tenant. Subject to Landlord's contest right set forth in the following paragraph: (a) any Third-Party Audit that discloses a discrepancy in Landlord's favor (i.e., an overcharge) of more than three percent (3%) in the annual Property Operating Expenses shall be at Landlord's expense and Landlord shall reimburse Tenant for the cost of such Third-Party Audit within thirty (30) days after the results of the Third-Party Audit are delivered, (b) any undercharge disclosed by such Third-Party Audit shall be promptly corrected by a payment of any shortfall to Landlord by Tenant within thirty (30) days after the results of the Third-Party Audit are delivered, and (c) any overcharge disclosed by such Third-Party Audit shall be promptly corrected by a credit against the next payment(s) of rent hereunder or (at Tenant's election) a refund from Landlord of the overpaid amount within thirty (30) days, as may be applicable. In the event Tenant does not complete a Third-Party Audit and contest a Year-End Statement

within one hundred eighty (180) days after Tenant's receipt of same, such statement shall become binding and conclusive on both Landlord and Tenant. In the event Landlord shall fail to invoice Tenant for any additional rent pursuant to this Paragraph or Paragraph 3.2 within one (1) year, then Landlord shall be deemed to have waived its right to collect such additional rent. In addition, in the event that Landlord shall fail to invoice Tenant for any additional rent pursuant to this Paragraph or Paragraph 3.2 within six (6) months following the expiration or termination of the term of this Lease, then Landlord shall be deemed to have waived its right to collect such additional rent.

(c) Landlord shall have the right to contest the results of Tenant's Third-Party Audit and thereafter promptly have an audit performed ("**Landlord's Audit**") by an unaffiliated, third party certified public accountant who is not compensated on any type of contingent basis, designated by Landlord and approved by Tenant which approval shall not be unreasonably withheld, conditioned or delayed. In such case, the results of Landlord's Audit shall be binding and conclusive on Landlord and Tenant, and any resulting overpayment or underpayment shall be handled as provided above. Tenant shall pay the cost of Landlord's Audit if Landlord's Audit confirms the accuracy of the Year-End Statement or that Tenant was undercharged by Landlord; otherwise Landlord shall pay the cost of Landlord's Audit. In the event Landlord does not commence a Landlord's Audit and contest Tenant's Third-Party Audit within ninety (90) days after Landlord's receipt of same, such Third-Party Audit shall become binding and conclusive on both Landlord and Tenant. The provisions of this Paragraph shall survive the expiration or sooner termination of this Lease.

3.4 Late Charge, And Interest On Rent In Default

. Tenant acknowledges that the late payment by Tenant of any monthly installment of Base Monthly Rent or any Additional Rent will cause Landlord to incur certain costs and expenses not contemplated under this Lease, the exact amounts of which are extremely difficult or impractical to fix. Such costs and expenses will include without limitation, administration and collection costs and processing and accounting expenses. Therefore, if any installment of Base Monthly Rent is not received by Landlord from Tenant within five (5) business days after the same becomes due, such overdue amount shall incur a late charge in an amount equal to the amount set forth in Article 1 as the "Late Charge Amount"; provided, however, with regard to the first two (2) failures to timely pay in any twelve (12) month period, Landlord will waive such late charge to the extent Tenant cures such failure to pay within five (5) business days following Tenant's receipt of written notice from Landlord that the same was not received when due. Landlord and Tenant agree that this late charge represents a reasonable estimate of such costs and expenses and is fair compensation to Landlord for the anticipated loss Landlord would suffer by reason of Tenant's failure to make timely payment. In no event shall this provision for a late charge be deemed to grant to Tenant a grace period or extension of time within which to pay any rental installment or prevent Landlord from exercising any right or remedy available to Landlord upon Tenant's failure to pay each rental installment due under this Lease when due, including the right to terminate this Lease. If any rent remains delinquent for a period in excess of five (5) business days following notice that the same was not paid when due, then, in addition to such late charge, Tenant shall pay to Landlord interest on any rent that is not so paid from said fifth (5th) business day at the Default Interest Rate until paid.

3.5 Payment Of Rent

. Except as specifically provided otherwise in this Lease, all rent shall be paid in lawful money of the United States, without any abatement, reduction or offset for any reason whatsoever, to Landlord by ACH debit from Tenant's designated bank account. Tenant's obligation to pay Base Monthly Rent and all Additional Rent shall be appropriately prorated at the commencement and expiration of the Lease Term. The failure by Tenant to pay any Additional Rent as required pursuant to this Lease when due shall be treated the same as a failure by Tenant to pay Base Monthly Rent when due, and Landlord shall have the same rights and remedies against Tenant as Landlord would have had Tenant failed to pay the Base Monthly Rent when due.

3.6 Prepaid Rent

. Tenant shall, concurrently with Tenant's execution of this Lease, pay to Landlord the amount set forth in Article 1 as "First Month's Prepaid Rent" as prepayment of rent for credit against the first installment of Base Monthly Rent and Additional Rent due hereunder.

3.7 Security Deposit

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(a) Tenant shall deposit concurrently with Tenant's execution of this Lease, with Landlord, the amount set forth in Article 1 as the "Security Deposit" as security for the performance by Tenant of the terms of this Lease to be performed by Tenant, and not as prepayment of rent. Provided that a monetary or material non-monetary Event of Default (as defined in Paragraph 12.1 below) has not occurred during the first sixty (60) months of the Lease Term, the Security Deposit shall be reduced to fifty percent (50%) of the original amount thereof to $895,175.04, effective as of the first business day of month sixty-one (61) of the Lease Term (the "**Security Burndown**"), and the excess above such amount shall be deemed immediately released and applied to Tenant's Rent due under this Lease. Tenant hereby grants to Landlord a security interest in the Security Deposit, including but not limited to replenishments thereof. Landlord may apply such portion or portions of the Security Deposit as are reasonably necessary for the following purposes: (i) to remedy any default (beyond all applicable notice and cure periods expressly set forth in this Lease) by Tenant in the payment of Base Monthly Rent or Additional Rent or a late charge or interest on defaulted rent, or any other monetary payment obligation of Tenant under this Lease; (ii) to repair damage to the Leased Premises or the Outside Areas caused or permitted to occur by Tenant in violation of this Lease; (iii) to clean and restore and repair the Leased Premises or the Outside Areas following their surrender to Landlord if not surrendered in the condition required pursuant to the provisions of Article 2, (iv) to remedy any other default of Tenant under this Lease (beyond all applicable notice and cure periods expressly set forth in this Lease) including, without limitation, paying in full on Tenant's behalf any sums claimed by materialmen or contractors of Tenant to be owing to them by Tenant for work done or improvements made at Tenant's request to the Leased Premises, and (v) to cover any other actual out-of-pocket expense, loss or damage which Landlord may suffer due to an Event of Default. In this regard, Tenant hereby waives any restriction on the uses to which the Security Deposit may be applied as contained in Section 1950.7(c) of the California Civil Code and/or any successor statute. In the event the Security Deposit or any portion thereof is so used, Tenant shall deposit with Landlord, within ten (10) business days after written demand therefor, an amount in cash sufficient to restore the Security Deposit to the applicable full sum (as may be, or have been, reduced as of month sixty-one (61) of the Lease Term). Landlord shall not be deemed a trustee of the Security Deposit. Landlord may use the Security Deposit in Landlord's ordinary business and shall not be required to segregate it from Landlord's general accounts. If Landlord transfers the Building or the Property during the Lease Term, Landlord may assign its interest in the Security Deposit to any subsequent owner in conformity with the provisions of Section 1950.7 of the California Civil Code and/or any successor statute, in which event the transferring landlord shall be released from all liability for the return of the Security Deposit. Tenant specifically grants to Landlord (and Tenant hereby waives the provisions of California Civil Code Section 1950.7 to the contrary) a period of sixty (60) days following a surrender of the Leased Premises by Tenant to Landlord within which to inspect the Leased Premises, make required restorations and repairs, receive and verify workmen's billings therefor, cure any other Events of Default, deduct any damages, and prepare a final accounting with respect to the Security Deposit. In no event shall the Security Deposit or any portion thereof, be considered prepaid rent.

(b) The Security Deposit may be in the form of cash or a clean, unconditional, irrevocable, transferable, letter of credit in lieu of cash for the Security Deposit (the "**Letter of Credit**") in form and issued by a financial institution ("**Issuer**") satisfactory to Landlord in its reasonable discretion, substantially in the form attached as **Exhibit E** attached hereto. The Letter of Credit shall permit partial draws, and provide that draws thereunder will be honored upon presentation by Landlord.

Tenant may at any time, except during the pendency of an uncured Event of Default, deliver the Letter of Credit in place of entire Security Deposit, as follows:

(i) If Tenant elects to deliver Letter of Credit, then Tenant shall provide Landlord, and maintain in full force and effect throughout the Term and until the date that is one (1) month after the then-current Lease Expiration Date, a letter of credit in the required form issued by Bank of America or another issuer reasonably satisfactory to Landlord ("**Bank**"), in the applicable amount of the Security Deposit, with an initial term of at least one year. Landlord may require the Letter of Credit to be re-issued by a different issuer at any time during the Term if Landlord reasonably believes that the issuing bank of the Letter of Credit is or may soon become insolvent; provided, however, Landlord shall return the existing Letter of Credit to the existing issuer immediately upon receipt of the substitute Letter of Credit. If any issuer of the Letter of Credit shall become insolvent or placed into FDIC receivership, then Tenant shall promptly deliver to Landlord (without the requirement of notice from Landlord) substitute Letter of Credit issued by an issuer reasonably satisfactory to Landlord, and otherwise conforming to the requirements set forth in this Paragraph 3.7. As used herein with respect to the issuer of the Letter of Credit, "insolvent" shall mean the determination of insolvency as made by such issuer's primary bank regulator (i.e., the state bank supervisor for state chartered banks; the OCC or OTS, respectively, for federally chartered banks or thrifts; or the Federal Reserve for its member banks). If, at the Lease Expiration Date, any Rent remains uncalculated or unpaid, then (i) Landlord shall with reasonable diligence complete any necessary calculations, (ii) Tenant shall extend the expiry date of such Letter of Credit from time to time as Landlord reasonably requires and (iii) in such extended period, Landlord shall not unreasonably refuse to consent to an appropriate reduction of the Letter of Credit. Tenant shall reimburse Landlord's reasonable, out-of-pocket legal costs incurred in handling Landlord's acceptance of Letter of Credit or its replacement or extension, not to exceed Two Thousand Dollars ($2,000.00) in any particular instance.

(ii) If Tenant delivers to Landlord satisfactory Letter of Credit in place of the entire Security Deposit, Landlord shall promptly remit to Tenant any cash Security Deposit Landlord previously held.

(iii) Landlord may draw upon the Letter of Credit, and hold and apply the proceeds in the same manner and for the same purposes as the Security Deposit, if (A) an uncured Event of Default exists, (B) as of the date that is forty-five (45) days before any Letter of Credit expires (even if such scheduled expiry date is after the Lease Expiration Date) Tenant has not delivered to Landlord an amendment or replacement for such Letter of Credit, reasonably satisfactory to Landlord, extending the expiry date to the earlier of (1) six (6) months after the then-current Term Lease Expiration Date or (2) the date that is one year after the then-current expiry date of the Letter of Credit, (C) the Letter of Credit provides for automatic renewals, Landlord asks the issuer to confirm the current Letter of Credit expiry date in accordance with the issuer's policies for such requests, and the issuer fails to respond within ten (10) business days, (D) Tenant fails to pay (when and as Landlord reasonably requires) any bank charges for Landlord's transfer of the Letter of Credit or (E) the issuer of the Letter of Credit ceases, or announces that it will cease, to maintain an office in the San Francisco Bay Area where Landlord may present drafts under the Letter of Credit (and fails to permit drawing upon the Letter of Credit by overnight courier or facsimile). This Section does not limit any other provisions of this Lease allowing Landlord to draw the Letter of Credit under specified circumstances.

(iv) Tenant hereby waives any right to protest the Issuer's honoring of the Letter of Credit and shall not seek to enjoin, prevent, or otherwise interfere with Landlord's draw under Letter of Credit. Landlord shall hold and apply the proceeds of any draw in the same manner and for the same purposes as a cash Security Deposit. In the event of a wrongful draw, the parties shall cooperate to allow Tenant to post replacement Letter of Credit simultaneously with the return to Tenant of the

wrongfully drawn sums, and Landlord shall upon request confirm in writing to the issuer of the Letter of Credit that Landlord's draw was erroneous.

(v) If Landlord transfers its interest in the Leased Premises and the transferee assumes Landlord's obligations under the Lease accruing from and after the transfer, then Tenant shall at Tenant's expense, within five (5) business days after receiving written request from Landlord, deliver (and, if the issuer requires, Landlord shall consent to) an amendment to the Letter of Credit naming Landlord's transferee as substitute beneficiary. If the required Security Deposit changes while Letter of Credit is in force, then Tenant shall deliver (and, if the issuer requires, Landlord shall consent to) a corresponding amendment to the Letter of Credit.

(vi) In connection with the Security Burndown, the amount of any Letter of Credit deposited with Landlord, if any, will be likewise reduced to fifty percent (50%) of the original amount of the Security Deposit to $895,175.04. The Letter of Credit, as it may be reduced in accordance with the foregoing, shall continue to be held by Landlord throughout the Lease Term. Following such reduction, Tenant shall deliver a replacement of the Letter of Credit in the reduced amount and Landlord shall promptly thereafter return to Tenant the prior Letter of Credit then held by Landlord.

ARTICLE 4
USE OF LEASED PREMISES AND OUTSIDE AREA

4.1 Permitted Use

. Tenant shall be entitled to use the Leased Premises solely for the "Permitted Use" as set forth in Article 1 and for no other purpose whatsoever. Tenant shall have the right to use the Outside Areas in conjunction with its Permitted Use of the Leased Premises and for no other purposes whatsoever.

4.2 General Limitations On Use

. Tenant shall not do or affirmatively permit anything to be done in or about the Leased Premises, or the Outside Areas during Tenant's exclusive use of the Outside Areas or the Property, which does or could (i) jeopardize the structural integrity of the Buildings or (ii) cause material damage to any part of the Leased Premises, the Buildings, the Outside Areas or the Property. Tenant shall not operate any equipment within the Leased Premises which does or could (A) injure, vibrate or shake the Leased Premises or the Building, (B) damage, overload or impair the efficient operation of any electrical, plumbing, or HVAC systems within or servicing the Leased Premises or the Building, or (C) damage or impair the efficient operation of the sprinkler system (if any) within or servicing the Leased Premises or the Building. Tenant shall not make any penetrations of the exterior walls or roof of the Building without the prior written consent of Landlord in accordance with Paragraph 6.1. Tenant shall not place any loads upon the floors, walls, ceiling or roof systems which could endanger the structural integrity of the Building or damage its floors, foundations or supporting structural components. Tenant shall not place any explosive, flammable or harmful fluids or other waste materials in the drainage systems of the Leased Premises, the Building, the Outside Areas or the Property provided, however, that the foregoing is not intended to prevent Tenant from handling and disposing of (a) ordinary office and cleaning supplies in compliance with all Laws and Restrictions, and (b) those Hazardous Materials listed in the Hazardous Materials management plan described in, and in accordance with, Paragraph 4.11(b) below. Tenant shall not drain or discharge any fluids in the landscaped areas or across the paved areas of the Property. Tenant shall not use any of the Outside Areas for the storage of its materials, supplies, inventory or equipment and all such materials, supplies, inventory or equipment shall at all times be stored within the Leased Premises other than in compliance with all applicable Laws. Tenant shall not commit nor permit to be committed by any of its employees, agents, vendors, invitees, guests, permittees, assignees, sublessees, or contractors (the "**Tenant Parties**"), any waste in or about the Leased Premises, the Outside Areas or the Property.

4.3 Noise And Emissions

. All noise generated by Tenant in its use of the Leased Premises shall be confined or muffled so that it does not interfere with the businesses of or annoy the occupants and/or users of adjacent properties. All dust, fumes, odors and other emissions generated by Tenant's use of the Leased Premises shall be sufficiently dissipated in accordance with sound environmental practice and exhausted from the Leased Premises in such a manner so as not to interfere with the businesses of or annoy the occupants and/or users of adjacent properties, or cause any damage to the Leased Premises, the Outside Areas or the Property or any component part thereof or the property of adjacent property owners.

4.4 Trash Disposal

. Tenant shall obtain trash bins or other adequate garbage disposal facilities within the trash enclosure areas provided or permitted by Landlord outside the Leased Premises sufficient for the interim disposal of all of its trash, garbage and waste. All such trash, garbage and waste temporarily stored in such areas shall be stored in such a manner so that it is not visible from outside of such areas; provided, however, that so long as Tenant's Expense Share is 100%, such trash, garbage and waste temporarily stored in such areas shall be stored in such a manner to minimize visibility from outside of such areas), and Tenant shall cause such trash, garbage and waste to be regularly removed from the Property, and Tenant shall cause such trash, garbage and waste to be regularly removed from the Property. Tenant shall keep the Leased Premises and the Outside Areas in a reasonably clean, safe and neat condition free and clear of all of Tenant's trash, garbage, waste and/or boxes, pallets and containers containing same at all times.

4.5 Parking

. Tenant shall not, at any time, park or permit to be parked any inoperable passenger vehicles or recreational vehicles in the Outside Areas or on any portion of the Property. Tenant agrees to assume responsibility for compliance by its employees and invitees with the parking provisions contained herein. If Tenant or its employees park any such vehicles within the Property in violation of these provisions, then Landlord may, upon prior written notice to Tenant giving Tenant three (3) days (or any applicable statutory notice period, if longer than three (3) days) to remove such vehicle(s), in addition to any other remedies Landlord may have under this Lease, charge Tenant, as Additional Rent, and Tenant agrees to pay, as Additional Rent, One Hundred Dollars ($100) per day for each day or partial day that each such vehicle is so parked within the Property. Tenant agrees to assume responsibility for compliance by the Tenant Parties with the parking provisions contained herein. Tenant shall have the right to install electric vehicle charging stations ("**ECV Stations**") on the Property at Tenant's sole cost (including without limitation costs of trenching, running conduit, tying in to Building power, repairing and replacing curbs and pavement, etc.), the total number of such ECV Stations being subject to Landlord's reasonable approval. At or after such time, if any, that Tenant's Expense Share is less than 100%, Landlord may grant easements and access rights to others for use of the parking areas on the Property, provided that the Required Conditions (as defined in Paragraph 18.2 below) are satisfied. During any Tenant's Exclusivity Period, Tenant shall have the sole and exclusive access, use and occupancy of all parking areas of the Property and the right at its sole cost and risk, to control all access to the parking areas and tow any unauthorized vehicles, pursuant to parking rules and regulations in place by Tenant. Notwithstanding anything herein to the contrary, the ECV Stations shall be for Tenant's sole and exclusive use, and at all times during the Term, the ECV Stations shall remain the property of Tenant and Tenant shall have the right to control access to the ECV Stations and tow any unauthorized vehicles parked at the ECV Stations.

4.6 Signs

. Subject to the other terms and conditions of this Paragraph 4.6, Tenant, at Tenant's sole cost and expense, shall be entitled to place its name on the façade of the Building and on any monument signage installed by Landlord or Tenant on the Property, in each case to the extent in compliance with all Laws and Restrictions, including all signage requirements of the City of Fremont. The size, location, and configuration of all signage shall be subject to Landlord's prior written approval, which shall not be unreasonably withheld, conditioned or delayed, and shall be governed by and subject to the rules, regulations and permit requirements of the City of Fremont. All of the foregoing rights set

forth in this paragraph shall be personal to Personalis, Inc., and no other party shall have any such right, except for an approved assignee. Tenant shall not place or install on or within any portion of the Leased Premises, the exterior of the Buildings, the Outside Areas or the Property any sign, advertisement, banner, placard, or picture which is visible from the exterior of the Leased Premises, except as expressly allowed pursuant to this Paragraph 4.6. Tenant shall not place or install on or within any portion of the Leased Premises, the exterior of the Buildings, the Outside Areas or the Property, any business identification sign which is visible from the exterior of the Leased Premises until Landlord shall have approved in writing and in its reasonable discretion the location, size, content, design, method of attachment and material to be used in the making of such sign; *provided, however*, that so long as such signs are normal and customary business directional or identification signs within the Building, Tenant shall not be required to obtain Landlord's approval. Any sign, once approved by Landlord, shall be installed at Tenant's sole cost and expense and only in compliance with Landlord's approval and any applicable Laws and Restrictions. Landlord may remove any signs (which have not been approved in writing by Landlord), advertisements, banners, placards or pictures so placed by Tenant on or within the Leased Premises, the exterior of the Buildings, the Outside Areas or the Property and charge to Tenant the cost of such removal, together with any costs incurred by Landlord to repair any damage caused thereby, including any cost incurred to restore the surface (upon which such the sign was so affixed) to its original condition. Tenant shall remove all of Tenant's signs, repair any damage caused thereby, and restore the surface upon which the sign was affixed to substantially similar condition to the surrounding areas, all to Landlord's reasonable satisfaction, upon the termination of this Lease. Notwithstanding the signage rights granted to Tenant pursuant to this Paragraph 4.6, Landlord reserves and retains the right to place Landlord's name and/or ownership affiliation in the Outside Areas, at Landlord's sole cost and expense (and not part of Property Operating Expenses) as determined in Landlord's discretion and reasonably approved by Tenant; provided that Landlord may not place its name and/or affiliation on the exterior of the Building.

4.7 Compliance With Laws And Restrictions

. Tenant shall abide by and shall promptly observe and comply with, at its sole cost and expense, all Laws and Restrictions respecting the use and occupancy of the Leased Premises, the Outside Areas or the Property including, without limitation, Title 24, building codes, the Americans with Disabilities Act and the rules and regulations promulgated thereunder, and all Laws governing the use and/or disposal of hazardous materials, and shall defend with competent counsel, indemnify and hold Landlord harmless from any claims, damages or liability resulting from Tenant's failure to so abide, observe, or comply, except to the extent caused by Landlord's gross negligence or willful misconduct or breach of Landlord's Warranty. Tenant's obligations hereunder shall survive the expiration or sooner termination of this Lease. The parties acknowledge and agree that Tenant intends to use the Building for, among other things, laboratory and research purposes. Landlord shall, at no liability or out-of-pocket cost to Landlord, reasonably cooperate with Tenant to obtain any and all permits, authorizations, commissioning or other approvals from applicable governmental authorities Tenant deems reasonably necessary for Tenant's intended use of the Leased Premises.

4.8 Compliance With Insurance Requirements

. With respect to any insurance policies required or permitted to be carried by Landlord in accordance with the provisions of this Lease, Tenant shall not conduct nor affirmatively permit (unless the Tenant's Expense Share is 100%, then Tenant shall not permit or suffer) any other person to conduct any activities nor keep, store or use (or allow any other person to keep, store or use) any item or thing within the Leased Premises, the Outside Areas or the Property which (i) is prohibited under the terms of any such policies, (ii) could reasonably be expected to result in the termination of the coverage afforded under any of such policies, (iii) could reasonably be expected to give to the insurance carrier the right to cancel any of such policies, or (iv) increases the rates (over standard rates) charged for the coverage afforded under any of such policies. Tenant shall comply with all reasonable and written requirements of any insurance company, insurance underwriter, or Board of Fire Underwriters which are necessary to maintain, at standard rates, the insurance coverages carried by either Landlord or Tenant pursuant to this Lease.

4.9 Landlord's Right To Enter

. Landlord and its agents shall have the right to enter the Leased Premises and Tenant's exclusive use areas of the Property during normal business hours after giving Tenant reasonable written notice (i.e., not less than 24 hours' notice except in case of emergency) and subject to Tenant's reasonable safety and security measures for the purpose of (i) inspecting the same; (ii) showing the Leased Premises to prospective purchasers, mortgagees, or, during the last nine (9) months of the Lease Term, tenants; (iii) making necessary alterations, additions or repairs as required by Landlord under this Lease; and (iv) performing any of Tenant's obligations when Tenant has failed to do so following all applicable notice and cure periods expressly set forth in this Lease. Landlord shall have the right to enter the Leased Premises during normal business hours (or as otherwise agreed), subject to Tenant's reasonable safety and security measures and Landlord's compliance with this paragraph, for purposes of supplying any maintenance or services agreed to be supplied by Landlord. Landlord shall also have the right, upon reasonable advance notice to Tenant in compliance with this paragraph, to access the Building's vertical risers and the interstitial space above Tenant's acoustical ceiling to connect new utility and communications lines from other floors to the base Building utility lines . Landlord shall have the right to enter the Outside Areas during normal business hours for purposes of (i) inspecting the exterior of the Buildings and the Outside Areas; (ii) posting notices of nonresponsibility (and for such purposes Tenant shall provide Landlord at least ten (10) business days' prior written notice of any work to be performed on the Leased Premises, as well as notice within one (1) business day after the commencement of such work); and (iii) supplying any services to be provided by Landlord pursuant to this Lease. Any entry into the Leased Premises or the Outside Areas obtained by Landlord in accordance with this paragraph shall not be construed or deemed to be a forcible or unlawful entry into, or a detainer of, the Leased Premises, or an eviction, actual or constructive of Tenant from the Leased Premises or any portion thereof. Landlord shall conduct all of Landlord's activities at the Property (subject to Article 18) or on the Leased Premises during such period of entry in a manner reasonably designed to cause minimal interference to Tenant and Tenant's use of the Leased Premises. Tenant shall have the right to have an employee or representative of Tenant present to escort Landlord during any such entry onto the Leased Premises.

4.10 Use Of Outside Areas

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(a) Tenant, in its use of the Outside Areas, shall use commercially reasonable efforts to keep the Outside Areas in a safe condition free and clear of all debris, trash (except within existing enclosed trash areas), inoperable passenger vehicles, and other items which are not specifically permitted by Landlord to be stored or located thereon by Tenant. If, in the opinion of Landlord, unauthorized persons are using any of the Outside Areas by reason of, or under claim of, the express or implied authority or consent of Tenant, then Tenant, upon demand of Landlord, shall restrain, to the fullest extent then allowed by Law, such unauthorized use, and shall initiate such appropriate proceedings as may be required to so restrain such use. Landlord reserves the right to grant easements and access rights to others for use of the Outside Areas and shall not be liable to Tenant for any diminution in Tenant's right to use the Outside Areas as a result, *provided* such easements do not reduce the number of parking spaces allocated to Tenant in Article 1 or materially and negatively impact Tenant's access to the Leased Premises or rights to use the Outside Area.

(b) At or after such time, if any, that Tenant's Expense Share is less than 100%, Landlord may grant easements and access rights to others for use of the parking areas on the Property, provided that the Required Conditions (as defined in Paragraph 18.2 below) are satisfied. During Tenant's Exclusivity Period (i) Landlord shall not grant any easements or other rights giving any party rights to access, use or possess the Outside Areas (except as may be required by municipalities or for utilities), and (ii) Tenant shall have the right, but not the obligation, to alter or improve the Outside Areas in accordance with Paragraph 6.1. Landlord acknowledges and agrees that Tenant may utilize the portions of the Outside Areas so noted on the Site Plan for the Permitted Use, including laboratory

research and development to the extent in compliance with all Laws and Restrictions. In connection with such use of the Outside Areas, Tenant may utilize trailers and other mobile units in compliance with all applicable Laws and Restrictions and all of the terms and conditions of this Lease, provided that no such use of the Outside Areas shall be deemed to increase the amount of Monthly Base Rent under this Lease. Landlord hereby expressly agrees that any such business operations in the Outside Areas conducted in compliance with the requirements set forth above and/or elsewhere in this Lease shall not be a default of this Lease.

(c) Subject to complying with Paragraphs 2.6 and 6.1, Tenant shall have the right at its sole cost and expense to install an electrical generator (the "**Generator**") and certain other mechanical equipment on the roof of the Building, in the portion of the Outside Areas so noted on the Site Plan, or in another location mutually agreed to by the parties (the "**Generator Area**"), subject to Landlord's approval in its sole but good faith discretion, of the Generator's design (including aesthetic screening) and construction, and of any connections between the Leased Premises and the Generator and any penetrations to the Building walls, roof, or structure required in connection therewith. If the Generator or other mechanical equipment is located on any parking areas of the Property, then such lost parking spaces shall be counted towards satisfying Tenant's parking allocation under Article 1 hereof.

4.11 Environmental Protection

. Tenant's obligations under this Paragraph 4.11 shall survive the expiration or termination of this Lease.

(a) As used herein, the term "**Hazardous Materials**" shall mean any toxic or hazardous substance, material or waste or any pollutant or infectious or radioactive material, including but not limited to those substances, materials or wastes regulated now or in the future under any of the following statutes or regulations and any and all of those substances included within the definitions of "hazardous substances," "hazardous materials," "hazardous waste," "hazardous chemical substance or mixture," "imminently hazardous chemical substance or mixture," "toxic substances," "hazardous air pollutant," "toxic pollutant," or "solid waste" in the (a) Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA" or "Superfund"), as amended by the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), 42 U.S.C. § 9601 *et seq*., (b) Resource Conservation and Recovery Act of 1976 ("RCRA"), 42 U.S.C. § 6901 *et seq*., (c) Federal Water Pollution Control Act ("FSPCA"), 33 U.S.C. § 1251 *et seq*., (d) Clean Air Act ("CAA"), 42 U.S.C. § 7401 *et seq*., (e) Toxic Substances Control Act ("TSCA"), 14 U.S.C. § 2601 *et seq*., (f) Hazardous Materials Transportation Act, 49 U.S.C. § 1801, *et seq*., (g) Carpenter-Presley-Tanner Hazardous Substance Account Act ("California Superfund"), Cal. Health & Safety Code § 25300 *et seq*., (h) California Hazardous Waste Control Act, Cal. Health & Safety code § 25100 *et seq*., (i) Porter-Cologne Water Quality Control Act ("Porter-Cologne Act"), Cal. Water Code § 13000 *et seq*., (j) Hazardous Waste Disposal Land Use Law, Cal. Health & Safety codes § 25220 *et seq*., (k) Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65"), Cal. Health & Safety code § 25249.5 *et seq*., (l) Hazardous Substances Underground Storage Tank Law, Cal. Health & Safety code § 25280 *et seq*., (m) Air Resources Law, Cal. Health & Safety Code § 39000 *et seq*., and (n) regulations promulgated pursuant to said laws or any replacement thereof, or as similar terms are defined in the federal, state and local laws, statutes, regulations, orders or rules, excepting customary office and cleaning materials in commercially reasonable amounts for Tenant's use of the Leased Premises to the extent used and disposed of in accordance with all applicable Laws. Hazardous Materials shall also mean any and all other biohazardous wastes and substances, materials and wastes which are, or in the future become, regulated under applicable Laws for the protection of health or the environment, or which are classified as hazardous or toxic substances, materials or wastes, pollutants or contaminants, as defined, listed or regulated by any federal, state or local law, regulation or order or by common law decision, including, without limitation, (i) trichloroethylene, tetrachloroethylene, perchloroethylene and other chlorinated solvents, (ii) any petroleum products or fractions thereof, (iii) asbestos, (iv) polychlorinated biphenyls, (v) flammable

explosives, (vi) urea formaldehyde, (vii) radioactive materials and waste, and (viii) materials and wastes that are harmful to or may threaten human health, ecology or the environment.

(b) Notwithstanding anything to the contrary in this Lease, Tenant, at its sole cost, shall comply with, and shall cause the Tenant Parties to comply with, all Laws relating to the storage, use and disposal of Tenant's Hazardous Materials at the Property; *provided, however*, that Tenant shall not be responsible for contamination of the Leased Premises and/or the Buildings or the Property (including any parking garage) by Hazardous Materials (x) existing as of the date the Leased Premises are delivered to Tenant (whether before or after the Lease Commencement Date), (y) that have migrated from outside the Leased Premises not caused by Tenant or the Tenant Parties, or (z) used, stored, disposed or otherwise released by Landlord's or any Landlord Party, excepting only contamination caused or permitted by Tenant or the Tenant Parties. Tenant shall not store, use or dispose of any Hazardous Materials except for those Hazardous Materials listed in a Hazardous Materials management plan ("**HMMP**") which Tenant shall deliver to Landlord within thirty (30) days after mutual execution and delivery of this Lease and update at least annually with Landlord and after any new Hazardous Materials are brought to the Leased Premises ("**Permitted Materials**") which may be used, stored and disposed of provided (i) such Permitted Materials are used, stored, transported, and disposed of in strict compliance with applicable laws, (ii) such Permitted Materials shall be limited to the materials listed on and may be used only in the quantities specified in the HMMP, and (iii) Tenant shall provide Landlord with copies of all material safety data sheets and other documentation required under applicable Laws in connection with Tenant's use of Permitted Materials as and when such documentation is provided to any regulatory authority having jurisdiction. Landlord agrees to reasonably cooperate with Tenant, at no liability and at material cost to Landlord, in obtaining any permits required by applicable Law for the use of the Leased Premises by Tenant for the Permitted Use, such cooperation to exclude executing or joining in the execution of such applications and other documentation, provided that if Tenant is required by Laws to obtain a conditional use permit or other similar land use approval in order to use the Leased Premises for the Permitted Use and in connection therewith the applicable governmental agency requires Landlord, as owner, to sign a consent or similar document, then Landlord will agree to act reasonably, at no liability and at material cost to Landlord, in connection with such requirement. In no event shall Tenant or any of the Tenant Parties conduct any invasive or destructive environmental tests of the Leased Premises or cause or permit to be discharged into the plumbing or sewage system of the Building or onto the land underlying or adjacent to the Building any Hazardous Materials. Tenant shall be solely responsible for and shall defend, indemnify, and hold Landlord and its agents harmless from and against all claims, costs and liabilities, including attorneys' fees and costs, arising out of or in connection with Tenant's storage, use and/or disposal of Hazardous Materials. If the presence of Hazardous Materials on the Leased Premises caused or permitted by Tenant or any of the Tenant Parties results in contamination or deterioration of water or soil, then Tenant shall promptly take any and all action necessary to clean up such contamination, but the foregoing shall in no event be deemed to constitute permission by Landlord to allow the presence of such Hazardous Materials. Tenant shall further be solely responsible for, and shall defend, indemnify, and hold Landlord and its agents harmless from and against all claims, costs and liabilities, including attorneys' fees and costs, arising out of or in connection with any removal, cleanup and restoration work and materials required hereunder to return the Leased Premises and any other property of whatever nature to their condition as required under applicable Law.

(c) Upon termination or expiration of the Lease Term, Tenant at its sole expense shall cause all Hazardous Materials placed in or about the Leased Premises and/or the Property by Tenant or any of the Tenant Parties, and all installations (whether interior or exterior) made by or on behalf of Tenant or any of the Tenant Parties relating to the storage, use, disposal or transportation of Hazardous Materials to be removed from the Property and transported for use, storage or disposal in accordance and compliance with all Laws and other requirements respecting Hazardous Materials used or permitted to be used by Tenant. Tenant shall apply for and shall obtain from all appropriate regulatory authorities

(including any applicable fire department or regional water quality control board) all permits, approvals and clearances necessary for the closure of the Leased Premises and shall take all other actions as may be required to complete the closure of the Leased Premises. In addition, if Landlord reasonably believes that Tenant has caused or permitted contamination of the Leased Premises or Property, then at Landlord's request, prior to vacating the Leased Premises, Tenant shall undertake and submit to Landlord an environmental site assessment from an environmental consulting company reasonably acceptable to Landlord which site assessment shall evidence Tenant's compliance with this Paragraph 4.11.

(d) At any time prior to expiration of the Lease Term, if Landlord reasonably believes Tenant has caused or permitted contamination of the Leased Premises, subject to reasonable prior notice (not less than forty-eight (48) hours) and Tenant's reasonable security requirements and provided such activities do not unreasonably interfere with the conduct of Tenant's business at the Leased Premises (or exclusive use areas of the Property, if any, noted on the Site Plan), Landlord shall have the right to enter in and upon the Property and Leased Premises in order to conduct appropriate tests of water and soil to determine whether levels of any Hazardous Materials in excess of legally permissible levels has occurred as a result of Tenant's use thereof. Landlord shall furnish copies of all such test results and reports to Tenant and, at Tenant's option and cost, shall permit split sampling for testing and analysis by Tenant.

(e) Landlord may voluntarily cooperate in a reasonable manner with the efforts of all governmental agencies in reducing actual or potential environmental damage. Tenant shall not be entitled to terminate this Lease or to any reduction in or abatement of rent by reason of such voluntary cooperation, nor for any required compliance, provided that such voluntary cooperation does not materially interfere with Tenant's use of or access to the Leased Premises. Tenant agrees to reasonably cooperate with the requirements and recommendations of governmental agencies regulating, or otherwise involved in, the protection of the environment.

4.12 Rules And Regulations

. In the event the Tenant Expense Share shall no longer be equal to 100%, including Tenant's subtenants and assignees, Landlord shall have the right from time to time to establish reasonable rules and regulations and/or amendments or additions thereto respecting the use of the Leased Premises and the Outside Areas for the care and orderly management of the Property. Upon delivery to Tenant of a copy of such rules and regulations or any amendments or additions thereto, Tenant shall comply with such rules and regulations. A violation by Tenant of any of such rules and regulations shall constitute a default by Tenant under this Lease. If there is a conflict between the rules and regulations and any of the provisions of this Lease, the provisions of this Lease shall prevail. Landlord shall not be responsible or liable to Tenant for the violation of such rules and regulations by any other tenant of the Property.

4.13 Reservations

. Landlord reserves the right from time to time to grant, without the consent or joinder of Tenant, such easements, rights of way and dedications that Landlord reasonably deems necessary, and to cause the recordation of parcel maps and restrictions, so long as the Required Conditions (as defined in Article 18) are satisfied.

ARTICLE 5
REPAIRS, MAINTENANCE, SERVICES AND UTILITIES

5.1 Repair And Maintenance

. Except in the case of damage to or destruction of the Leased Premises, the Outside Areas or the Property caused by an act of God or other peril, in which case the provisions of Article 10 shall control, the parties shall have the following obligations and responsibilities with respect to the repair and maintenance of the Leased Premises, the Outside Areas, and the Property.

(a) **Tenant's Obligations**

. Except to the extent an obligation of Landlord pursuant to Paragraph 5.1(b) below, Tenant shall, at all times during the Lease Term and at its sole cost and expense, regularly clean and keep and maintain in good order, condition and repair the Leased Premises and every part thereof including, without limiting the generality of the foregoing, (i) all interior walls, floors and ceilings, (ii) all windows, doors and skylights, (iii) all electrical wiring, conduits, connectors and fixtures, (iv) all plumbing, pipes, sinks, toilets, faucets and drains, (v) all lighting systems, fixtures, bulbs and lamps, elevators, and all HVAC equipment, and (vi) all entranceways to the Leased Premises. Tenant, at its option, shall hire, at Tenant's sole cost and expense, (x) a licensed HVAC contractor to regularly and periodically (not less frequently than every three months) inspect and perform required maintenance on the HVAC equipment and systems serving the Leased Premises, and (y) a licensed elevator contractor to regularly and periodically (not less frequently than every six months) inspect and perform required maintenance on the elevators and related systems within the Building, provided that for clauses (x) and (y), such contractors shall be reasonably approved by Landlord. Tenant shall, at its sole cost and expense, repair all damage to the Leased Premises, the Building, the Outside Areas or the Property caused by the activities of Tenant, its employees, invitees or contractors promptly following written notice from Landlord to so repair such damages. If Tenant shall fail to perform the required maintenance or fail to make repairs required of it pursuant to this paragraph within a reasonable period of time following notice from Landlord to do so, then Landlord may, at its election and without waiving any other remedy it may otherwise have under this Lease or at law, perform such maintenance or make such repairs and charge to Tenant, as Additional Rent, the costs so incurred by Landlord for same. All glass within or a part of the Leased Premises, both interior and exterior, is at the sole risk of Tenant and any broken glass shall promptly be replaced by Tenant at Tenant's expense with glass of the same kind, size and quality.

(b) **Landlord's Obligation**

. Landlord shall, at all times during the Lease Term, maintain in good condition and repair, and at its sole cost and expense except as hereinafter provided: (i) the load-bearing walls (excluding paint, caulking, and sealant), foundation, and structural elements of the roof and slab, of the Building, and (ii) the surface elements of the roof of the Building (i.e., the roof membrane), (iii) utility mains servicing the Building, including sewer lines and electrical service exterior to the Building, (iv) exterior portions of Building Systems (excluding HVAC), and (v) all of the Outside Areas, including the parking lot surfaces, landscaping and all outdoor facilities. Landlord shall regularly and periodically sweep and clean the driveways and parking areas. The costs incurred by Landlord for maintenance, repair, or replacement of the elements set forth in clause (i) above shall not be passed through to Tenant except to the extent necessitated by uninsured damage caused by the negligence or willful misconduct of Tenant or any of the Tenant Parties. In addition, the provisions of this subparagraph (b) shall in no way limit the right of Landlord to charge to Tenant, as Additional Rent pursuant to Article 3, the costs incurred by Landlord in the maintenance, repair, or replacement of the elements set forth in clauses (ii) through (v) above. Landlord shall maintain the Property in accordance with the Operating Standards (as defined below). In the event Tenant does not elect to hire a contractor under clauses (x) and (y) of Paragraph 5.1(a) above, Landlord may hire any such contractor. Notwithstanding anything to the contrary contained in this Lease, if, at any time during the Lease Term, the repair costs for (A) the HVAC units, (B) the roof and/or the roof membrane, or (C) any of the passenger elevators of the Building meets or exceeds or are anticipated to meet or exceed fifty percent (50%) of the estimated replacement cost of such items (A) through (C), respectively, then Landlord shall agree to replace such items pursuant to this Paragraph 5.1(b). If the foregoing sentence is satisfied, then Landlord shall promptly engage a licensed contractor to replace such items necessary for the safe and

efficient use of such items (A) through (C) at Landlord's cost, provided that such costs shall be amortized over the estimated useful life of such replacements (as determined in accordance with generally accepted accounting principles consistently applied) with interest at the Standard Rate and apportioned to Tenant to be reimbursed to Landlord over such remainder of the Term of this Lease as Property Maintenance Costs. If Landlord shall fail to perform any required maintenance or fail to make repairs or replacements required of it pursuant to this paragraph within thirty (30) days following notice from Tenant to do so (or within a reasonable amount of time in the event of any emergency, which may be less than 24 hours' notice), then unless Landlord objects in writing to the need or responsibility for such maintenance or repair (except in the event of any emergency), Tenant may, at its election and without waiving any other remedy it may otherwise have under this Lease or at law, perform such maintenance or make such repair or replacements and all costs incurred by Tenant in connection therewith shall be reimbursed by Landlord within thirty (30) days after Tenant's demand for same. In the event Landlord shall fail to reimburse such costs in accordance with the preceding sentence, Tenant may offset such amount against Rent under this Lease, on the condition that in no event shall any single offset amount exceed 40% of the Base Monthly Rent, it being agreed that Tenant may continue to offset on a monthly basis until the full amount has been exhausted.

(c) **Quality of Landlord Services**

(d) . All services provided and all maintenance of the Buildings and the Outside Areas performed by Landlord pursuant to the terms of this Lease shall be of a quality level consistent in all material respects with the standards from time to time applicable to the operation of similar Class A laboratory and research buildings in the Submarket (the "**Operating Standards**"). Landlord shall manage and operate the Property in accordance with prudent management and operation practices similar to those utilized by landlords of comparable buildings in the Submarket.

5.2 Utilities

. Tenant shall arrange at its sole cost and expense and in its own name, for the supply of water, sewer, gas, electricity, telephone, wifi and other telecommunications to the Leased Premises, and for trash pick-up and disposal, and any other utility, janitorial, or other third-party service. Tenant shall be responsible for determining if the local supplier of the foregoing items can supply the needs of Tenant and whether or not the existing water, gas and electrical distribution systems within the Building and the Leased Premises are adequate for Tenant's needs. Tenant shall be responsible for determining if the existing sanitary and storm sewer systems now servicing the Leased Premises and the Property are adequate for Tenant's needs. Tenant shall pay all charges for water, gas, electricity and storm and sanitary sewer services as so supplied to the Leased Premises, irrespective of whether or not the services are maintained in Landlord's or Tenant's name.

5.3 Security

. Tenant acknowledges that Landlord has not undertaken any duty whatsoever to provide security for the Leased Premises, the Buildings, the Outside Areas or the Property and, accordingly, Landlord is not responsible for the security of same or the protection of Tenant's property or Tenant's employees, invitees, or contractors from any cause whatsoever, including but not limited to criminal and/or terrorist acts. To the extent Tenant determines that such security or protection services are advisable or necessary, Tenant shall arrange for and pay the costs of providing same. In the event Landlord in its sole and absolute discretion agrees to provide any security services, whether it be guard service or access systems or otherwise, Landlord shall do so strictly as an accommodation to Tenant and Landlord shall have no liability whatsoever in connection therewith, whether it be for failure to maintain the secure access system, or for failure of the guard service to provide adequate security, or otherwise. Without limitation, Paragraph 8.1 below is intended by Tenant and Landlord to apply to this Paragraph 5.3.

5.4 Energy And Resource Consumption

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(a) **Energy Consumption Reduction Efforts**. Landlord may voluntarily cooperate in a reasonable manner with the efforts of governmental agencies and/or utility suppliers in reducing energy or other resource consumption within the Property. Tenant shall not be entitled to terminate this Lease or to any reduction in or abatement of rent by reason of such cooperation. Tenant agrees to use commercially reasonable efforts to cooperate with Landlord and to abide by all reasonable rules established by Landlord (i) in order to maximize the efficient operation of the electrical and HVAC systems and all other energy or other resource consumption systems with the Property and/or (ii) in order to comply with the recommendations of utility suppliers and governmental agencies regulating the consumption of energy and/or other resources; provided that the same do not materially interfere with Tenant's business operations at the Property.

(b) **Tenant Utility Usage Data Reporting**. If Tenant is billed directly by a utility company with respect to Tenant's electricity and natural gas/propane usage at the Leased Premises, then, promptly following Landlord's written request, Tenant shall provide, at no out-of-pocket cost to Tenant, its monthly electricity and natural gas/propane usage data for the Leased Premises to Landlord for the period of time requested by Landlord (in electronic or paper format) or, at Landlord's option, provide any written authorization or other documentation required for Landlord to request information regarding Tenant's electricity and natural gas/propane usage data with respect to the Leased Premises directly from the utility company.

5.5 Limitation Of Landlord's Liability

. Landlord shall not be liable to Tenant for injury to Tenant or any of the Tenant Parties, or damage to property of Tenant or any Tenant Parties, or loss of Tenant's or any Tenant Parties' business or profits, nor shall Tenant be entitled to terminate this Lease or to any reduction in or abatement of rent, except as expressly provided to the contrary in this Lease, by reason of (i) Landlord's failure to provide security services or systems within the Property for the protection of the Leased Premises, the Buildings or the Outside Areas, or the protection of Tenant's property or any of the Tenant Parties, or (ii) Landlord's failure to perform any maintenance or repairs to the Leased Premises, the Buildings, the Outside Areas or the Property until Tenant shall have first notified Landlord, in writing, of the need for such maintenance or repairs, and then only after Landlord shall have had a reasonable period of time following its receipt of such notice within which to perform such maintenance or repairs, or (iii) any failure, interruption, rationing or other curtailment in the supply of water, electric current, gas or other utility service to the Leased Premises, the Buildings, the Outside Areas or the Property from whatever cause (other than Landlord's gross negligence or willful misconduct), or (iv) the unauthorized intrusion or entry into the Leased Premises by third parties (other than Landlord or its agents), each except to the extent caused by the gross negligence or willful misconduct of Landlord or any Landlord Parties. Notwithstanding the foregoing, in the event that Tenant is prevented from using, and does not use, the Leased Premises or any portion thereof as a result of a Trigger Event (as defined below), then Tenant shall give Landlord written notice thereof and if such Trigger Event continues for five (5) consecutive business days (such period herein called the "**Eligibility Period**"), then Tenant's Base Monthly Rent and Tenant's obligation to pay Property Operating Expenses shall be abated or reduced, as the case may be, after expiration of the Eligibility Period for such period of time that Tenant continues to be so prevented from using, and does not actually use, the Leased Premises or a portion thereof, in the proportion that the rentable area of the portion of the Leased Premises that Tenant is prevented from using bears to the total rentable area of the Leased Premises. As used herein, the term "**Trigger Event**" means any of the following events: (1) any prevention by Landlord of Tenant's access to the Leased Premises or the Property that materially impacts or interrupts Tenant's use of the Leased Premises, unless such failure is a result of any Laws or Restrictions, (2) Landlord's failure to perform Landlord's repair and maintenance obligations hereunder if such failure continues beyond any applicable notice and cure period and (3) a disruption of utilities to the Leased Premises, and such disruption is caused solely by the intentional acts, gross negligence or willful misconduct of Landlord or any of Landlord's employees, agents, contractors, or subcontractors (collectively "**Landlord Parties**").

ARTICLE 6
ALTERATIONS AND IMPROVEMENTS

6.1 By Tenant

. This Paragraph 6.1 does not relate to the Tenant Improvements installed in accordance with and pursuant to the Work Letter, but to alterations, modifications, and improvements made after the date the Tenant Improvements are substantially completed. Except for Permitted Alterations (as hereinafter defined), Tenant shall not make any alterations to or modifications of the Leased Premises or the Property, or construct any improvements within the Leased Premises or Tenant's exclusive use areas of the Property until Landlord shall have first approved, in writing, the plans and specifications therefor, which approval may be withheld in Landlord's sole discretion as to alterations, modifications, and improvements which affect the Building structure or materially affect Building systems, and otherwise such approval shall not be unreasonably withheld, conditioned or delayed. Tenant's written request shall also contain a request for Landlord to elect whether or not it will require Tenant to remove the subject alterations, modifications or improvements at the expiration or earlier termination of this Lease. If such additional request is not included, Landlord may make such election at least sixty (60) days prior to the expiration, or ten (10) days after the earlier termination, of this Lease. If and only if, Landlord shall have notified Tenant in writing at the time Landlord provided consent to any modifications, alterations or improvements to be made by Tenant, that they would have to be removed, Tenant shall, upon the expiration or sooner termination of this Lease, remove any such modifications, alterations or improvements constructed or installed by Tenant ("**Required Removables**") and repair all damage caused by such removal. For the avoidance of doubt, under no circumstance shall Tenant be required to remove or restore (or pay for any removal or restoration of) the Tenant Improvements, the ECV Stations, or any Permitted Alterations. All such modifications, alterations or improvements, once so approved, shall be made, constructed or installed by Tenant at Tenant's expense (including all permit fees and governmental charges related thereto), using a licensed contractor reasonably satisfactory to Landlord, in substantial compliance with the Landlord-approved plans and specifications therefor, if any. All work undertaken by Tenant shall be done in accordance with all Laws and Restrictions and in a good and workmanlike manner using materials of as good or better quality existing in the Building. Tenant shall not commence the making of any such modifications or alterations or the construction of any such improvements until (i) any and all required governmental approvals and permits shall have been obtained, (ii) all requirements regarding insurance imposed by this Lease have been satisfied, (iii) Tenant shall have given Landlord at least five (5) business days prior written notice of its intention to commence such work so that Landlord may post and file notices of non-responsibility, and (iv) if requested by Landlord, Tenant shall have obtained contingent liability and broad form builder's risk insurance in an amount satisfactory to Landlord in its reasonable discretion to cover any perils relating to the proposed work not covered by insurance carried by Tenant pursuant to Article 9. As used in this Article, the term "**modifications, alterations and/or improvements**" shall include, without limitation, the installation of additional electrical outlets, overhead lighting fixtures, drains, sinks, partitions, doorways, or the like. Notwithstanding anything to the contrary in this Lease, Tenant shall have the right to make modifications, alterations and/or improvements to the Leased Premises and any exclusive use areas of the Outside Areas so noted on the Site Plan without Landlord's consent if such modifications, alterations and/or improvements will not (a) affect the Building Systems in any material way or the structural components of the Building or (b) cost more than $250,000 in the aggregate in any consecutive twelve (12) month period, provided (i) that prior to making any such modifications, alterations and/or improvements, Tenant (A) provides Landlord ten (10) business days' prior written notice of its intent to do so (which notice shall include a reasonably detailed description of the work to be made by Tenant), and (B) shall have secured the approval of all governmental authorities and all permits required by governmental authorities having jurisdiction over such approvals and permits for such modifications, alterations and/or improvements, and shall have provided copies of such approvals and permits to Landlord prior to commencing any work, (ii) all such modifications, alterations and/or improvements are made in compliance with the provisions and restrictions set forth in this Paragraph

6.1 other than obtaining Landlord consent and any requirement for removal upon the expiration or sooner termination of this Lease, and (iii) Tenant shall notify Landlord in writing within thirty (30) days after completion of the alteration and deliver to Landlord a set of the plans and specifications therefor, either "as built" or marked to show construction changes made (collectively, "**Permitted Alterations**"). Notwithstanding the foregoing, Tenant shall have the right to install an electronic badge security system for the entry points to and within the Leased Premises.

6.2 Ownership Of Improvements

. All modifications, alterations and improvements made or added to the Leased Premises by Tenant (other than the ECV Stations, Tenant's inventory, equipment, movable furniture, wall decorations and trade fixtures) shall be deemed real property and a part of the Leased Premises, but shall remain the property of Tenant during the Lease Term. Any such modifications, alterations or improvements, once completed, shall not be altered or removed from the Leased Premises during the Lease Term without Landlord's written approval first obtained in accordance with the provisions of Paragraph 6.1 above. At the expiration or sooner termination of this Lease, all such modifications, alterations and improvements other than the ECV Stations, Tenant's inventory, equipment, movable furniture, wall decorations and trade fixtures, shall automatically become the property of Landlord and shall be surrendered to Landlord as part of the Leased Premises as required pursuant to Article 2, unless Landlord shall require Tenant to remove any of such modifications, alterations or improvements in accordance with the provisions of Article 2, in which case Tenant shall so remove same. Landlord shall have no obligations to reimburse Tenant for all or any portion of the cost or value of any such modifications, alterations or improvements so surrendered to Landlord. All modifications, alterations or improvements which are installed or constructed on or attached to the Leased Premises by Landlord and/or at Landlord's expense shall be deemed real property and a part of the Leased Premises and shall be property of Landlord. All lighting, plumbing, electrical, and HVAC fixtures, partitioning, window coverings, wall coverings and floor coverings installed by Tenant shall be deemed improvements to the Leased Premises and not trade fixtures of Tenant.

6.3 Alterations Required By Law

. Tenant at its sole cost shall make all modifications, alterations and improvements to the Leased Premises, the Building, the Outside Areas or the Property that are required by any Law because of (i) Tenant's use or occupancy of the Leased Premises, the Building, the Outside Areas or the Property, (ii) Tenant's application for any permit or governmental approval, or (iii) Tenant's making of any modifications, alterations or improvements to or within the Leased Premises. If Landlord shall, at any time during the Lease Term, be required by any governmental authority to make any modifications, alterations or improvements to the Building or the Property, the cost incurred by Landlord in making such modifications, alterations or improvements, including interest at a rate equal to the Standard Interest Rate, shall be amortized by Landlord over the useful life of such modifications, alterations or improvements, as determined in accordance with generally accepted accounting principles, and the monthly amortized cost of such modifications, alterations and improvements as so amortized shall be considered a Property Maintenance Cost.

6.4 Liens

. Tenant shall keep the Property and every part thereof free from any lien, and shall pay when due all bills arising out of any work performed, materials furnished, or obligations incurred by Tenant, its agents, employees or contractors relating to the Property. If any such claim of lien is recorded against Tenant's interest in this Lease, the Property or any part thereof, Tenant shall bond against, discharge or otherwise cause such lien to be entirely released within ten (10) business days after the sooner of Tenant's receipt of written notice of such lien, or Tenant obtaining actual knowledge of such lien. Tenant's failure to do so shall be conclusively deemed a material default under the terms of this Lease.

ARTICLE 7
ASSIGNMENT AND SUBLETTING BY TENANT

7.1 By Tenant

. Except as set forth in this Article 7 to the contrary, Tenant shall not sublet the Leased Premises or any portion thereof or assign its interest in this Lease, or permit the occupancy of the Leased Premises by any person or entity other than Tenant or Permitted Transferees (as defined below), whether voluntarily or by operation of Law, without Landlord's prior written consent which shall not be unreasonably withheld, conditioned or delayed. Any prohibited attempted subletting or assignment, or occupancy of the Leased Premises by other than Tenant or Permitted Occupants, without Landlord's prior written consent, at Landlord's election, shall constitute a default by Tenant under the terms of this Lease. The acceptance of rent by Landlord from any person or entity other than Tenant, or the acceptance of rent by Landlord from Tenant with knowledge of a violation of the provisions of this paragraph, shall not be deemed to be a waiver by Landlord of any provision of this Article or this Lease or to be a consent to any subletting by Tenant or any assignment of Tenant's interest in this Lease. Without limiting the circumstances in which it may be reasonable for Landlord to withhold its consent to an assignment or subletting, Landlord and Tenant acknowledge that it shall be reasonable for Landlord to withhold its consent in the following instances:

(a) the proposed assignee or sublessee is a governmental agency;

(b) in Landlord's reasonable judgment, the use of the Leased Premises by the proposed assignee or sublessee would involve occupancy other than for a Permitted Use, would entail any alterations which would materially lessen the value of the leasehold improvements in the Leased Premises, or would require substantially increased services by Landlord;

(c) in Landlord's reasonable judgment, the credit-worthiness of the proposed assignee is less than that of Tenant or does not meet the minimum credit standards reasonably applied by Landlord across all of its properties in a nondiscriminatory manner;

(d) the proposed assignee or sublessee (or any of its affiliates) has been in material default under a lease, has been in litigation with a previous landlord, or in the ten (10) years prior to the assignment or sublease has filed for bankruptcy protection, has been the subject of an involuntary bankruptcy, or has been adjudged insolvent;

(e) Landlord (or any of its affiliates) has experienced a previous material default by or is in litigation with the proposed assignee or sublessee (or any of their affiliates);

(f) in Landlord's reasonable judgment, the Leased Premises, or the relevant part thereof, will be used in a manner that will violate any negative covenant as to use contained in this Lease;

(g) the use of the Leased Premises by the proposed assignee or sublessee will violate any Law or Restriction;

(h) the proposed assignee or sublessee is a current tenant at the Property;

(i) the proposed assignment or sublease fails to include all of the terms and provisions required to be included therein pursuant to this Article 7;

(j) Tenant is in default of any monetary obligation of Tenant under this Lease beyond all applicable notice and cure periods, or Tenant has defaulted under this Lease on three or more occasions during the 12 months preceding the date that Tenant shall request consent; or

(k) in the case of a subletting of less than the entire Leased Premises, if the subletting would result in the division of the Leased Premises into more than two subparcels or would require improvements to be made outside of the Leased Premises costing in excess of $100,000.

7.2 Merger, Reorganization, or Sale of Assets

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(a) Subject to paragraph (b) below: Any dissolution, merger, consolidation or other reorganization of Tenant, or the sale or other transfer in the aggregate over the Lease Term of a controlling percentage of the capital stock of or other equity interests in Tenant, or the sale or transfer of all or a substantial portion of the assets of Tenant, shall be deemed a voluntary assignment of Tenant's interest in this Lease. The phrase "**controlling percentage**" means the direct or indirect ownership of or right to vote (i) stock possessing more than fifty percent of the total combined voting power of all classes of Tenant's capital stock issued, outstanding and entitled to vote for the election of directors, or (ii) equity interests possessing the ability to direct the management of Tenant. If Tenant is a partnership, a withdrawal or change, voluntary, involuntary or by operation of Law, of any general partner, or the dissolution of the partnership, shall be deemed a voluntary assignment of Tenant's interest in this Lease. If Tenant's stock is no longer publicly-traded, following Landlord's request from time to time (but not more than once per calendar year except in connection with a potential sale or refinancing by Landlord or Event of Default by Tenant), Tenant shall promptly provide Landlord with a statement certified by the Tenant's chief executive officer or chief financial officer, which shall provide the following information: (1) the names of all of Tenant's shareholders and their ownership interests at the time thereof; (2) the state in which Tenant is incorporated; (3) the location of Tenant's principal place of business; (4) information regarding a material change in the corporate structure of Tenant, including, without limitation, a merger or consolidation; and (5) any other information regarding Tenant's ownership that Landlord reasonably requests. If Tenant's stock is no longer publicly-traded prior to or upon closing of such acquisition, in the event of an acquisition by one entity of the controlling percentage of the capital stock of Tenant where this Lease is not assigned to and assumed in full by such entity, it shall be a condition to Landlord's consent to such assignment of this Lease that such entity acquiring the controlling percentage assume, as a primary obligor, all rights and obligations of Tenant under this Lease (and such entity shall execute all documents reasonably required to effectuate such assumption).

(b) Notwithstanding subparagraph (a) above, for so long as Tenant is a publicly-traded company on a nationally-recognized securities exchange, any over-the-counter transfer of Tenant's stock (or that of its Assignee Affiliates) whatsoever shall not be deemed a transfer or assignment under this Lease and, for the avoidance of doubt, shall not require Landlord's consent. In addition, provided that the conditions described below in this sentence have been satisfied prior to or upon such assignment or subleasing, Tenant may, without Landlord's prior written consent, sublet the Leased Premises or assign this Lease to (i) a subsidiary, affiliate, division, corporation or joint venture controlling, controlled by or under common control with Tenant, (ii) a successor entity resulting from a merger, consolidation, or nonbankruptcy reorganization by Tenant, (iii) a merger, consolidation, or nonbankruptcy reorganization by Tenant where Tenant is the surviving entity, or (iv) a purchaser of all or substantially all of Tenant's assets or stock, provided in all cases (i), (ii) and (iv) that (A) the successor entity, assignee or purchaser assumes in writing for the benefit of Landlord, this Lease and all of Tenant's obligations under this Lease, and (B) the entity with the greatest net worth involved directly or indirectly in the ownership and/or control of the acquiring, merged, reorganized, or consolidated entity immediately prior to and as of the closing of the relevant transaction (hereafter, the "**Assignee Affiliate**"), shall have unconditionally assumed in writing or guaranteed for the benefit of Landlord, in a form reasonably acceptable to Landlord, this Lease and all of Tenant's obligations under this Lease. If any assignment or subleasing occurs without such an assumption and/or without Landlord's consent as required in Paragraph 7.1 above as supplemented by this Paragraph 7.2, Tenant shall be deemed for all purposes to be in material default under this Lease and the Assignee Affiliate (and the successor entity, assignee, purchaser or subtenant)

shall for all purposes be deemed to have unconditionally assumed in writing for the benefit of Landlord, this Lease and all of Tenant's obligations under this Lease. In all events, Tenant shall remain fully liable under this Lease.

7.3 Landlord's Election

. If Tenant shall desire to assign its interest under the Lease or to sublet the Leased Premises and has identified a potential assignee or sublessee, Tenant shall notify Landlord, in writing, of its intent to so assign or sublet, at least thirty (30) days in advance of the date it intends to so assign its interest in this Lease or sublet the Leased Premises but not sooner than one hundred eighty (180) days in advance of such date, specifying in detail the terms of such proposed assignment or subletting, including the name of the proposed assignee or sublessee, the proposed assignee's or sublessee's intended use of the Leased Premises, the most recent financial statements (including a balance sheet, income statement and statement of cash flow, all prepared in accordance with generally accepted accounting principles) of such proposed assignee or sublessee, the form of documents to be used in effectuating such assignment or subletting and such other information as Landlord may reasonably request. Landlord shall have a period of ten (10) business days following receipt of such notice and the required information within which to do one of the following: (i) consent to such requested assignment or subletting subject to Tenant's compliance with the conditions set forth in Paragraph 7.4 below, or (ii) refuse to so consent to such requested assignment or subletting, provided that such consent shall not be unreasonably refused, or (iii) in the case of an assignment only, terminate this Lease, such termination to be effective on the date specified in Tenant's notice as the intended effective date of the assignment. During such ten (10) business day period, Tenant covenants and agrees to supply to Landlord, upon request, all necessary or relevant information which Landlord may reasonably request respecting such proposed assignment or subletting and/or the proposed assignee or sublessee. In the event of an election by Landlord under clause (iii) above, Landlord shall have the right to enter into a direct lease with the proposed assignee or sublessee without payment of any consideration to Tenant. In addition, if Landlord's consent is required with respect to an assignment or subletting as provided in this Paragraph 7 and Landlord fails to respond to Tenant's request for consent within thirty (30) days of Tenant's request and submission of the documents thereto, Tenant may send a second written request, which request shall contain, in bold, capital letters, the following: "**SECOND NOTICE DELIVERED PURSUANT TO PARAGRAPH 7.3 OF LEASE—FAILURE TO TIMELY RESPOND WITHIN FIVE (5) BUSINESS DAYS SHALL RESULT IN DEEMED APPROVAL OF ASSIGNMENT OR SUBLEASE**." If Landlord fails to respond to such second notice within five (5) business days of receipt, Tenant's request for the applicable assignment and/or subletting shall be deemed approved.

7.4 Conditions To Landlord's Consent

. If Landlord elects to consent, or shall have been ordered to so consent by a court of competent jurisdiction, to such requested assignment or subletting, such consent shall be expressly conditioned upon the occurrence of each of the conditions below set forth, and any purported assignment or subletting made or ordered prior to the full and complete satisfaction of each of the following conditions shall be void and, at the election of Landlord, which election may be exercised at any time following such a purported assignment or subletting but prior to the satisfaction of each of the stated conditions, shall constitute a material default by Tenant under this Lease until cured by satisfying in full each such condition by the assignee or sublessee. The conditions are as follows:

(a) Landlord having approved in form and substance the assignment or sublease agreement and any ancillary documents, which approval shall not be unreasonably withheld, conditioned or delayed by Landlord, if the requirements of this Article 7 are otherwise complied with.

(b) Each such sublessee or assignee having agreed, in writing reasonably satisfactory to Landlord and its counsel and for the benefit of Landlord, to assume, to be bound by, and to perform the obligations of this Lease to be performed by Tenant which relate to space being subleased.

(c) There shall not be an Event of Default on the date of such assignment or subletting.

(d) Tenant having reimbursed to Landlord all reasonable costs and reasonable attorneys' fees incurred by Landlord in conjunction with the processing and documentation of any such requested subletting or assignment, not to exceed $2,500 in any requested transaction. Tenant shall be obligated to so reimburse Landlord whether or not such subletting or assignment is completed.

(e) Tenant having delivered to Landlord a complete and fully-executed copy of such sublease agreement or assignment agreement (as applicable).

(f) Tenant having paid, or having agreed in writing to pay as to future payments, to Landlord fifty percent (50%) of all assignment consideration or excess rentals actually paid to Tenant or to any other on Tenant's behalf or for Tenant's benefit for such assignment or subletting as follows:

(i) If Tenant assigns its interest under this Lease and if all or a portion of the consideration for such assignment with respect to the transfer of this Lease is to be paid by the assignee at the time of the assignment, that Tenant shall have paid to Landlord and Landlord shall have received an amount equal to fifty percent (50%) of the assignment consideration (as defined below) so paid or to be paid (whichever is the greater) at the time of the assignment by the assignee; or

(ii) If Tenant assigns its interest under this Lease and if Tenant is to receive all or a portion of the consideration for such assignment in future installments, that Tenant and Tenant's assignee shall have entered into a commercially reasonable written agreement with and for the benefit of Landlord reasonably satisfactory to Landlord and its counsel whereby Tenant and Tenant's assignee jointly agree to pay to Landlord an amount equal to fifty percent (50%) of all such future assignment consideration installments to be paid by such assignee with respect to the transfer of this Lease as and when such assignment consideration is so paid; or

(iii) If Tenant subleases the Leased Premises, that Tenant and Tenant's sublessee shall have entered into a commercially reasonable written agreement with and for the benefit of Landlord reasonably satisfactory to Landlord and its counsel whereby Tenant and Tenant's sublessee jointly agree to pay to Landlord fifty percent (50%) of all excess rentals (as defined below) to be paid by such sublessee during the Lease Term.

7.5 Assignment Consideration And Excess Rentals Defined

. For purposes of this Article, including any amendment to this Article by way of addendum or other writing: (i) the term "**assignment consideration**" shall mean all consideration paid by the assignee to Tenant or to any other party on Tenant's behalf or for Tenant's benefit as consideration for such assignment with respect to the transfer of this Lease, without deduction for any costs or expenses (including, without limitation, tenant improvements, capital improvements, building upgrades, permit fees, attorneys' fees, and other consultants' fees) incurred by Tenant in connection with such assignment, except that Tenant may first recover the costs of tenant improvements made in connection with the assignment and reasonable attorneys' fees and third party, market rate leasing commissions paid in connection with the assignment, and (ii) the term "**excess rentals**" shall mean all consideration paid by the sublessee to Tenant or to any other party on Tenant's behalf or for Tenant's benefit for the sublease of all or any part of the Leased Premises in excess of the Rent due to Landlord under the terms of this Lease for the portion subleased for the same period, after deducting the costs of tenant improvements made in connection with the sublease, any out-of-pocket economic concessions reasonably provided to the sublessee, and reasonable attorneys' fees and third party, market rate leasing commissions paid in connection with the sublease. Tenant agrees that the portion of any assignment consideration and/or excess rentals arising from any assignment or

subletting by Tenant which is to be paid to Landlord pursuant to this Article now is and shall then be the property of Landlord and not the property of Tenant.

7.6 Payments

. All payments required by this Article to be made to Landlord shall be made in cash in full as and when they become due. At the time Tenant, Tenant's assignee or sublessee makes each such payment to Landlord, Tenant or Tenant's assignee or sublessee, as the case may be, shall deliver to Landlord an itemized statement in reasonable detail showing the method by which the amount due Landlord was calculated and certified by the party making such payment as true and correct.

7.7 Good Faith

. The rights granted to Tenant by this Article are granted in consideration of Tenant's express covenant, which Tenant hereby makes, that all pertinent allocations which are made by Tenant between the rental value of the Leased Premises and the value of any of Tenant's personal property which may be conveyed or leased (or services provided) generally concurrently with and which may reasonably be considered a part of the same transaction as the permitted assignment or subletting shall be made fairly, honestly and in good faith. If Tenant shall breach this covenant, Landlord may immediately declare Tenant to be in default under the terms of this Lease and/or exercise any other rights and remedies Landlord would have under the terms of this Lease in the case of a material default by Tenant under this Lease. Notwithstanding the foregoing, Tenant shall have the right to transfer any furniture, fixtures, equipment or other personal property of Tenant to a transferee for nominal consideration, or allow another to use such personal property at the Leased Premises during the Lease Term, consistent with market practices.

7.8 Effect Of Landlord's Consent

7.9 . No subletting or assignment, even with the consent of Landlord, shall relieve Tenant of its personal and primary obligation to pay rent and to perform all of the other obligations to be performed by Tenant hereunder, and Tenant hereby agrees as follows in connection with any assignment of this Lease:

(a) The liability of Tenant under this Lease shall be primary, and in any right of action which shall accrue to Landlord under this Lease, Landlord may, at its option, proceed against Tenant without having commenced any action or obtained any judgment against an assignee. Tenant further agrees that it may be joined in any action against an assignee in connection with the said obligations of assignee and recovery may be had against Tenant in any such action. Tenant hereby expressly waives the benefits and defenses under California Civil Code Sections 2821, 2839, 2847, 2848, 2849 and 2855 to the fullest extent permitted by applicable law.

(b) If an assignee is in default of its obligations under this Lease (beyond all applicable notice and cure periods expressly set forth in this Lease), Landlord may proceed against either Tenant or the assignee, or both, or Landlord may enforce against Tenant or the assignee any rights that Landlord has under this Lease, in equity or under applicable law. If this Lease terminates due to an assignee's default or bankruptcy or similar debtor protection law, Landlord may enforce this Lease against Tenant, even if Landlord would be unable to enforce it against the assignee. Tenant specifically agrees and understands that Landlord may proceed forthwith and immediately against an assignee or against Tenant following any default (beyond all applicable notice and cure periods expressly set forth in this Lease) by an assignee. Tenant hereby waives all benefits and defenses under California Civil Code Sections 2845, 2848, 2849 and 2850, including without limitation: (i) the right to require Landlord to proceed against an assignee, proceed against or exhaust any security that Landlord holds from an assignee or pursue any other remedy in Landlord's power; (ii) any defense to its obligations hereunder based on the termination or limitation of an assignee's liability; and (iii) all notices of the existence, creation, or incurring of new or additional obligations. Landlord shall have the right to enforce this Lease regardless of the release or discharge of an assignee by Landlord or by operation of any law relating to protection of debtors, bankruptcy, assignments for the benefit of creditors, or insolvency.

(c) The obligations of Tenant under this Lease shall remain in full force and effect and Tenant shall not be discharged or limited by any of the following events with respect to an assignee or Tenant: (i) insolvency, bankruptcy, reorganization arrangement, adjustment, composition, assignment for the benefits of creditors, liquidation, winding up or dissolution (each a "**Financial Proceeding**"); of (ii) any merger, acquisition, consolidation or change in entity structure, or any sale, lease, transfer, or other disposition of any entity's assets, or any sale or other transfer of interests in the entity, unless Tenant is not the surviving corporation and ceases to exist following any transaction permitted under Paragraph 7.2(b) above; or (iii) any sale, exchange, assignment, hypothecation or other transfer, in whole or in part, of Landlord's interest in the Leased Premises or the Lease. Without limiting the foregoing, unless prohibited by public policy, Tenant hereby expressly waives the benefits and defenses under any statute or judicial decision (including but not limited to the case styled In Re Arden, 176 F. 3d 1226 (9th Cir. 1999)) that would otherwise (i.e., were it not for such waiver) permit Tenant to claim or obtain the benefit of any so called "capped claim" available to an assignee in any Financial Proceeding. If all or any portion of the obligations guaranteed hereunder are paid or performed and all or any part of such payment or performance is avoided or recovered, directly or indirectly, from Landlord as a preference, fraudulent transfer or otherwise, then Tenant's obligations hereunder shall continue and remain in full force and effect as to any such avoided or recovered payment or performance.

(d) The provisions of this Lease may be changed by agreement between Landlord and an assignee without the consent of or notice to Tenant, but Tenant shall not be bound by such changes made without its consent to the extent its liability would be increased thereby. This Lease may be assigned by Landlord or an assignee, and the Leased Premises, or a portion thereof, may be sublet by an assignee, all in accordance with the provisions of this Lease, with written notice to but without the consent of Tenant. Tenant and Tenant's assignee shall remain primarily liable for the performance of the Lease so assigned. Without limiting the generality of the foregoing, Tenant waives the rights and benefits of California Civil Code Sections 2819 and 2820 with respect to any change to the Lease between Landlord and an assignee, and agrees that by doing so Tenant's liability shall continue even if Landlord and an assignee alter any Lease obligations, as such liability may be limited by the first sentence of this subparagraph (d).

(e) Consent by Landlord to one or more assignments of Tenant's interest in this Lease or to one or more sublettings of the Leased Premises shall not be deemed to be a consent to any subsequent assignment or subletting. No subtenant shall have any right to assign its sublease or to further sublet any portion of the sublet premises or to permit any portion of the sublet premises to be used or occupied by any other party. If Landlord shall have been ordered by a court of competent jurisdiction to consent to a requested assignment or subletting, or such an assignment or subletting shall have been ordered by a court of competent jurisdiction over the objection of Landlord, such assignment or subletting shall not be binding between the assignee (or sublessee) and Landlord until such time as all conditions set forth in Paragraph 7.4 above have been fully satisfied (to the extent not then satisfied) by the assignee or sublessee, including, without limitation, the payment to Landlord of all agreed assignment considerations and/or excess rentals then due Landlord. Upon a default while a sublease is in effect, Landlord may collect directly from the sublessee all sums becoming due to Tenant under the sublease and apply this amount against any sums due Landlord by Tenant, and Tenant authorizes and directs any sublessee to make payments directly to Landlord upon notice from Landlord. No direct collection by Landlord from any sublessee shall constitute a novation or release of Tenant or any guarantor, a consent to the sublease or a waiver of the covenant prohibiting subleases. Landlord, as Tenant's agent, may endorse any check, draft or other instrument payable to Tenant for sums due under a sublease, and apply the proceeds in accordance with this Lease; this agency is coupled with an interest and is irrevocable.

7.9 Permitted Occupants. Notwithstanding any contrary provision of this Article 7, Tenant shall have the right, without the receipt of Landlord's consent and without payment to Landlord of any

amounts under Paragraph 7.5 above, to permit the use, sharing and/or separate occupancy of up to twenty five thousand (25,000) rentable square feet of space in the Leased Premises, in the aggregate, to any individual or entity (collectively, "**Permitted Occupants**") that (a) has an ongoing business relationship with Tenant (other than the dual occupancy of the Leased Premises), (b) performs services for Tenant as subcontractors under Tenant's contracts, (c) is employed by persons or entities for whom Tenant is performing services on a contractual basis, or (d) is employed by persons or entities with whom Tenant is engaged in a joint venture or joint teaming effort, which use or occupancy shall include the use of a corresponding interior support area and other portions of the Leased Premises, on and subject to the following conditions: (i) each Permitted Occupant shall be of a character and reputation consistent with the quality of the Building; (ii) such use, sharing and/or occupancy of the Leased Premises shall not be a subterfuge by Tenant to avoid its obligations under this Lease or the restrictions on assignments and subletting or allocation of excess Base Monthly Rent pursuant to this Article 7; (iii) Tenant shall not permit such use by any entity or organization in a manner such that the density of use of any portion of the Leased Premises would materially and adversely increase the strain on the Building Systems beyond the manufacturer's recommended specifications therefor or would violate any Laws, including but not limited to fire codes; (iv) the Permitted Occupants shall obtain all permits and licenses required by Laws for occupying and use of the Leased Premises, if such permits and licenses are needed in addition to those held by Tenant; (v) the Permitted Occupants shall be subject to and subordinate to and shall comply with all of the terms and provisions of this Lease, and any default by a Permitted Occupant shall also constitute a default by Tenant; (vi) no such use, sharing and/or occupancy shall relieve Tenant from any liability under this Lease; and (vii) all of Tenant's indemnification, hold harmless, and defense obligations in this Lease shall also apply to any acts or omissions by, or claims made by or against, any Permitted Occupants. Tenant shall promptly supply Landlord with any documents or information reasonably requested by Landlord regarding the identity of any such Permitted Occupants. Any occupancy permitted under this Paragraph 7.9 shall not be deemed a transfer under this Article 7. Notwithstanding the foregoing, no such occupancy shall relieve Tenant from any liability under this Lease. As used in this Lease, the term "Permitted Transferee" means any Assignee Affiliate or Permitted Occupant.

ARTICLE 8
LIMITATION ON LANDLORD'S LIABILITY AND INDEMNITY

8.1 Limitation On Landlord's Liability And Release

. Landlord shall not be liable to Tenant for, and Tenant hereby releases and waives all claims and rights of recovery against Landlord and its partners, principals, members, managers, officers, agents, employees, lenders, attorneys, contractors, invitees, consultants, predecessors, successors and assigns (including without limitation prior and subsequent owners of the Property or portions thereof) (collectively, the "**Landlord Indemnitees**") from, any and all liability, whether in contract, tort or on any other basis, for any injury to or any damage sustained by Tenant or any of the Tenant Parties, any damage to property of Tenant or any of the Tenant Parties, or any loss to business, loss of profits or other financial loss of Tenant or any of the Tenant Parties resulting from or attributable to the condition of, the management of, the repair or maintenance of, the protection of, the supply of services or utilities to, the damage in or destruction of the Leased Premises, the Buildings, the Property or the Outside Areas, including without limitation (i) the failure, interruption, rationing or other curtailment or cessation in the supply of electricity, water, gas or other utility service to the Property, the Buildings or the Leased Premises; (ii) the vandalism or forcible entry into the Buildings or the Leased Premises; (iii) the penetration of water into or onto any portion of the Leased Premises; (iv) the failure to provide security and/or adequate lighting in or about the Property, the Buildings or the Leased Premises, (v) the existence of any design or construction defects within the Property, the Buildings or the Leased Premises; (vi) the failure of any mechanical systems to function properly (such as the HVAC systems); (vii) the blockage of access to any portion of the Property, the Buildings or the Leased Premises, except in each case that Tenant does not so release Landlord from such liability to the extent such damage was proximately caused by Landlord's gross negligence, willful

misconduct, or Landlord's failure to perform an obligation expressly undertaken by Landlord pursuant to this Lease after a reasonable period of time shall have lapsed following receipt of written notice from Tenant to so perform such obligation.

8.2 Tenant's Indemnification Of Landlord

. Tenant shall defend with competent counsel reasonably satisfactory to Landlord, any claims made or legal actions filed or threatened against the Landlord Indemnitees with respect to the violation of any Law, or the death, bodily injury, personal injury, property damage, or interference with contractual or property rights suffered by any third party occurring within the Leased Premises or resulting from the use or occupancy by Tenant or any of the Tenant Parties of the Leased Premises or the Outside Areas, or resulting from the activities of Tenant or any of the Tenant Parties in or about the Leased Premises, the Outside Areas or the Property, and Tenant shall indemnify and hold the Landlord Indemnitees harmless from any loss liability, penalties, or expense whatsoever (including any loss attributable to vacant space which otherwise would have been leased, but for such activities) resulting therefrom, except to the extent proximately caused by the negligence or willful misconduct of Landlord. This indemnity agreement shall survive the expiration or sooner termination of this Lease.

8.3 Landlord's Indemnification Of Tenant

. Landlord shall defend with competent counsel reasonably satisfactory to Tenant any claims made or legal actions filed or threatened against Tenant with respect to the violation of any Law, or the death, bodily injury, personal injury, property damage, or interference with contractual or property rights suffered by any third party occurring at the Property, to the extent each of the foregoing is caused by the gross negligence or willful misconduct of Landlord, and Landlord shall indemnify and hold Tenant harmless from any loss liability, penalties, or expense whatsoever resulting therefrom, except to the extent proximately caused by the negligence or willful misconduct of Tenant. This indemnity agreement shall survive the expiration or sooner termination of this Lease.

ARTICLE 9
INSURANCE

9.1 Tenant's Insurance

. Tenant shall maintain insurance complying with all of the following:

(a) Tenant shall procure, pay for and keep in full force and effect, at all times during the Lease Term, the following:

(i) Commercial general liability insurance insuring Tenant against liability for personal injury, bodily injury, death and damage to property occurring within the Leased Premises, or resulting from Tenant's use or occupancy of the Leased Premises, the Building, the Outside Areas or the Property, or resulting from Tenant's activities in or about the Leased Premises or the Property, with coverage in an amount equal to Tenant's Required Liability Coverage (as set forth in Article 1).

(ii) Fire and property damage insurance in "special form" coverage insuring Tenant against loss from physical damage to Tenant's personal property, inventory, trade fixtures and improvements within the Leased Premises with coverage for the full actual replacement cost thereof;

(iii) Business income/extra expense insurance at limits deemed sufficient by Tenant;

(iv) Reserved;

(v) Boiler and machinery insurance, to limits sufficient to restore Tenant's personal property, inventory, trade fixtures and improvements within the Leased Premises;

(vi) Product liability insurance (including, without limitation, if food and/or beverages are distributed, sold and/or consumed within the Leased Premises, to the extent obtainable, coverage for liability arising out of the distribution, sale, use or consumption of food and/or beverages (including alcoholic beverages, if applicable) at the Leased Premises for not less than Tenant's Required Liability Coverage (as set forth in Article 1);

(vii) Workers' compensation insurance (statutory coverage) with employer's liability in amounts not less than $1,000,000 insurance sufficient to comply with all laws; and

(viii) With respect to making of any alterations or modifications or the construction of improvements or the like undertaken by Tenant, course of construction, commercial general liability, automobile liability and workers' compensation (to be carried by Tenant's contractor), in an amount and with coverage reasonably satisfactory to Landlord.

(b) Each policy of liability insurance required to be carried by Tenant pursuant to this paragraph with respect to the Leased Premises or the Property: (i) shall name Landlord, and such others as are designated by Landlord, as additional insureds; (ii) shall, with respect to insurance required by subparagraph (a)(ii) above, name Landlord, and such others as are designated by Landlord, as loss payees; (iii) shall be primary insurance providing that the insurer shall be liable for the full amount of the loss, up to and including the total amount of liability set forth in the declaration of coverage, without the right of contribution from or prior payment by any other insurance coverage of Landlord; (iv) shall be in a form satisfactory to Landlord; (v) shall be carried with companies reasonably acceptable to Landlord with Best's ratings of at least A and XI; (vi) shall provide that such policy shall not be subject to cancellation, lapse or change except after at least thirty (30) days prior written notice to Tenant, and Tenant shall promptly notify Landlord of cancellation or lapse, and (vii) shall contain a so-called "severability" or "cross liability" endorsement. Each policy of property insurance maintained by Tenant with respect to the Leased Premises or the Property or any property therein (i) shall provide that such policy shall not be subject to cancellation, lapse or change except after at least thirty (30) days prior written notice to Tenant and Tenant shall promptly notify Landlord of cancellation or lapse and (ii) shall contain a waiver and/or a permission to waive by the insurer of any right of subrogation against Landlord, its partners, principals, members, managers, officers, employees, agents and contractors, which might arise by reason of any payment under such policy or by reason of any act or omission of Landlord, its partners, principals, members, managers, officers, and employees.

(c) Prior to the time Tenant or any of its contractors enters the Leased Premises, Tenant shall deliver to Landlord, with respect to each policy of insurance required to be carried by Tenant pursuant to this Article, a certificate of the insurance certifying in form satisfactory to Landlord that a policy has been issued, providing the coverage required by this Paragraph and containing the provisions specified herein. With respect to each renewal or replacement of any such insurance, the requirements of this Paragraph must be complied with on or prior to the expiration or cancellation of the policies being renewed or replaced. If Landlord's Lender reasonably determines at any time that the amount of coverage set forth in Paragraph 9.1(a) for any policy of insurance Tenant is required to carry pursuant to this Article is not adequate, then Tenant shall increase the amount of coverage for such insurance to such greater amount as Landlord's Lender reasonably deems adequate. In the event Tenant does not maintain said insurance, Landlord may, in its sole discretion and without waiving any other remedies hereunder, procure said insurance and Tenant shall pay to Landlord as additional rent the cost of said insurance.

9.2 Landlord's Insurance

. With respect to insurance maintained by Landlord:

(a) Landlord shall maintain, as the minimum coverage required of it by this Lease, fire and property damage insurance in so-called special form coverage insuring Landlord (and such others as Landlord may designate) against loss from physical damage to the Building with coverage of not less than one hundred percent (100%) of the full actual replacement cost thereof and against loss of rents for a period of not less than six months. Such fire and property damage insurance, at Landlord's election but without any requirements on Landlord's behalf to do so, (i) may be written in so-called "all risk" form, excluding only those perils commonly excluded from such coverage by Landlord's then property damage insurer; (ii) may provide coverage for physical damage to the improvements so insured for up to the entire full actual replacement cost thereof; (iii) may be endorsed to cover loss or damage caused by any additional perils against which Landlord may elect to insure, including earthquake and/or flood; and/or (iv) may provide coverage for loss of rents for a period of up to twelve months. Landlord shall not be required to cause such insurance to cover any of Tenant's personal property, inventory, and trade fixtures, or any modifications, alterations or improvements made or constructed by Tenant to or within the Leased Premises. Landlord shall use commercially reasonable efforts to obtain such insurance at competitive rates.

(b) Landlord shall maintain commercial general liability insurance insuring Landlord (and such others as are designated by Landlord) against liability for personal injury, bodily injury, death, and damage to property occurring in, on or about, or resulting from the use or occupancy of the Property, or any portion thereof, with combined single limit coverage of at least Ten Million Dollars ($10,000,000). Landlord may carry such greater coverage as Landlord or Landlord's Lender, insurance broker, advisor or counsel may from time to time determine is reasonably necessary for the adequate protection of Landlord and the Property.

(c) Landlord may maintain any other insurance which in the opinion of its insurance broker, advisor or legal counsel is prudent to carry under the given circumstances, provided such insurance is commonly carried by owners of property similarly situated and operating under similar circumstances.

9.3 Mutual Waiver Of Subrogation

. Landlord hereby releases Tenant, and Tenant hereby releases Landlord and its respective partners, principals, members, managers, officers, agents, employees and servants, from any and all liability for loss, damage or injury to the property of the other in or about the Leased Premises or the Property which is caused by or results from a peril or event or happening which is covered by insurance actually carried and in force at the time of the loss by the party sustaining such loss; provided, however, that such waiver shall be effective only to the extent permitted by the insurance covering such loss and to the extent such insurance is not prejudiced thereby.

ARTICLE 10
DAMAGE TO LEASED PREMISES

10.1 Landlord's Duty To Restore

. If the Leased Premises, the Building or the Outside Area are damaged by any peril after the Effective Date of this Lease, Landlord shall restore the same, as and when required by this paragraph, unless this Lease is terminated by Landlord pursuant to Paragraph 10.3 or by Tenant pursuant to Paragraph 10.4. If this Lease is not so terminated, then Landlord shall commence to obtain all necessary governmental permits and diligently prosecute to completion the restoration of the Leased Premises, the Building or the Outside Area, as the case may be, to the extent then allowed by law, to substantially the same condition in which it existed as of the Lease Commencement Date. Landlord's obligation to restore shall be limited to the improvements constructed by Landlord. Landlord shall have no obligation to restore any alterations, modifications or improvements made by Tenant to the Leased Premises or any of Tenant's personal property, inventory or trade fixtures. Upon completion of the restoration by Landlord, Tenant shall forthwith replace or fully repair all of

Tenant's personal property, inventory, trade fixtures and other improvements constructed by Tenant to like or similar conditions as existed at the time immediately prior to such damage or destruction.

10.2 Insurance Proceeds

. All insurance proceeds available from the fire and property damage insurance carried by Landlord shall be paid to and become the property of Landlord. If this Lease is terminated pursuant to either Paragraph 10.3 or 10.4, all insurance proceeds available from insurance carried by Tenant which cover loss of property that is Landlord's property or would become Landlord's property on termination of this Lease shall be paid to and become the property of Landlord, and the remainder of such proceeds shall be paid to and become the property of Tenant. If this Lease is not terminated pursuant to either Paragraph 10.3 or 10.4, all insurance proceeds available from insurance carried by Tenant which cover loss to property that is Landlord's property shall be paid to and become the property of Landlord, and all proceeds available from such insurance which cover loss to property which would only become the property of Landlord upon the termination of this Lease shall be paid to and remain the property of Tenant. The determination of Landlord's property and Tenant's property shall be made pursuant to Paragraph 6.2.

10.3 Landlord's Right To Terminate

. Landlord shall have the option to terminate this Lease in the event any of the following occurs, which option may be exercised only by delivery to Tenant of a written notice of election to terminate ("**Landlord Termination Notice**") within thirty (30) days after the date of such damage or destruction:

(a) The Building is damaged by any peril covered by valid and collectible insurance actually carried by Landlord and in force at the time of such damage or destruction (an "insured peril") to such an extent that the estimated cost to restore the Building exceeds the lesser of (i) the insurance proceeds available from insurance actually carried by Landlord, or (ii) fifty percent of the then actual replacement cost thereof;

(b) The Building is damaged by an uninsured peril, which peril Landlord was not required to insure against pursuant to the provisions of Article 9 of this Lease.

(c) The Building is damaged by any peril and, because of the Laws or Restrictions then in force, the Building (i) cannot be restored at reasonable cost or (ii) if restored, cannot be used for the same use being made thereof before such damage.

Notwithstanding the foregoing, if Landlord elects to terminate this Lease in accordance with this Paragraph 10.3, Tenant may reject such termination right by providing written notice to Landlord within ten (10) business days after receipt of the Landlord Termination Notice. Promptly following Tenant's notice to reject the Landlord Termination Notice, the parties shall confer and jointly review the plans and cost estimates from Landlord's architect and contractors. Within ten (10) days after such conference, Tenant shall either (x) agree to pay the shortfall between the actual cost of restoration and the amount from the insurance proceeds as supplemented by Tenant hereby, on no less frequent than a monthly basis, and the Lease shall continue as if Landlord had not exercised its right to terminate under this Paragraph 10.3, or (y) decline to fund any restoration of the Leased Premises and accept Landlord's termination of this Lease. In the event Tenant does not respond to Landlord within the foregoing 10-day period, such non-response shall constitute Tenant's decision to decline funding pursuant to clause (y) above.

10.4 Tenant's Right To Terminate

. If the Leased Premises, the Buildings or the Outside Area are damaged by any peril and Landlord does not elect to terminate this Lease or is not entitled to terminate this Lease pursuant to this Article, then as soon as reasonably practicable, Landlord shall furnish Tenant with the written opinion of Landlord's architect or construction consultant as to when the restoration work required of Landlord with respect to the Leased Premises may be complete. Tenant shall

have the option to terminate this Lease (if Tenant is not then in default or after such default is cured if within the cure period, if any, expressly provided for in this Lease) in the event any of the following occurs, which option may be exercised only by delivery to Landlord of a written notice of election to terminate within thirty (30) days after Tenant receives from Landlord the estimate of the time needed to complete such restoration, effective as of the date of the damage or destruction:

(a) If the time estimated to substantially complete the restoration exceeds twelve months from and after the date the architect's or construction consultant's written opinion is delivered; or

(b) If the damage occurred within twelve months of the last day of the Lease Term and the time estimated to substantially complete the restoration exceeds ninety (90) days from and after the date such restoration is commenced.

In addition to the rights set forth above, and notwithstanding Paragraph 10.3 above, if neither party terminates this Lease pursuant to this Paragraph 10 and the Leased Premises are not repaired or restored within eighteen (18) months after the date of such damage or destruction, then Tenant may terminate this Lease, effective as of the date of such damage or destruction, by written notice to Landlord given not later than thirty (30) days after the expiration of said 18-month period, but prior to substantial completion of such restoration.

10.5 Tenant's Waiver

. Landlord and Tenant agree that the provisions of Paragraph 10.4 above, captioned "Tenant's Right To Terminate", are intended to supersede and replace the provisions contained in California Civil Code, Section 1932, Subdivision 2, and California Civil Code, Section 1933, and accordingly, Tenant hereby waives the provisions of such Civil Code Sections and the provisions of any successor Civil Code Sections or similar laws hereinafter enacted.

10.6 Abatement Of Rent

. In the event of damage to the Leased Premises, the Buildings or the Outside Area which does not result in the termination of this Lease, then effective upon the date of such damage or destruction, the Base Monthly Rent (and any Additional Rent) shall be temporarily abated in proportion in the degree to which Tenant's use of the Leased Premises (during the restoration period) is impaired, if at all, by such damage.

ARTICLE 11
CONDEMNATION

11.1 Tenant's Right To Terminate

. Except as otherwise provided in Paragraph 11.4 below regarding temporary takings, Tenant shall have the option to terminate this Lease if, as a result of any taking, (i) all of the Leased Premises is taken, or (ii) twenty-five percent (25%) or more of the Leased Premises is taken and the part of the Leased Premises that remains cannot, within a reasonable period of time, be made reasonably suitable for the continued operation of Tenant's business. Tenant must exercise such option within a reasonable period of time not to exceed sixty (60) days from and after the date the applicable portion of the Leased Premises is taken], to be effective on the later to occur of (i) the date that possession of that portion of the Leased Premises that is condemned is taken by the condemnor or (ii) the date Tenant vacated the Leased Premises.

11.2 Landlord's Right To Terminate

. Except as otherwise provided in Paragraph 11.4 below regarding temporary takings, Landlord shall have the option to terminate this Lease if, as a result of any taking, (i) all of the Leased Premises is taken, (ii) twenty-five percent (25%) or more of the Leased Premises is taken and the part of the Leased Premises that remains cannot, within a reasonable period of time, be made reasonably suitable for the continued operation of Tenant's business, or (iii) because of the Laws or Restrictions then in force, the Leased Premises may not be used for the same use being made

before such taking, whether or not restored as required by Paragraph 11.3 below. Any such option to terminate by Landlord must be exercised within a reasonable period of time not to exceed sixty (60) days from and after the date the applicable portion of the Leased Premises is taken, to be effective as of the date possession is taken by the condemnor.

11.3 Restoration

. If any part of the Leased Premises or the Building is taken and this Lease is not terminated, then Landlord shall, to the extent not prohibited by Laws or Restrictions then in force, repair any damage occasioned thereby to the remainder thereof to a condition reasonably suitable for Tenant's continued operations and otherwise, to the extent practicable, in the manner and to the extent provided in Paragraph 10.1.

11.4 Temporary Taking

. If a material portion of the Leased Premises is temporarily taken for a period of one hundred eighty (180) days or less and such period does not extend beyond the Lease Expiration Date, this Lease shall remain in effect, and if applicable all rent shall be proportionately abated pursuant to Paragraph 11.6. If any material portion of the Leased Premises is temporarily taken for a period which exceeds one hundred eighty (180) days or which extends beyond the Lease Expiration Date, then the rights of Landlord and Tenant shall be determined in accordance with Paragraphs 11.1 and 11.2 above.

11.5 Division Of Condemnation Award

. Any award made for any taking of the Property, the Buildings, or the Leased Premises, or any portion thereof, shall belong to and be paid to Landlord, and Tenant hereby assigns to Landlord all of its right, title and interest in any such award; provided, however, that Tenant shall be entitled to receive any portion of the award that is made specifically (i) for the taking of personal property, inventory or trade fixtures belonging to Tenant, (ii) for the interruption of Tenant's business or its moving costs, or (iii) for the value of any leasehold improvements installed and paid for by Tenant. In addition, Tenant shall have the right to file any separate claim available to Tenant for any of the costs described in clauses (i)-(iii). The rights of Landlord and Tenant regarding any condemnation shall be determined as provided in this Article, and each party hereby waives the provisions of Section 1265.130 of the California Code of Civil Procedure, and the provisions of any similar law hereinafter enacted, allowing either party to petition the Supreme Court to terminate this Lease and/or otherwise allocate condemnation awards between Landlord and Tenant in the event of a taking of the Leased Premises.

11.6 Abatement Of Rent

. In the event of a taking of the Leased Premises which does not result in a termination of this Lease, then, as of the date possession is taken by the condemning authority, the Base Monthly Rent and Additional Rent shall be reduced in the same proportion that the area of that part of the Leased Premises so taken (less any addition to the area of the Leased Premises by reason of any reconstruction) bears to the area of the Leased Premises immediately prior to such taking.

11.7 Taking Defined

. The term "**taking**" or "**taken**" as used in this Article 11 shall mean any transfer or conveyance of all or any portion of the Property to a public or quasi-public agency or other entity having the power of eminent domain pursuant to or as a result of the exercise of such power by such an agency, including any inverse condemnation and/or any sale or transfer by Landlord of all or any portion of the Property to such an agency under threat of condemnation or the exercise of such power.

ARTICLE 12
DEFAULT AND REMEDIES

12.1 Events Of Tenant's Default

. Tenant shall be in default of its obligations under this Lease if any of the following events (each, an "**Event of Default**") occur:

(a) Tenant shall have failed to pay Base Monthly Rent or any Additional Rent when due; provided that Tenant shall be entitled to receive written notice of late payment twice during each twelve (12) month period of the Lease Term, and with respect to those two (2) late payments, Tenant shall not be in default under this Paragraph 12.1(a) unless Tenant has failed to make the required payment within three (3) days after such notice from Landlord. After the notice has been given twice in any twelve (12) month period of the Lease Term, Landlord shall not be required to provide any further notices to Tenant. Each such notice shall be concurrent with, and not in addition to, any notice required by applicable Laws; or

(b) Tenant shall have done or permitted to be done any act, use or thing in its use, occupancy or possession of the Leased Premises or the Outside Areas which is prohibited by the terms of this Lease or Tenant shall have failed to perform any term, covenant, or condition of this Lease (except those requiring the payment of Base Monthly Rent or Additional Rent, which failures shall be governed by subparagraph (a) above) and such default is not cured within the shorter of (i) any specific time period expressly provided under this Lease for the performance of such term, covenant or condition, or (ii) thirty (30) days after written notice from Landlord to Tenant specifying the nature of such default and requesting Tenant to cure the same, or regarding clause (ii) only, within such longer period as is reasonably required in the event such default is curable but not within such thirty (30) day period, provided such cure is promptly commenced within such thirty (30) day period and is thereafter diligently prosecuted to completion;

(c) Tenant shall have sublet the Leased Premises or assigned or encumbered its interest in this Lease in violation of the provisions contained in Article 7, whether voluntarily or by operation of law; or

(d) Tenant shall have abandoned the Leased Premises; or

(e) Tenant shall have permitted or suffered the sequestration or attachment of, or execution on, or the appointment of a custodian or receiver with respect to, all or any substantial part of the property or assets of Tenant, and Tenant shall have failed to obtain a return or release of the same within sixty (60) days thereafter, or prior to sale pursuant to such sequestration, attachment or levy, whichever is earlier; or

(f) Tenant shall have made a general assignment of all or a substantial part of its assets for the benefit of its creditors; or

(g) Tenant shall have allowed (or sought) to have entered against it a decree or order which: (i) grants or constitutes an order for relief, appointment of a trustee, or condemnation or a reorganization plan under the bankruptcy laws of the United States; (ii) approves as properly filed a petition seeking liquidation or reorganization under said bankruptcy laws or any other debtor's relief law or similar statute of the United States or any state thereof; or (iii) otherwise directs the winding up or liquidation of Tenant; provided, however, if any decree or order was entered without Tenant's consent or over Tenant's objection, Landlord may not terminate this Lease pursuant to this Subparagraph if such decree or order is rescinded or reversed within thirty (30) days after its original entry; or

(h) Tenant shall have voluntarily availed itself of the protection of any debtor's relief law, creditor moratorium law or other similar law for protection from creditors which does not require the prior entry of a decree or order; or

(i) Tenant (or its affiliate) shall be in default of its obligations under a lease between Landlord (or its affiliate) and Tenant (or its affiliate) of all or a portion of the Proposed Building, beyond all applicable notice and cure periods, if any, expressly provided in such lease.

12.2 Landlord's Remedies

. In the event of any default by Tenant, and without limiting Landlord's right to indemnification as provided in Article 8.2, Landlord shall have the following remedies, in addition to all other rights and remedies provided by law or otherwise provided in this Lease, to which Landlord may resort cumulatively, or in the alternative:

(a) Landlord may, at Landlord's election, keep this Lease in effect and enforce, by an action at law or in equity, all of its rights and remedies under this Lease including, without limitation, (i) the right to recover the rent and other sums as they become due by appropriate legal action, (ii) the right to make payments required by Tenant, or perform Tenant's obligations and be reimbursed by Tenant for the cost thereof with interest at a rate equal to the Default Interest Rate from the date the sum is paid by Landlord until Landlord is reimbursed by Tenant, and (iii) the remedies of injunctive relief and specific performance to prevent Tenant from violating the terms of this Lease and/or to compel Tenant to perform its obligations under this Lease, as the case may be.

(b) Landlord may, at Landlord's election, terminate this Lease by giving Tenant written notice of termination, in which event this Lease shall terminate on the date set forth for termination in such notice, in which event Tenant shall immediately surrender the Leased Premises to Landlord, and if Tenant fails to do so, Landlord may, without prejudice to any other remedy which it may have for possession or arrearages in rent, enter upon and take possession of the Leased Premises and expel or remove Tenant and any other person who may be occupying the Leased Premises or any part thereof, without being liable for prosecution or any claim for damages therefor. Any termination under this subparagraph shall not relieve Tenant from its obligation to pay to Landlord all Base Monthly Rent and Additional Rent then or thereafter due, or any other sums due or thereafter accruing to Landlord, or from any claim against Tenant for damages previously accrued or then or thereafter accruing. In no event shall any one or more of the following actions by Landlord, in the absence of a written election by Landlord to terminate this Lease constitute a termination of this Lease:

(i) Appointment of a receiver or keeper in order to protect Landlord's interest hereunder;

(ii) Consent to any subletting of the Leased Premises or assignment of this Lease by Tenant, whether pursuant to the provisions hereof or otherwise; or

(iii) Any action taken by Landlord or its partners, principals, members, managers, officers, agents, employees, or servants, which is intended to mitigate the adverse effects of any breach of this Lease by Tenant, including, without limitation, any action taken to maintain and preserve the Leased Premises on any action taken to relet the Leased Premises or any portion thereof for the account at Tenant and in the name of Tenant.

(c) In the event Tenant breaches this Lease and abandons the Leased Premises, Landlord may terminate this Lease, but this Lease shall not terminate unless Landlord gives Tenant written notice of termination. If Landlord does not terminate this Lease by giving written notice of termination, Landlord may enforce all its rights and remedies under this Lease, including the right and remedies provided by California Civil Code Section 1951.4 ("lessor may continue lease in effect after lessee's breach and abandonment and recover rent as it becomes due, if lessee has right to sublet or assign, subject only to reasonable limitations"), as in effect on the Effective Date of this Lease.

(d) In the event Landlord terminates this Lease, Landlord shall be entitled, at Landlord's election, to the rights and remedies provided in California Civil Code Section 1951.2, as in effect on the Effective Date of this Lease. For purposes of computing damages pursuant to Section 1951.2, an interest rate equal to the Default Interest Rate shall be used. Such damages shall include, without limitation:

(i) The worth at the time of the award of the unpaid rent which had been earned at the time of termination; plus

(ii) The worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(iii) The worth at the time of award of the amount by which the unpaid rent for the balance of the term after the time of award exceeds the amount of such rental loss that Tenant proves could be reasonably avoided, computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco, at the time of award plus one percent; plus

(iv) Any other amount necessary to compensate Landlord for all detriment proximately caused by Tenant's failure to perform Tenant's obligations under this Lease, or which in the ordinary course of things would be likely to result therefrom, including without limitation, the following: (i) expenses for cleaning, repairing or restoring the Leased Premises, (ii) expenses for altering, remodeling or otherwise improving the Leased Premises for the purpose of reletting, including removal of existing leasehold improvements and/or installation of additional leasehold improvements (regardless of how the same is funded, including reduction of rent, a direct payment or allowance to a new tenant, or otherwise), (iii) broker's fees allocable to the remainder of the term of this Lease, advertising costs and other expenses of reletting the Leased Premises; (iv) costs of carrying and maintaining the Leased Premises, such as taxes, insurance premiums, utility charges and security precautions (although the foregoing shall not in any way modify Paragraph 5.3 above), (v) expenses incurred in removing, disposing of and/or storing any of Tenant's personal property, inventory or trade fixtures remaining therein; (vi) reasonable attorney's fees, expert witness fees, court costs and other reasonable expenses incurred by Landlord (but not limited to taxable costs) in retaking possession of the Leased Premises, establishing damages hereunder, and releasing the Leased Premises; and (vii) any other expenses, costs or damages otherwise incurred or suffered as a result of Tenant's default; plus

(v) The unamortized amount of any tenant improvement or similar allowance paid or credited by Landlord to Tenant pursuant to this Lease or the Work Letter, to the extent not in duplication of any other recovery by Landlord under this Paragraph 12.2.

(e) Pursuant to California Code of Civil Procedure Section 1161.1, Landlord may accept a partial payment of Rent after serving a notice pursuant to California Code of Civil Procedure Section 1161, and may without further notice to the Tenant, commence and pursue an action to recover the difference between the amount demanded in that notice and the payment actually received. This acceptance of such a partial payment of Rent does not constitute a waiver of any rights, including any right the Landlord may have to recover possession of the Leased Premises. Further, Tenant agrees that any notice given by Landlord pursuant to Paragraph 12.1 of the Lease shall satisfy the requirements for notice under California Code of Civil Procedure Section 1161, and Landlord shall not be required to give any additional notice in order to be entitled to commence an unlawful detainer proceeding.

12.3 Landlord's Default And Tenant's Remedies

. In the event Landlord fails to perform its obligations under this Lease, Landlord shall nevertheless not be in default under the terms of this Lease

until such time as Tenant shall have first given Landlord written notice specifying the nature of such failure to perform its obligations, and then only after Landlord shall have had thirty (30) days following its receipt of such notice within which to perform such obligations; provided that, if longer than thirty (30) days is reasonably required in order to perform such obligations, Landlord shall have such longer period; provided that Landlord commences such cure within such 30-day period and thereafter diligently proceeds to rectify and cure such default. In the event of Landlord's default as above set forth, then, and only then, Tenant may then proceed in equity or at law to compel Landlord to perform its obligations and/or to recover damages proximately caused by such failure to perform (except as and to the extent Tenant has waived its right to damages as provided in this Lease).

12.4 Limitation Of Tenant's Recourse

. Tenant's sole recourse against Landlord shall be to Landlord's interest in the Building and the Outside Areas. If Landlord is a corporation, trust, partnership, joint venture, limited liability company, unincorporated association, or other form of business entity, Tenant agrees that (i) the obligations of Landlord under this Lease shall not constitute personal obligations of the officers, directors, trustees, partners, joint venturers, members, managers, owners, stockholders, or other principals of such business entity, and (ii) Tenant shall have recourse only to the interest of such corporation, trust, partnership, joint venture, limited liability company, unincorporated association, or other form of business entity in the Building and the Outside Areas for the satisfaction of such obligations and not against the assets of such officers, directors, trustees, partners, joint venturers, members, managers, owners, stockholders or principals. Additionally, if Landlord is a partnership or limited liability company, then Tenant covenants and agrees:

(a) No partner, manager, or member of Landlord shall be sued or named as a party in any suit or action brought by Tenant with respect to any alleged breach of this Lease (except to the extent necessary to secure jurisdiction over the partnership or limited liability company and then only for that sole purpose);

(b) No service of process shall be made against any partner, manager, or member of Landlord except for the sole purpose of securing jurisdiction over the partnership or limited liability company; and

(c) No writ of execution will ever be levied against the assets of any partner, manager, or member of Landlord other than to the extent of his or her interest in the assets of the partnership or limited liability company constituting Landlord.

Tenant further agrees that each of the foregoing covenants and agreements shall be enforceable by Landlord and by any partner or manager or member of Landlord and shall be applicable to any actual or alleged misrepresentation or nondisclosure made regarding this Lease or the Leased Premises or any actual or alleged failure, default or breach of any covenant or agreement either expressly or implicitly contained in this Lease or imposed by statute or at common law.

12.5 Tenant's Waiver

. Except if and as expressly provided herein to the contrary, Landlord and Tenant agree that the provisions of Paragraph 12.3 above are intended to supersede and replace the provisions of California Civil Code Sections 1932(1), 1941 and 1942, and accordingly, Tenant hereby waives the provisions of California Civil Code Sections 1932(1), 1941 and 1942 and/or any similar or successor law regarding Tenant's right to terminate this Lease or to make repairs and deduct the expenses of such repairs from the rent due under this Lease.

ARTICLE 13
GENERAL PROVISIONS

13.1 Taxes On Tenant's Property

. Tenant shall pay before delinquency any and all taxes, assessments, license fees, use fees, permit fees and public charges of whatever nature or description levied, assessed or imposed against Tenant or Landlord by a governmental agency arising out of, caused by reason of or based upon Tenant's estate in this Lease, Tenant's ownership of property, improvements made by Tenant to the Leased Premises or the Outside Areas, improvements made by Landlord for Tenant's use within the Leased Premises or the Outside Areas, Tenant's use (or estimated use) of public facilities or services or Tenant's consumption (or estimated consumption) of public utilities, energy, water or other resources (collectively, "**Tenant's Interest**"). Upon demand by Landlord, Tenant shall furnish Landlord with satisfactory evidence of these payments. If any such taxes, assessments, fees or public charges are levied against Landlord, Landlord's property, the Building or the Property, or if the assessed value of the Building or the Property is increased by the inclusion therein of a value placed upon Tenant's Interest, regardless of the validity thereof, Landlord shall have the right to require Tenant to pay such taxes, and if not paid and satisfactory evidence of payment delivered to Landlord at least ten (10) days prior to delinquency, then Landlord shall have the right to pay such taxes on Tenant's behalf and to invoice Tenant for the same, in either case whether before or after the expiration or earlier termination of the Lease Term. Tenant shall, within the earlier to occur of (a) thirty (30) days of the date it receives an invoice from Landlord setting forth the amount of such taxes, assessments, fees, or public charge so levied, or (b) the due date of such invoice, pay to Landlord, as Additional Rent, the amount set forth in such invoice. Failure by Tenant to pay the amount so invoiced within such time period shall be conclusively deemed a default by Tenant under this Lease. Tenant shall have the right to bring suit in any court of competent jurisdiction to recover from the taxing authority the amount of any such taxes, assessments, fees or public charges so paid.

13.2 Holding Over

. This Lease shall terminate without further notice on the Lease Expiration Date (as set forth in Article 1). Any holding over by Tenant after expiration of the Lease Term shall neither constitute a renewal nor extension of this Lease nor give Tenant any rights in or to the Leased Premises except as expressly provided in this Paragraph. Any such holding over to which Landlord has consented shall be construed to be a tenancy from month to month, on the same terms and conditions herein specified insofar as applicable, except that for the first three (3) months of such holdover period, the Base Monthly Rent shall be increased to an amount equal to one hundred twenty-five percent (125%) of the Base Monthly Rent payable during the last full month immediately preceding such holding over, and thereafter shall be increased to one hundred fifty percent (150%) of the Base Monthly Rent payable during the last full month immediately preceding such holding over. Without limiting the foregoing, in the event of a holding over to which Landlord has consented, any rights of Landlord or obligations of Tenant set forth in this Lease and purporting to apply during the term of this Lease, shall nonetheless also be deemed to apply during any such hold over period. Tenant acknowledges that if Tenant holds over without Landlord's consent, such holding over may compromise or otherwise affect Landlord's ability to enter into new leases with prospective tenants regarding the Leased Premises. Therefore, if Tenant fails to surrender the Leased Premises upon the expiration or termination of this Lease, in addition to any other liabilities to Landlord accruing therefrom, Tenant shall protect, defend, indemnify and hold Landlord harmless from and against all claims resulting from such failure, including, without limiting the foregoing, any claims made by any succeeding tenant founded upon such failure to surrender, and any losses suffered by Landlord, including lost profits, resulting from such failure to surrender.

13.3 Subordination To Mortgages

. Subject to the terms of this Paragraph 13.3, this Lease is subject to and subordinate to all ground leases, mortgages and deeds of trust (each, a "**Mortgage**") which affect the Leased Premises or the Property and which are of public record as of the Effective Date of this Lease, and to all renewals, modifications, consolidations, replacements and extensions thereof. Notwithstanding the foregoing, if requested by Landlord, Tenant agrees, within five (5) business days after Landlord's written request therefor, to execute, acknowledge and deliver to Landlord any and all commercially reasonable documents or instruments reasonably requested by Landlord or by the existing

lessor or lender under any Mortgage (each, a "**Mortgagee**") and reasonably acceptable to Tenant to assure the subordination of this Lease to such Mortgage. However, if a Mortgagee shall advise Landlord that it requires this Lease to be made prior and superior to its Mortgage, then, promptly following written request of Landlord to Tenant, Tenant shall promptly execute, acknowledge and deliver any and all reasonable documents or instruments which Landlord and such Mortgagee reasonably deems necessary to make this Lease prior thereto. Tenant hereby consents to Landlord's ground leasing the land underlying the Building or the Property and/or encumbering the Building or the Property as security for future loans on such terms as Landlord shall desire, all of which future Mortgages shall be subject to and subordinate to this Lease. However, if any current or future Mortgagee shall require that this Lease be made subject to and subordinate to such future Mortgage, then Tenant agrees, within five (5) business days after Landlord's written request therefor, to execute, acknowledge and deliver to Landlord any and all commercially reasonable documents or instruments reasonably requested by Landlord or by such Mortgagee necessary for the subordination of this Lease to such future Mortgage, but only if such Mortgagee first or simultaneously enters into an SNDA (as defined below) and agrees not to disturb Tenant's quiet possession of the Leased Premises so long as Tenant is not in default under this Lease beyond all applicable notice and cure periods expressly set forth in this Lease. If Tenant shall fail to execute and deliver such documents or instruments within five (5) business days after Landlord's request therefor, Landlord shall provide Tenant with a second written request which request shall contain, in bold, capital letters, the following: "THIS NOTICE CONSTITUTES LANDLORD'S SECOND NOTICE OF ITS DEMAND PURSUANT TO PARAGRAPH 13.3 OF THE LEASE; TENANT'S FAILURE TO RESPOND TO THIS NOTICE WITH THE EXECUTED DOCUMENTS OR INSTRUMENTS WITHIN FIVE (5) BUSINESS DAYS SHALL RESULT IN AN EVENT OF DEFAULT UNDER THE LEASE." If Tenant fails to respond to such second notice with the requested documents executed by Tenant within five (5) business days of receipt, such failure shall constitute an Event of Default, and Landlord shall have all of the rights and remedies available to Landlord as Landlord would otherwise have in the case of any other Event of Default. If Landlord assigns this Lease as security for a loan, Tenant agrees to execute such commercially reasonable documents as are reasonably requested by the lender and reasonably acceptable to Tenant and to provide reasonable provisions in this Lease protecting such lender's security interest which are customarily required by institutional lenders making loans secured by a deed of trust, but only if such lender first or simultaneously enters into an SNDA and agrees not to disturb Tenant's quiet possession of the Leased Premises so long as Tenant is not in default under this Lease beyond all applicable notice and cure periods expressly set forth in this Lease. Notwithstanding anything to the contrary contained herein, the effectiveness of this Lease is conditioned upon Tenant's receipt within thirty (30) days after the Effective Date of this Lease, of a commercially reasonable subordination nondisturbance and attornment agreement ("**SNDA**") from any Mortgagee existing as of the date of this Lease, and if required by such Mortgagee, Tenant shall also execute such SNDA. Notwithstanding the foregoing, this Lease and Tenant's obligations hereunder shall not be affected or impaired in any respect should any such future Mortgagee decline to enter into such SNDA, except that this Lease shall not be subject and subordinate to the applicable Mortgage as provided in this Paragraph 13.3.

13.4 Tenant's Attornment Upon Foreclosure

. Subject to Paragraph 13.3 above, Tenant shall, upon request, attorn (i) to any purchaser of the Building or the Property at any foreclosure sale or private sale conducted pursuant to any security instruments encumbering the Building or the Property, (ii) to any grantee or transferee designated in any deed given in lieu of foreclosure of any security interest encumbering the Building or the Property, or (iii) to the lessor under an underlying ground lease of the land underlying the Building or the Property, should such ground lease be terminated; provided that such purchaser, grantee or lessor recognizes in writing Tenant's rights under this Lease and agrees to assume all of the Landlord's obligations under this Lease accruing from and after the applicable transfer, including the return of the Security Deposit in accordance with Paragraph 3.7.

13.5 Mortgagee Protection

. In the event of any default on the part of Landlord, Tenant will give notice by registered mail to any Lender or lessor under any underlying ground lease who shall have requested, in writing, to Tenant that it be provided with such notice, and Tenant shall offer such Lender or lessor a reasonable opportunity to cure the default, including time to obtain possession of the Leased Premises by power of sale if reasonably necessary to effect a cure.

13.6 Estoppel Certificate

. Tenant will, following any request by Landlord, promptly execute and deliver to Landlord (and if applicable provide corrections to) an estoppel certificate substantially in form attached as **Exhibit F**, (i) certifying that this Lease is unmodified and in full force and effect, or, if modified, stating the nature of such modification and certifying that this Lease, as so modified, is in full force and effect, (ii) stating the date to which the rent and other charges are paid in advance, if any, (iii) acknowledging that there are not, to Tenant's knowledge, any uncured defaults on the part of Landlord hereunder, or specifying such defaults if any are claimed, and (iv) certifying such other information about this Lease as may be reasonably requested by Landlord, its Lender or prospective lenders, investors or purchasers of the Building or the Property. If Tenant shall fail to execute and deliver such estoppel certificate within five (5) business days after Landlord's request therefor, Landlord shall provide Tenant with a second written request which request shall contain, in bold, capital letters, the following: "THIS NOTICE CONSTITUTES LANDLORD'S SECOND NOTICE OF ITS DEMAND FOR TENANT'S ESTOPPEL CERTIFICATE PURSUANT TO PARAGRAPH 13.6 OF THE LEASE; TENANT'S FAILURE TO RESPOND TO THIS NOTICE WITH AN EXECUTED ESTOPPEL CERTIFICATE IN SUBSTANTIALLY THE FORM PROVIDED IN THE LEASE WITHIN FIVE (5) BUSINESS DAYS SHALL CONSTITUTE AN EVENT OF DEFAULT UNDER THE LEASE." If Tenant fails to respond to such second notice with an executed estoppel certificate in substantially the form provided in **Exhibit F** attached hereto within five (5) business days of receipt, such failure shall constitute an Event of Default, and Landlord shall have all of the rights and remedies available to Landlord as Landlord would otherwise have in the case of any other Event of Default. Landlord and Tenant intend that any statement delivered pursuant to this paragraph may be relied upon by any Lender or purchaser or prospective Lender or purchaser of the Leased Premises, the Property, or any interest in them.

13.7 Tenant's Financial Information

. Tenant shall, within ten (10) business days after Landlord's request therefor, deliver to Landlord a copy of Tenant's most recent audited financial statements (including a balance sheet, income statement and statement of cash flow, all prepared in accordance with generally accepted accounting principles), and any such other information reasonably requested by Landlord regarding Tenant's financial condition; provided, however, that as long as the common stock of Tenant (or its assigns permitted pursuant to this Lease or otherwise approved by Landlord in writing) is publicly-traded on a United States national stock exchange, and such information is available as part of Tenant's or such Permitted Transferee's 10-K or 10-Q report filings on the SEC's Edgar website, and such materials are current per SEC filing requirements, then all requirements of this Paragraph 13.7 shall be fulfilled by such filings. Landlord shall be entitled to disclose such financial statements or other information to its Lender, to any present or prospective principal of or investor in Landlord, or to any prospective Lender or purchaser of the Building, the Property, or any portion thereof or interest therein; provided that any such financial statements not filed with the SEC shall be confidential and shall not be disclosed by Landlord to any third party except as to the extent such Lender or purchaser agrees in writing to keep such information confidential.

13.8 Transfer By Landlord

. Landlord and its successors in interest shall have the right to transfer their interest in the Building, the Property, or any portion thereof at any time and to any person or entity; provided, however, that if Landlord sells the Building at any time before the Substantial Completion of the Landlord's Work, such transferee shall expressly agree in writing to complete Landlord's obligations with respect to the Landlord's Work or the Landlord originally named herein (or any affiliate thereof with a net worth equal to at least that of Landlord as of the Effective Date) shall enter

into a development agreement by and among the transferee and Tenant to complete Landlord's obligations with respect to the Landlord's Work. Except as set forth in the immediately preceding sentence, in the event of any such transfer, the Landlord originally named herein (and in the case of any subsequent transfer, the transferor), from the date of such transfer, shall be automatically relieved, without any further act by any person or entity, of all liability for (i) the performance of the obligations of the Landlord hereunder which may accrue after the date of such transfer, and (ii) repayment of any unapplied portion of the Security Deposit (upon transferring or crediting the same to the transferee), and (iii) the performance of the obligations of the Landlord hereunder which have accrued before the date of transfer if its transferee agrees to assume and perform all such prior obligations of the Landlord hereunder. Tenant shall attorn to any such transferee. After the date of any such transfer, the term "Landlord" as used herein shall mean the transferee of such interest in the Building or the Property.

13.9 Force Majeure

. Any prevention, delay or stoppage due to strikes, lockouts, labor disputes, acts of God, acts of war, terrorist acts, inability to obtain services, labor, or materials or reasonable substitutes therefor, governmental actions, civil commotions, fire or other casualty, delay in obtaining approvals, building permits and certificates of occupancy within normal time frames, and other causes beyond the reasonable control of the party obligated to perform, except with respect to the obligations imposed with regard to Rent and other charges to be paid by Tenant pursuant to this Lease (collectively, a "**Force Majeure**"), notwithstanding anything to the contrary contained in this Lease, shall excuse the performance of such party for a period equal to any such prevention, delay or stoppage and, therefore, if this Lease specifies a time period for performance of an obligation of either party, that time period shall be extended by the period of any delay in such party's performance caused by a Force Majeure.

13.10 Notices

. Any notice required or permitted to be given under this Lease other than statutory notices shall be in writing and (i) personally delivered, (ii) sent by United States mail, registered or certified mail, postage prepaid, return receipt requested, or (iii) sent by Federal Express or similar nationally recognized overnight courier service, and in all cases addressed as follows, and such notice shall be deemed to have been given upon the date of actual receipt or delivery (or refusal to accept delivery) at the address specified below (or such other addresses as may be specified by notice in the foregoing manner) as indicated on the return receipt or air bill:

If to Landlord: Ardenwood Ventures I, LLC
Three Embarcadero Center
Suite 2310
San Francisco, California 94111
Attention: Bill Doyle

with a copy to: Mintz Levin Cohn Ferris Glovsky and Popeo PC
44 Montgomery Street
36th Floor
San Francisco, California 94104
Attention: Paul Churchill

If to Tenant: Personalis, Inc.
1330 O'Brien Drive
Menlo Park, California 94025
Attention: Carol J. Tillis, VP Finance and Administration

with a copy to: Personalis, Inc.
1330 O'Brien Drive

Menlo Park, California 94025
Attention: Legal Department

with a copy to: Cooley LLP
4401 Eastgate Mall
San Diego, California 92121
Attention: David L. Crawford

Any notice given in accordance with the foregoing shall be deemed received upon actual receipt or refusal to accept delivery. Any notice required by statute and not waived in this Lease shall be given and deemed received in accordance with the applicable statute or as otherwise provided by law.

13.11 Attorneys' Fees and Costs

. In the event any party shall bring any action, arbitration, or other proceeding alleging a breach of any provision of this Lease, or a right to recover rent, to terminate this Lease, or to enforce, protect, interpret, determine, or establish any provision of this Lease or the rights or duties hereunder of either party, the prevailing party shall be entitled to recover from the non-prevailing party as a part of such action or proceeding, or in a separate action for that purpose brought within one year from the determination of such proceeding, reasonable attorneys' fees, expert witness fees, court costs and reasonable disbursements, made or incurred by the prevailing party.

13.12 Definitions

. Any term that is given a special meaning by any provision in this Lease shall, unless otherwise specifically stated, have such meaning wherever used in this Lease or in any Addenda or amendment hereto. In addition to the terms defined in Article 1, the following terms shall have the following meanings:

(a) **Real Property Taxes**

. The term "**Real Property Tax**" or "**Real Property Taxes**" shall each mean Tenant's Expense Share of the following (to the extent applicable to any portion of the Lease Term, regardless of when the same are imposed, assessed, levied, or otherwise charged): (i) all taxes, assessments, levies and other charges of any kind or nature whatsoever, general and special, foreseen and unforeseen (including all installments of principal and interest required to pay any general or special assessments for public improvements and any increases resulting from reassessments caused by any change in ownership or new construction), now or hereafter imposed by any governmental or quasi-governmental authority or special district having the direct or indirect power to tax or levy assessments, which are levied or assessed for whatever reason against the Property or any portion thereof, or Landlord's interest herein, or the fixtures, equipment and other property of Landlord that is an integral part of the Property and located thereon, or Landlord's business of owning, leasing or managing the Property or the gross receipts, income or rentals from the Property, (ii) all charges, levies or fees imposed by any governmental authority against Landlord by reason of or based upon the use of or number of parking spaces within the Property, the amount of public services or public utilities used or consumed (e.g. water, gas, electricity, sewage or waste water disposal) at the Property, the number of persons employed by tenants of the Property, the size (whether measured in area, volume, number of tenants or whatever) or the value of the Property, or the type of use or uses conducted within the Property, and all costs and fees (including attorneys' fees) reasonably incurred by Landlord in contesting any Real Property Tax and in negotiating with public authorities as to any Real Property Tax. If, at any time during the Lease Term, the taxation or assessment of the Property prevailing as of the Effective Date of this Lease shall be altered so that in lieu of or in addition to any the Real Property Tax described above there shall be levied, awarded or imposed (whether by reason of a change in the method of taxation or assessment, creation of a new tax or charge, or any other cause) an alternate, substitute, or additional use or charge (i) on the value, size, use or occupancy of the Property or Landlord's interest therein or (ii) on or measured by the gross receipts, income or rentals from the Property, or on Landlord's business of owning, leasing or managing the Property or (iii) computed in any manner with respect to the operation of the Property,

then any such tax or charge, however designated, shall be included within the meaning of the terms "Real Property Tax" or "Real Property Taxes" for purposes of this Lease. Notwithstanding the foregoing, the terms "Real Property Tax" or "Real Property Taxes" shall not include estate, inheritance, gift or franchise taxes of Landlord or the federal or state income tax imposed on Landlord's income from all sources, transfer taxes, and any real estate taxes directly payable by Tenant or any other tenant of the Property (i.e., not paid by Landlord) under the applicable provisions of their respective leases. If Landlord receives a refund of Real Property Taxes or a credit against its future Real Property Taxes for any calendar year during the Lease Term for which Tenant paid Tenant's Expense Share of Real Property Taxes, Landlord shall, at its election, either pay to Tenant, or credit against subsequent payments of Rent due hereunder, an amount equal to Tenant's Expense Share of the refund, net of any reasonable, actual out-of-pocket expenses incurred by Landlord in achieving such refund; provided, however, if this Lease shall have expired or is otherwise terminated, Landlord shall refund in cash any such refund or credit due to Tenant within thirty (30) days after Landlord's receipt of such refund or its receipt of such credit against future Real Property Taxes. Landlord's obligation to so refund to Tenant any such refund or credit of Real Property Taxes shall survive such expiration or termination. For the avoidance of confusion, it is the intention of the parties that there be no duplication of amounts payable by Tenant under this Paragraph 13.12(a) and 13.12(c) below.

(b) **Landlord's Insurance Costs**

. The term "**Landlord's Insurance Costs**" shall mean Tenant's Expense Share of the following (to the extent applicable to any portion of the Lease Term, regardless of when the same are incurred): the costs to Landlord to carry and maintain the policies of fire and property damage insurance for the Building and the Property and general liability and any other insurance required or permitted to be carried by Landlord pursuant to Article 9, together with any deductible amounts paid by Landlord upon the occurrence of any insured casualty or loss; provided that if Tenant's Tenant Expense Share of any earthquake deductible will exceed an amount equal to Two and 00/100 Dollars ($2.00) per square foot of the rentable area in the Leased Premises in a particular calendar year (the "**Annual Casualty Deductible Cap**"), then only an amount up to such Annual Casualty Deductible Cap shall be paid by Tenant in any calendar year, but Tenant's Expense Share of excess amounts of such deductible shall be carried forward, subject to the same Annual Casualty Deductible Cap limitation, for payment in each subsequent year, up to the expiration or earlier termination of the Lease Term (as the same may be extended). If Tenant terminates this Lease under Article 10 as a result of a casualty, Tenant's obligation to pay any deductible with respect to that casualty shall not exceed Fifty Thousand Dollars ($50,000) (if the casualty is not the result of an earthquake) or the Annual Casualty Deductible Cap (if the casualty is the result of an earthquake). If Landlord terminates this Lease under Article 10 as a result of a casualty, Tenant shall have no obligation to pay Landlord's insurance deductible.

(c) **Property Maintenance Costs**

. The term "**Property Maintenance Costs**" shall mean a professional management fee to Landlord equal to 2.75% of Base Monthly Rent (the "**Management Fee**"), regardless of whether Landlord performs such management services or contracts with a third-party provider, plus Tenant's Expense Share of all other costs and expenses (except Landlord's Insurance Costs and Real Property Taxes) paid or incurred by Landlord in protecting, operating, maintaining, repairing and preserving the Property and all parts thereof, including without limitation, (i) the amortizing portion of any costs incurred by Landlord in the making of any modifications, alterations or improvements required by any governmental authority as set forth in Article 6, which are so amortized during the Lease Term, (ii) costs of employee shuttles and other transportation management efforts, and (iii) such other costs as may be paid or incurred with respect to operating, maintaining, and preserving the Property, such as repairing and resurfacing the exterior surfaces of the Building (including roofs), repairing and resurfacing paved areas, repairing and replacing structural parts of the Building, and repairing and replacing, when necessary, electrical, plumbing, and HVAC systems serving the Building. To the extent any of the foregoing items constitute capital repairs or replacements

under generally accepted accounting principles, consistently applied, and are not necessitated due to Tenant's misuse of or failure to maintain the Leased Premises as required by this Lease, then only the amortizing portion of such capital repairs or replacements shall constitute Property Maintenance Costs; such amortization shall be over the useful life of the applicable repair or replacement, and shall employ an interest rate equal to the sum of that rate quoted by Wells Fargo Bank, N.T. & S.A. from time to time as its prime rate, plus two percent (2%). Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant shall not be responsible for the payment of, and "Property Maintenance Costs" shall not include: (i) depreciation charges, penalties, premiums, interest and principal payments on mortgages and other debt costs, ground rental payments and real estate brokerage and leasing commissions incurred by Landlord; (ii) costs incurred for Landlord's general overhead, including the operation of the business entity which constitutes Landlord, and any property or asset management fee in excess of the Management Fee; (iii) costs of selling or financing any of Landlord's interest in the Property; (iv) costs incurred by Landlord which are actually reimbursed by other tenants of the Property or by insurance proceeds actually received by Landlord; (v) expenses incurred by Tenant or Landlord to the extent arising from the gross negligence or willful misconduct of Landlord in connection with this Lease; (vi) reserves in excess of commercially reasonable amounts for comparable properties; (vii) amounts paid as ground rental for the Property; (viii) costs incurred to comply with laws relating to the removal of Hazardous Materials which were present at the Property prior to the Lease Commencement Date and any costs incurred to remove, remedy, contain or treat Hazardous Materials brought onto the Property after the date hereof by Landlord, any Landlord Party or any other tenant of the Property; (ix) all costs of the Landlord's Work and/or the development of the Proposed Building, including, but not limited to, any permitting, entitlements, construction, and project management fees; (x) any other costs or fees that would result in double charges under this Lease; and (xi) any costs expressly excluded from Property Maintenance Costs or Property Operating Expenses elsewhere in this Lease.

(d) **Property Operating Expenses**

. The term "Property Operating Expenses" shall mean and include all Real Property Taxes, plus all Landlord's Insurance Costs, plus all Property Maintenance Costs.

(e) **Law**

. The term "**Law**" or "**Laws**" shall mean any judicial decisions and any statute, constitution, ordinance, resolution, regulation, rule, code, administrative order, condition of approval, or other requirements of any municipal, county, state, federal, or other governmental agency or authority having jurisdiction over the parties to this Lease, the Leased Premises, the Building or the Property, or any of them, in effect either at the Effective Date of this Lease or at any time during the Lease Term, including, without limitation, any regulation, order, or policy of any quasi-official entity or body (e.g. a board of fire examiners or a public utility or special district). Except to the extent otherwise expressly provided in this Lease, to the extent any Law or Restriction places limits on the Building or any portion thereof, or on the Property or any portion thereof, such limits shall be equitably allocated to the Leased Premises pro rata in the same proportion that the rentable square footage of the Leased Premises bears to the rentable square footage of the applicable Building or portion thereof, or the Property or portion thereof, as applicable.

(f) **Lender**

. The term "**Lender**" shall mean the holder of any promissory note or other evidence of indebtedness secured by the Property or any portion thereof.

(g) **Rent**

. The term "**Rent**" shall mean collectively Base Monthly Rent and all Additional Rent.

(h) **Restrictions**

. The term "**Restrictions**" shall mean (as they may exist from time to time) any and all covenants, conditions and restrictions, private agreements, easements, and any other

recorded documents or instruments affecting the use of the Property, the Building, the Leased Premises, or the Outside Areas.

13.13 General Waivers

. One party's consent to or approval of any act by the other party requiring the first party's consent or approval shall not be deemed to waive or render unnecessary the first party's consent to or approval of any subsequent similar act by the other party. No waiver of any provision hereof, or any waiver of any breach of any provision hereof, shall be effective unless in writing and signed by the waiving party. The receipt by Landlord of any rent or payment with or without knowledge of the breach of any other provision hereof shall not be deemed a waiver of any such breach. No waiver of any provision of this Lease shall be deemed a continuing waiver unless such waiver specifically states so in writing and is signed by both Landlord and Tenant. No delay or omission in the exercise of any right or remedy accruing to either party upon any breach by the other party under this Lease shall impair such right or remedy or be construed as a waiver of any such breach theretofore or thereafter occurring. The waiver by either party of any breach of any provision of this Lease shall not be deemed to be a waiver of any subsequent breach of the same or any other provisions herein contained.

13.14 Miscellaneous

. Should any provisions of this Lease prove to be invalid or illegal, such invalidity or illegality shall in no way affect, impair or invalidate any other provisions hereof, and such remaining provisions shall remain in full force and effect. Time is of the essence with respect to the performance of every provision of this Lease in which time of performance is a factor. Any copy of this Lease which is executed by the parties shall be deemed an original for all purposes. This Lease shall, subject to the provisions regarding assignment, apply to and bind the respective heirs, successors, executors, administrators and assigns of Landlord and Tenant. The benefit of each indemnity obligation of Tenant under this Lease is assignable in whole or in part by Landlord. The term "party" shall mean Landlord or Tenant as the context implies. If Tenant consists of more than one person or entity, then all members of Tenant shall be jointly and severally liable hereunder. If this Lease is signed by an individual "doing business as " or "dba" another person or entity or entity name, the individual who signs this Lease will be deemed to be the Tenant hereunder for all purposes. Submission of this Lease for review, examination or signature by Tenant does not constitute an offer to lease, a reservation of or an option for lease, or a binding agreement of any kind, and notwithstanding any inconsistent language contained in any other document, this Lease is not effective as a lease or otherwise until execution and delivery by both Landlord and Tenant, and prior to such mutual execution and delivery, neither party shall have any obligation to negotiate and may discontinue discussions and negotiations at any time for any reason or no reason. This Lease shall be construed and enforced in accordance with the Laws of the State in which the Leased Premises are located. The headings and captions in this Lease are for convenience only and shall not be construed in the construction or interpretation of any provision hereof. When the context of this Lease requires, the neuter gender includes the masculine, the feminine, a partnership, corporation, limited liability company, joint venture, or other form of business entity, and the singular includes the plural. The terms "must," "shall," "will," and "agree" are mandatory. The term "may" is permissive. The term "governmental agency" or "governmental authority" or similar terms shall include, without limitation, all federal, state, city, local and other governmental and quasi-governmental agencies, authorities, bodies, boards, etc., and any party or parties having enforcement rights under any Restrictions. When a party is required to do something by this Lease, it shall do so at its sole cost and expense without right of reimbursement from the other party unless specific provision is made therefor. Where Landlord's consent is required hereunder, unless provided to the contrary, such consent shall not be unreasonably withheld, conditioned or delayed; provided that it shall be reasonable for any such consent to be withheld until Landlord's receipt of the consent of any Lender, if and to the extent Landlord is required to obtain such Lender's consent. Landlord and Tenant shall both be deemed to have drafted this Lease, and the rule of construction that a document is to be construed against the drafting party shall not be employed in the construction or interpretation of this Lease. Where a party is obligated not to perform any act or is not permitted to perform any act, such party is also obligated to restrain any others reasonably within its

control, including agents, invitees, contractors, subcontractors and employees, from performing such act. Landlord shall not become or be deemed a partner or a joint venturer with Tenant by reason of any of the provisions of this Lease.

13.15 Patriot Act Compliance.

(a) Tenant will use its good faith and commercially reasonable efforts to comply with the Patriot Act (as defined below) and all applicable requirements of governmental authorities having jurisdiction over Tenant or the Property, including those relating to money laundering and terrorism. In the event that Tenant fails to comply with the Patriot Act or any such requirements of governmental authorities, any and all reasonable costs and expenses incurred by Landlord in connection therewith shall be deemed Additional Rent and shall be immediately due and payable. For purposes hereof, the term "**Patriot Act**" means the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT ACT) Act of 2001, as the same may be amended from time to time, and corresponding provisions of future laws.

(b) Neither Tenant nor, to Tenant's knowledge, any owner of a direct or indirect interest in Tenant (a) is listed on any Government Lists (as defined below), (b) is a person who has been determined by competent authority to be subject to the prohibitions contained in Presidential Executive Order No. 13224 (Sept. 23, 2001) or any other similar prohibitions contained in the rules and regulations of OFAC (as defined below) or in any enabling legislation or other Presidential Executive Orders in respect thereof, (c) has been previously indicted for or convicted of any felony involving a crime or crimes of moral turpitude or for any Patriot Act Offense (as defined below), or (d) is currently under investigation by any governmental authority for alleged criminal activity. For purposes hereof, the term "**Patriot Act Offense**" means any violation of the criminal laws of the United States of America or of any of the several states, or that would be a criminal violation if committed within the jurisdiction of the United States of America or any of the several states, relating to terrorism or the laundering of monetary instruments, including any offense under (a) the criminal laws against terrorism; (b) the criminal laws against money laundering, (c) the Bank Secrecy Act, as amended, (d) the Money Laundering Control Act of 1986, as amended, or the (e) Patriot Act. "Patriot Act Offense" also includes the crimes of conspiracy to commit, or aiding and abetting another to commit, a Patriot Act Offense. For purposes hereof, the term "**Government Lists**" means (i) the Specially Designated Nationals and Blocked Persons Lists maintained by Office of Foreign Assets Control ("**OFAC**"), or (ii) any other list of terrorists, terrorist organizations or narcotics traffickers maintained pursuant to any of the Rules and Regulations of OFAC or pursuant to any Executive Order of the President of the United States of America.

ARTICLE 14
LEGAL AUTHORITY
BROKERS AND ENTIRE AGREEMENT

14.1 Legal Authority

. Each of Landlord and Tenant represents and warrants to the other that (a) it is validly formed and duly authorized and existing, (b) it is qualified to do business in the State in which the Leased Premises are located, (c) it has the full right and legal authority to enter into this Lease, and (d) its signatory to this Lease is duly authorized to execute and deliver this Lease on its behalf in accordance with its terms.

14.2 Brokerage Commissions

.

(a) Tenant represents, warrants and agrees that it has not had any dealings with any real estate broker(s), leasing agent(s), finder(s) or salesmen, other than Tenant's Broker (as named in Article 1) with respect to the lease by it of the Leased Premises pursuant to this Lease, and that it will

indemnify, defend with competent counsel, and hold Landlord harmless from any liability for the payment of any real estate brokerage commissions, leasing commissions or finder's fees claimed by any other real estate broker(s), leasing agent(s), finder(s), or salesmen to be earned or due and payable by reason of this Lease.

(b) Landlord represents, warrants and agrees that it has not had any dealings with any real estate broker(s), leasing agent(s), finder(s) or salesmen, other than the Landlord's Broker (as named in Article 1) with respect to this Lease, and that it will indemnify, defend with competent counsel, and hold Tenant harmless from any liability for the payment of any real estate brokerage commissions, leasing commissions or finder's fees claimed by any other real estate broker(s), leasing agent(s), finder(s), or salesmen to be earned or due and payable by reason this Lease.

(c) Landlord shall be responsible for the payment of commissions to both Landlord's Broker and Tenant's Broker, to the extent, and when, as, and if, the same are earned, due, and payable pursuant to the terms of separate written agreements entered into by Landlord and each of such Brokers. Brokers are hereby notified that, notwithstanding any provision of this Lease to the contrary, except to the extent otherwise provided in subsequent written agreements entered into by Landlord and any such brokers, Landlord shall not pay any leasing commission or compensation of any kind or type in connection with an extension of the term of this Lease. Neither of the Brokers is an intended beneficiary of this Lease, and such separate written agreements referred to above are the only agreements between Landlord and each of the Brokers with respect to the Property or this Lease.

14.3 Entire Agreement

. This Lease and the Exhibits (as described in Article 1), which Exhibits are by this reference incorporated herein, constitute the entire agreement between the parties, and there are no other agreements, understandings or representations between the parties relating to the lease by Landlord of the Leased Premises to Tenant, except as expressed herein. No subsequent changes, modifications or additions to this Lease shall be binding upon the parties unless in writing and signed by both Landlord and Tenant.

14.4 Landlord's Representations

. Tenant acknowledges that neither Landlord nor any of its agents made any representations or warranties respecting the Property, the Building or the Leased Premises, upon which Tenant relied in entering into this Lease, which are not expressly set forth in this Lease. Tenant further acknowledges that neither Landlord nor any of its agents made any representations as to (i) whether the Leased Premises may be used for Tenant's intended use under existing Law, or (ii) the suitability of the Leased Premises for the conduct of Tenant's business, or (iii) the exact square footage of the Leased Premises or the Building, and that Tenant relies solely upon its own investigations with respect to such matters. Tenant expressly waives any and all claims for damage by reason of any statement, representation, warranty, promise or other agreement of Landlord or Landlord's agent(s), if any, not contained in this Lease or in any Exhibit attached hereto.

ARTICLE 15
OPTIONS TO EXTEND

15.1 Option to Extend

. So long as Personalis, Inc. or a Permitted Transferee is the Tenant hereunder and occupies at least fifty percent (50%) of the Building (inclusive of subtenants and Permitted Transferees), and subject to the condition set forth in clause (b) below, Tenant shall have two options to extend the term of this Lease with respect to the entirety of the Leased Premises, the first for a period of five (5) years from the expiration of the initial, unextended Lease Term (the "**First Extension Period**"), and the second (the "**Second Extension Period**") for a period of five (5) years from the expiration of the First Extension Period, subject to the following conditions:

(a) Each option to extend shall be exercised, if at all, by notice of exercise given to Landlord by Tenant not more than eighteen (18) months nor less than twelve (12) months prior to the expiration of the initial, unextended Lease Term or the expiration of the First Extension Period, as applicable;

(b) Anything herein to the contrary notwithstanding, if Tenant is in monetary or material non-monetary default (beyond all applicable notice and cure periods expressly set forth in this Lease) under this Lease, either at the time Tenant exercises the applicable extension option or on the commencement date of the First Extension Period or the Second Extension Period, as applicable, Landlord shall have, in addition to all of Landlord's other rights and remedies provided in this Lease, the right to terminate such option(s) to extend upon notice to Tenant.

15.2 Fair Market Rent

. In the event the applicable option is exercised in a timely fashion, the Lease shall be extended for the term of the applicable extension period upon all of the terms and conditions of this Lease, provided that the Base Monthly Rent for each extension period shall be the "Fair Market Rent" for the Leased Premises. For purposes hereof, "**Fair Market Rent**" shall mean the base monthly rent and annual escalations for comparable properties of similar life science/biotech use in the Newark and Fremont Ardenwood areas, determined pursuant to the process described below.

No leasing commissions shall be due or payable to any broker retained by Tenant with regard to this Lease for any Extension Period.

15.3 Tenant's Election

. Within thirty (30) days after receipt of Tenant's notice of exercise, Landlord shall notify Tenant in writing of Landlord's estimate of the Base Monthly Rent for the applicable extension period, based on the provisions of Paragraph 15.2 above. Within thirty (30) days after receipt of such notice from Landlord, Tenant shall have the right either to (i) accept Landlord's statement of Base Monthly Rent as the Base Monthly Rent for the applicable extension period; (ii) elect to arbitrate Landlord's estimate of Fair Market Rent, such arbitration to be conducted pursuant to the provisions hereof; or (iii) withdraw Tenant's exercise of its extension right and forfeit such Extension Period. Failure on the part of Tenant to affirmatively respond to Landlord within such thirty (30) day period shall constitute Tenant's election to arbitrate in accordance with Paragraph 15.4 below. If Tenant elects (or is deemed to elect) arbitration, the arbitration shall be concluded within ninety (90) days after the date of Tenant's election (or the expiration of the thirty (30) day response period if Tenant is deemed to have made such election), subject to extension for an additional thirty (30) day period if a third arbitrator is required and does not act in a timely manner. To the extent that arbitration has not been completed prior to the expiration of any preceding period for which Base Monthly Rent has been determined, Tenant shall pay one hundred and three percent (103%) of the Base Monthly Rent due for the last month of the immediately preceding term, with the potential for an adjustment to be made once Fair Market Rent is ultimately determined by arbitration.

15.4 Rent Arbitration

. In the event of arbitration, the judgment or the award rendered in any such arbitration may be entered in any court having jurisdiction and shall be final and binding between the parties. The arbitration shall be conducted and determined in the County of Alameda in accordance with the then prevailing rules of the American Arbitration Association or its successor for arbitration of commercial disputes except to the extent that the procedures mandated by such rules shall be modified as follows:

(a) If Tenant shall elect or be deemed to elect arbitration in accordance with Paragraph 15.3 above, then each party shall appoint an arbitrator on its behalf, in accordance with this Paragraph 15.4, and notify the other party of the name and address of its appointed arbitrator within fifteen (15) days of Tenant's election or deemed election to arbitrate the issue of Fair Market Rent. Each

arbitrator shall be qualified as a licensed California real estate broker with at least ten (10) years of leasing experience in the Newark and Fremont Ardenwood areas who is familiar with the Fair Market Rent of similar life science/biotech space in the Newark and Fremont Ardenwood areas. If a party fails to notify the other party of the appointment of its arbitrator, within or by the time above specified, then the missing arbitrator shall be appointed by the other party hereto.

(b) In the event that two arbitrators are chosen pursuant to Paragraph 15.4(a) above, the arbitrators so chosen shall, within fifteen (15) days after the second arbitrator is appointed determine the Fair Market Rent. The two arbitrators shall be engaged solely to determine the amount of the Fair Market Rent for the Leased Premises for the applicable extension period. If the two arbitrators shall be unable to agree upon a determination of Fair Market Rent within such fifteen (15) day period, they, themselves, shall appoint a third arbitrator, who shall be a competent and impartial person with qualifications similar to those required of the first two arbitrators pursuant to Paragraph 15.4(a). In the event they are unable to agree upon such appointment within seven (7) days after expiration of such fifteen (15) day period, the third arbitrator shall be selected by the parties themselves, if they can agree thereon, within a further period of fifteen (15) days. If the parties do not so agree, then either party, on behalf of both, may request appointment of such a qualified person by the then Presiding Judge of the California Superior Court having jurisdiction over the County of Alameda, and the other party shall not raise any question as to such Judge's full power and jurisdiction to entertain the application for and make the appointment. The three arbitrators shall decide the dispute if it has not previously been resolved by following the procedure set forth below.

(c) Where an issue cannot be resolved by agreement between the two arbitrators selected by or for Landlord and Tenant or settlement between the parties during the course of arbitration, the issue shall be resolved by the three arbitrators within fifteen (15) days of the appointment of the third arbitrator in accordance with the following procedure. The arbitrator selected by each of the parties shall state in writing its determination of the Fair Market Rent supported by the reasons therefor with counterpart copies to each party. The arbitrators shall arrange for a simultaneous exchange of such proposed resolutions. The role of the third arbitrator shall be to select which of the two proposed resolutions most closely approximates its determination of Fair Market Rent. The third arbitrator shall have no right to propose a middle ground or any modification of either of the two proposed resolutions. The resolution he chooses as most closely approximating his determination shall constitute the decision of the arbitrators and be final and binding upon the parties.

(d) In the event of a failure, refusal or inability of any arbitrator to act, its successor shall be appointed by him or her, but in the case of the third arbitrator, its successor shall be appointed in the same manner as provided for appointment of the third arbitrator. The arbitrators shall decide the issue within fifteen (15) days after the appointment of the third arbitrator. Any decision in which the arbitrator appointed by Landlord and the arbitrator appointed by Tenant concur shall be binding and conclusive upon the parties. Each party shall pay the fee and expenses of its respective arbitrator and both shall share the fee and expenses of the third arbitrator equally, if any, and the attorneys' fees and expenses of counsel for the respective parties and of witnesses shall be paid by the respective party engaging such counsel or calling such witnesses.

(e) The arbitrators shall have the right to consult experts and competent authorities to obtain factual information or evidence pertaining to a determination of Fair Market Rent, but any such consultation shall be made in the presence of both parties with full right on their part to cross examine. The arbitrators shall render their decision and award in writing with counterpart copies to each party. The arbitrators shall have no power to modify the provisions of this Lease.

ARTICLE 16
RIGHT OF FIRST OFFER

16.1 Right of First Offer to Lease.

(a) In the event that Landlord determines to proceed with development of the Proposed Building, successfully processes all necessary entitlements, develops construction drawings, and obtains the required building permit(s) for the Proposed Building, and provided that Personalis, Inc. or a Permitted Transferee is then the Tenant hereunder, leases the entirety of the Building, and is not in monetary or material non-monetary default beyond any notice and cure period expressly set forth in this Lease, then prior to entering into a lease with a third party for any space in the Proposed Building, Landlord shall deliver a written notice (the "**Landlord's Notice**") to Tenant setting forth the material terms upon which Landlord is willing to lease such space in the Proposed Building, together with copies of the following to the extent then in Landlord's possession (the "**Additional Documents**"): Landlord's construction drawings, proposed construction schedule and any other non-privileged and non-proprietary materials reasonably requested by Tenant within five (5) business days after receipt of the Landlord's Notice. For the avoidance of doubt, Tenant's right of first offer relates to any portion of the Proposed Building that Landlord intends to lease to a third party.

(b) Tenant shall notify Landlord in writing within ten (10) business days after receipt of the Landlord's Notice of Tenant's election to lease such space in the Proposed Building on the terms set forth in the Landlord's Notice ("**Tenant's Election Notice**"). In the event Tenant delivers Tenant's Election Notice within the time period required herein, then the parties shall within an additional period of ten (10) business days, negotiate and enter into an amendment of this Lease or a new lease in substantially the same form as this Lease, reflecting the terms set forth in the Landlord's Notice and containing such conforming changes as are agreed to by Tenant and Landlord (the "**Expansion Lease Document**"), each agreeing to be reasonable.

(c) Failure of Tenant to deliver Tenant's Election Notice within the forgoing ten (10) business day period shall be deemed an election by Tenant to not lease such space in the Proposed Building.

(d) Failure of Tenant to enter into the Expansion Lease Document within the forgoing ten (10) business day period shall be deemed an election by Tenant to not lease such space in the Proposed Building.

(e) If Tenant elects or is deemed to have elected not to lease such space in the Proposed Building, then Landlord shall be free to lease all or a portion of the Proposed Building to a third party on such terms as shall be agreed upon by Landlord and such third party, subject to this subparagraph (e) and subparagraph (f) below. In the event that Landlord proposes to do so at a Net Effective Rental Rate that is less (on a per rentable square foot basis) than ninety-five percent (95%) of the Net Effective Rental Rate specified in Landlord's Notice, Tenant's rights under this Paragraph 16.1 shall be revived and Landlord shall deliver a revised Landlord's Notice (the "**Revised Landlord's Notice**") offering to lease space in the Proposed Building to Tenant at such proposed lower rate and Tenant shall have the right to lease space in the Proposed Building on the terms set forth in such Revised Landlord's Notice, by notice to Landlord given within five (5) business days after Tenant's receipt thereof. As used in this Lease, the term "**Net Effective Rental Rate**" shall mean the net present value of the rent and additional rent payable under the terms of Landlord's Notice, taking into account any allowances and the fair market value of any work to be performed by Landlord at its sole expense in connection with any such proposed transaction using a discount rate equal to the sum of that rate quoted by Wells Fargo Bank, N.T. & S. A., from time to time as its prime rate, plus two percent (2%).

(f) If Tenant declines to lease such space in the Proposed Building (whether by election, deemed election, refusal or otherwise as provided in subparagraph (a) above), and Landlord fails to lease such space within six (6) months after such election or deemed election, then Tenant's rights under this Paragraph 16.1 shall be revived and Landlord shall deliver a Revised Landlord's Notice and Tenant shall have the right to lease such space in the Proposed Building on the terms set forth in such Revised Landlord's Notice, by notice to Landlord given within ten (10) business days after Tenant's receipt thereof.

(g) Anything in this Lease to the contrary notwithstanding, Tenant shall not have the right to deliver Tenant's Election Notice during any period that Tenant is in in monetary or material non-monetary default (beyond all applicable notice and cure periods expressly set forth in this Lease) under any of the terms, covenants or conditions of this Lease with respect to which it has received a written notice from Landlord if such default remains uncured, and the time periods provided for herein shall not be tolled or extended during Tenant's cure thereof, but the foregoing shall not be read to prevent Tenant from curing the applicable default and then delivering Tenant's Election Notice once the default is cured if such cure is completed within the applicable cure period, if any, expressly set forth in this Lease, and Tenant's Election Notice is delivered within the time periods provided above.

ARTICLE 17
TELECOMMUNICATIONS

17.1 Telecommunications Service. Notwithstanding any other provision of this Lease to the contrary:

(a) Landlord shall have no responsibility for providing to Tenant any telecommunications equipment of any kind, including but not limited to wiring and cabling, within the Leased Premises or for providing telephone or telecommunications service or connections from the utility to the Leased Premises; and

(b) Landlord makes no warranty as to the quality, continuity or availability of the telecommunications services in the Building, and Tenant hereby waives any claim against Landlord for any actual or consequential damages (including damages for loss of business) in the event Tenant's telecommunications services in any way are interrupted, damaged or rendered less effective, except to the extent caused by the gross negligence or willful misconduct of Landlord, its agents or employees. Tenant accepts the telecommunications equipment in its "AS-IS" condition, and Tenant shall be solely responsible for contracting with a reliable third party vendor to assume responsibility for the maintenance and repair thereof (which contract shall contain provisions requiring such vendor to meet local and federal requirements for telecommunications material and workmanship). Landlord shall not be liable to Tenant and Tenant waives all claims against Landlord whatsoever, whether for personal injury, property damage, loss of use of the Leased Premises, or otherwise, due to the interruption or failure of telecommunications services to the Leased Premises. Tenant agrees to obtain business interruption insurance adequate to cover any damage, loss or expense occasioned by the interruption of telecommunications service.

ARTICLE 18
FURTHER DEVELOPMENT

18.1 Further Development and Subdivision. Notwithstanding anything to the contrary contained herein, Landlord itself and through its agents, employees and contractors shall be entitled to further improve the Property, including without limitation by modifying the Site Plan and/or the Parcel Map, by adjusting the boundaries of the Property (or the parcels comprising it) including but not limited

to adding other property to it and/or by constructing the Proposed Building and improvements ancillary thereto. Such development efforts by Landlord may include, without limitation, the relocation, restriping, or reconfiguration of the parking areas, application for building permits use permits, and other development approvals, parcelization, lot combination or merger, or lot line adjustment of the Property, and construction of the Proposed Building. Tenant agrees to execute such reasonable documents and take such actions as reasonably necessary to assist Landlord with such efforts and actions, provided the Required Conditions (as defined below) are satisfied. Tenant agrees that such efforts and actions of Landlord shall not constitute constructive eviction of Tenant from the Property or the Leased Premises. Following any parcelization, lot combination or merger, or lot line adjustment of the Property after which the Required Conditions are satisfied, Landlord and Tenant agree to amend this Lease to conform the descriptions of the Property and Outside Areas, and (subject to there being no decrease in the number of parking spaces to which Tenant is entitled) the parking areas contained herein, to the parcelization, lot combination or merger, lot line adjustment, or reconfiguration. Landlord agrees to minimize the disruption of Tenant's use of the Leased Premises, the Building, the Outside Areas and the Project to the extent reasonable, given Landlord's efforts and actions described herein. In connection with any subdivision, parcelization, lot combination or merger, or lot line adjustment involving the Property, Landlord may amend the description of the Outside Areas. Landlord's right to exercise any of the foregoing rights shall be subject to Landlord's satisfaction of the Required Conditions.

18.2 Required Conditions. As used in this Lease, satisfaction of the "**Required Conditions**" means the satisfaction of each of the following conditions and criteria as a condition precedent to the referenced action or event: (i) Tenant's access to the Leased Premises is not materially adversely affected thereby, (ii) Tenant's parking ratio under Article 1 hereof is not reduced thereby, Tenant's right to exclusive parking proximate to the Building shall be unaffected and unchanged, and the parking layout of the Property shall not create additional liability to Tenant for persons accessing Tenant's parking areas, it being agreed that should Landlord have the ability under this Lease to permit non-tenants of the Property to access the parking areas, Landlord shall designate a path of foot traffic for such non-tenants that does not cross Tenant's parking areas; (iii) once any adjustments to the Parcel Map (including subdivision or lot line adjustments) have been completed and the final Site Plan and Parcel Map have been approved by the City, the Property must constitute one or more separate legal parcels that do not include any other land; (iv) no buildings (or additions to existing buildings) can be constructed on the Property other than the Building and the Proposed Building, (v) there shall be no material interference with Tenant's use of the Leased Premises, provided, however, that Tenant agrees that interference caused by the construction of the Proposed Building shall not constitute interference for purposes of this Lease so long as Landlord uses standard construction practices designed to minimize interference with Tenant's use of the Leased Premises during such construction; (vi) Tenant's obligations under this Lease shall not be materially increased and Tenant's rights under this Lease shall not be materially decreased; and (vii) Tenant's signage rights set forth in Paragraph 4.6 below shall not be diminished.

IN WITNESS WHEREOF, Landlord and Tenant have executed this Lease as of the respective dates below set forth with the intent to be legally bound thereby as of the Effective Date of this Lease first above set forth.

LANDLORD:

ARDENWOOD VENTURES I, LLC,
a Delaware limited liability company

By: /s/ Anthony Maarek Dated: August 25, 2021
Printed Name: Anthony Maarek
Title: Duly authorized by NJJ Real Estate California, Inc.

TENANT:

PERSONALIS, INC.,
a Delaware corporation

By: /s/ Aaron TachibanaDated: August 24, 2021
Printed Name: Aaron Tachibana
Title: CFO

EXHIBIT A

SITE PLAN SHOWING EXISTING BUILDING

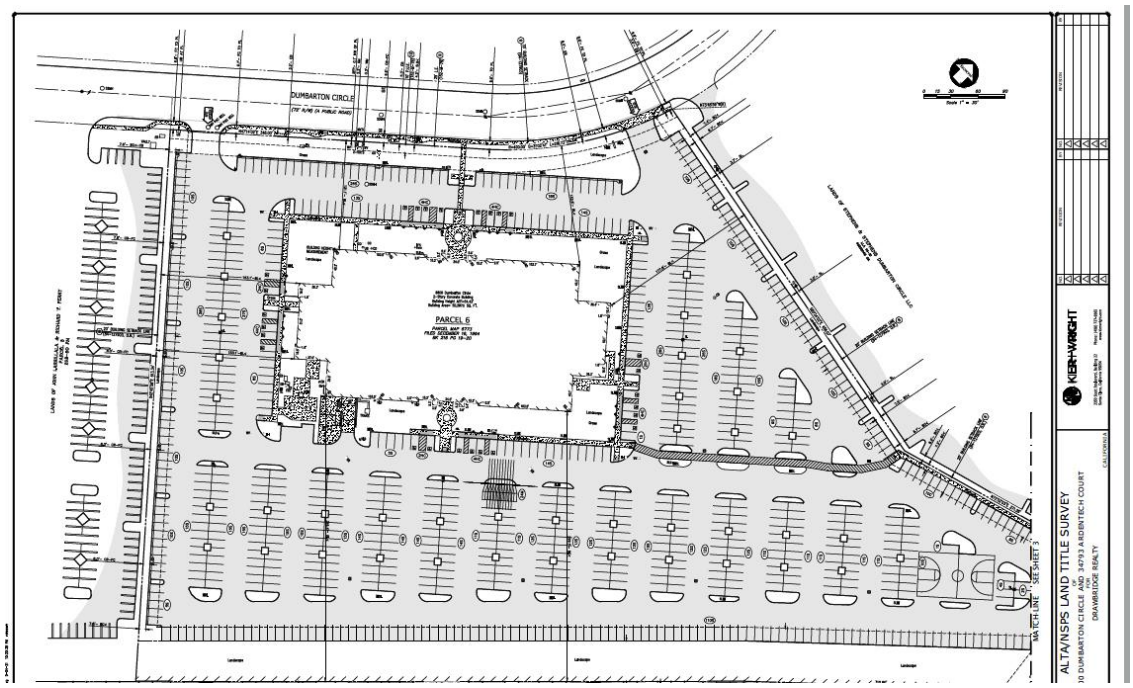

Exhibit A

110015197v.8

EXHIBIT B

DRAFT SITE PLAN SHOWING PROPOSED BUILDING

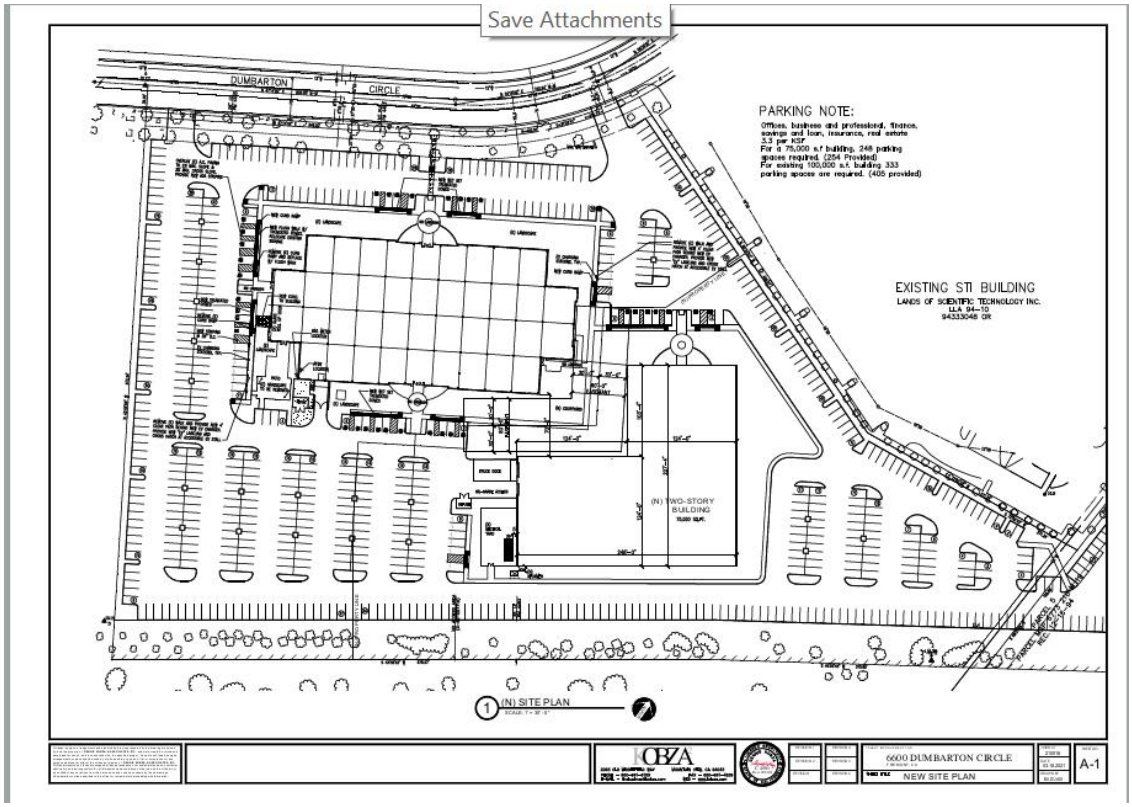

EXHIBIT C

WORK LETTER

THIS TENANT WORK LETTER ("**Work Letter**") sets forth the agreement of Landlord and Tenant with respect to the initial improvements to be constructed in the Leased Premises, as defined in the Lease to which this Work Letter is attached as an exhibit. In the event of any inconsistency between the terms of this Work Letter and the terms of the Lease, the terms of the Lease shall control. All capitalized but undefined terms used herein shall have the meanings set forth in the Lease, unless otherwise defined in this Work Letter.

1. **Landlord's Work**. Landlord shall obtain all necessary governmental approvals and permits to cause Landlord's contractor to complete, with reasonable diligence in a good and workmanlike manner, the improvements listed on Exhibit A attached hereto and any necessary work ancillary thereto (the "**Landlord's Work**") to be constructed and Substantially Completed (as hereinafter defined), no later than the Intended Commencement Date, subject to Tenant Delays (as hereinafter defined) or delays caused by Force Majeure, or advancement due to Landlord Delays (as hereinafter defined). "**Substantial Completion**", "**Substantially Completed**" or other derivations shall mean (a) the completion of construction of the Landlord's Work, with the exception of any punch list items that do not materially interfere with Tenant's ability to access or operate within the Leased Premises or Tenant's ability to obtain a certificate of occupancy for the Building. Landlord shall use commercially reasonable efforts to cause correction of any punch list items within sixty (60) days of Substantial Completion of the Landlord's Work. Landlord shall use commercially reasonable efforts to enforce any and all warranties provided by the general contractor and its subcontractors for the Landlord's Work (including any Building Systems which are components of the Landlord's Work); provided, however, that at any time after the first anniversary of the Commencement Date, rather than enforce such warranties, Landlord may elect to assign such warranties to Tenant for enforcement by Tenant. The parties agree to coordinate and reasonably cooperate to perform, and cause their contractors to perform, all work within the Leased Premises during the Early Access Period, as more specifically provided in Paragraph 2.4 of the Lease.

2. **Tenant Improvements**. Tenant shall cause the Tenant Parties to construct, furnish or install all improvements, equipment or fixtures, that Tenant deems reasonably necessary for Tenant's intended use of the Leased Premises, including laboratory, research and development, and manufacturing facilities, which shall include, without limitation, a new freight elevator (collectively, the "**Tenant Improvements**"). Tenant shall cause the Tenant Parties to complete construction of the Tenant Improvements for the entirety of the Leased Premises. Tenant shall also be responsible for the cost of any alterations to the Building to comply with applicable Laws to the extent solely required as a result of the Tenant Improvements; provided that Tenant shall not be responsible for any alterations required of Landlord under the Lease or this Work Letter. Tenant has engaged and Landlord has approved (i) Crew Universal as its consultant to manage the design and construction of the Tenant Improvements ("**Tenant Improvement Project Manager**"), and (ii) DES Architects + Engineers as its architect for the Tenant Improvements ("**Tenant Improvement Architect**"). Tenant shall cause all drawings and specifications for the Tenant Improvements to be prepared by the Tenant Improvement Architect and to be constructed by GCI, Inc. or another general contractor licensed in California, selected by Tenant, and reasonably approved by Landlord ("**Tenant Improvement Contractor**"). Landlord's prior written consent, which shall not be unreasonably withheld, conditioned or delayed, shall be required if Tenant desires to change its Tenant Improvement Architect, Tenant Improvement Contractor or Tenant Improvement Project Manager. Tenant shall furnish to Landlord a copy of the executed contracts between Tenant and Tenant Improvement Architect, and Tenant and Tenant Improvement Contractor, covering all of Tenant's obligations under this Work Letter.

The Tenant Improvements shall be in conformity with drawings and specifications submitted to and approved by Landlord, which approval shall not be unreasonably withheld or delayed, and shall be performed in accordance with the following provisions:

Tenant Improvement Space Plans: Tenant shall prepare and submit to Landlord for its approval Tenant Improvement space plans (the "**Tenant Improvement Space Plans**"). Within five (5) business days after receipt of Tenant's drawings Landlord shall return one set of prints thereof with Landlord's approval and/or suggested modifications noted thereon. If Landlord fails to respond within five (5) business days, then Tenant may send a notice to Landlord, which notice must contain the following inscription, in 12 point font and bold faced lettering: "**SECOND NOTICE DELIVERED PURSUANT TO WORK LETTER —FAILURE TO TIMELY RESPOND WITHIN FIVE (5) BUSINESS DAYS SHALL RESULT IN DEEMED APPROVAL.**" If Tenant sends such a notice, and Landlord fails to respond within five (5) business days after its receipt of same, the proposed drawings shall be deemed approved. If Landlord has approved Tenant's drawings subject to modifications, Tenant shall have five (5) business days from the receipt of such modifications to accept or resubmit revised drawings for further consideration by Landlord. If Landlord has suggested modifications without approving Tenant's drawings Tenant shall prepare and resubmit revised drawings within five (5) business days for consideration by Landlord. All revised drawings shall be submitted, with changes highlighted, to Landlord, and Landlord shall approve or disapprove such revised drawings within five (5) business days following receipt of the same. The parties shall follow the foregoing process until the Tenant Improvement Space Plans are approved. Landlord shall be provided with a copy of Tenant's preliminary floor plan and associated CAD files as a condition to receiving reimbursement. Notwithstanding anything herein to the contrary, Landlord may only object to such Tenant Improvement Space Plans if they present a Design Problem. As used in this Work Letter, the term "**Design Problem**" means that the proposed component of the Tenant Improvements affects the structural aspects of the Building, or could reasonably be expected to (i) have a material adverse effect on the Building or Building Systems, (ii) trigger any obligation of Landlord to make the Building comply with Laws (unless Tenant pays for the cost of such compliance), (iii) vitiate or otherwise reduce any warranty for Landlord's benefit with respect to the Building or Property, (iv) increase Landlord's maintenance or repair costs with respect to the Building or Property unless such costs are paid by Tenant as billed by Landlord, (v) conflict with applicable codes or other Laws, (vi) affect the exterior appearance of the Building, or (vii) increase the cost of construction of the Landlord's Work.

Tenant Improvement Design Development Plans: Tenant shall prepare and submit to Landlord for its approval Tenant Improvement design development plans ("**Tenant Improvement Design Development Plans**"). Within five (5) business days after receipt of Tenant's drawings Landlord shall return one set of prints thereof with Landlord's approval and/or suggested modifications noted thereon. If Landlord fails to respond within five (5) business days, then Tenant may send a notice to Landlord, which notice must contain the following inscription, in 12 point font and bold faced lettering: "**SECOND NOTICE DELIVERED PURSUANT TO WORK LETTER—FAILURE TO TIMELY RESPOND WITHIN FIVE (5) BUSINESS DAYS SHALL RESULT IN DEEMED APPROVAL.**" If Tenant sends such a notice, and Landlord fails to respond within five (5) business days after its receipt of same, the proposed drawings shall be deemed approved. If Landlord has approved Tenant's drawings subject to modifications, such modifications shall be deemed to be acceptable to and approved by Tenant unless Tenant shall prepare and resubmit revised drawings for further consideration by Landlord. If Landlord has suggested modifications without approving Tenant's drawings Tenant shall prepare and resubmit revised drawings for consideration by Landlord. All revised drawings shall be submitted, with changes highlighted, to Landlord following Landlord's return to Tenant of the drawings

originally submitted, and Landlord shall approve or disapprove such revised drawings within five (5) business days following receipt of the same. The parties shall follow the foregoing process until the Tenant Improvement Design Development Plans are approved. Notwithstanding anything herein to the contrary, Landlord may only object to such Tenant Improvement Design Development Plans if they present a Design Problem.

Tenant Improvement Working Drawings: Tenant shall prepare and submit to Landlord for its approval Tenant Improvement working drawings ("**Tenant Improvement Working Drawings**") including mechanical, electrical, and plumbing plans ("**MEP**"). Within five (5) business days after receipt of Tenant's drawings Landlord shall return one set of prints thereof with Landlord's approval and/or suggested modifications noted thereon. If Landlord fails to respond within five (5) business days, then Tenant may send a notice to Landlord, which notice must contain the following inscription, in 12 point font and bold faced lettering: "**SECOND NOTICE DELIVERED PURSUANT TO WORK LETTER—FAILURE TO TIMELY RESPOND WITHIN FIVE (5) BUSINESS DAYS SHALL RESULT IN DEEMED APPROVAL.**" If Tenant sends such a notice, and Landlord fails to respond within five (5) business days after its receipt of same, the proposed drawings shall be deemed approved. If Landlord has approved Tenant's drawings subject to modifications, such modifications shall be deemed to be acceptable to and approved by Tenant unless Tenant shall prepare and resubmit revised drawings for further consideration by Landlord. If Landlord has suggested modifications without approving Tenant's drawings Tenant shall prepare and resubmit revised drawings for consideration by Landlord. All revised drawings shall be submitted, with changes highlighted, to Landlord following Landlord's return to Tenant of the drawings originally submitted, and Landlord shall approve or disapprove such revised drawings within five (5) business days following receipt of the same. The parties shall follow the foregoing process until the Tenant Improvement Working Drawings are approved. Notwithstanding anything herein to the contrary, Landlord may only object to such Tenant Improvement Working Drawings if they present a Design Problem.

Final Tenant Improvement Plans: Tenant shall submit the approved Tenant Improvement Working Drawings to the City of Fremont Building Department for a Tenant Improvement building permit prior to the commencement of such work; provided, however, that so long as an authorized individual at the City has agreed in writing on behalf of the City (which may be by written approvals on form applications) to allow portions (e.g., demolition and framing) of the Tenant Improvement work to commence prior to issuance of the applicable building permit, and a copy of such writing is delivered to Landlord prior to commencement of such work, then (i) the submittal of the Tenant Improvement Working Drawings may occur contemporaneously with the commencement of the applicable portions of the Tenant Improvement work, and (ii) Tenant may proceed with the work so authorized by the City, subject to satisfaction of any conditions contained in said writing. The Tenant Improvement Working Drawings as modified by the City of Fremont are defined herein as the "**Final Tenant Improvement Plans**." Within one (1) business day after receipt, Tenant shall deliver to Landlord a copy of the City of Fremont building permit for the Final Tenant Improvement Plans.

Any material changes to the Final Tenant Improvement Plans shall be subject to Landlord's prior written approval, which shall not be unreasonably withheld, conditioned or delayed. As used herein, the term "**Material Changes"** shall mean: a change to the Final Tenant Improvement Plans that exceeds Fifty Thousand Dollars ($50,000) in cost or could reasonably be expected to result in a Design Problem.

Tenant acknowledges that it will engage the Tenant Improvement Architect, the Tenant Improvement Project Manager, and the Tenant Improvement Contractor, and shall be solely responsible for the actions and omissions of its architects, engineers, contractors, and project/construction managers

and for any loss, liability, claim, cost, damage or expense suffered by Landlord or any other entity or person as a result of the acts or omissions of its architect, engineers or project/construction managers. Landlord's approval of any of Tenant's architects, engineers or project/construction managers and of any documents prepared by any of them shall not be for the benefit of Tenant or any third party, and Landlord shall have no duty to Tenant or to any third parties for the actions or omissions of Tenant's architects, engineers or project/construction managers. Tenant shall indemnify and hold harmless Landlord from and against any and all losses, costs, damages, claims and liabilities arising from the actions or omissions of Tenant's architects, engineers and project/construction managers.

The Tenant Improvements shall be constructed by Tenant Improvement Contractor in accordance with the Final Tenant Improvement Plans, in compliance with all of the terms and conditions of this Work Letter and the Lease, and with all applicable Laws and Restrictions. Tenant or the Tenant Improvement Contractor shall obtain a builder's risk policy of insurance in an amount and form and issued by a carrier reasonably satisfactory to Landlord, and the Tenant Improvement Contractor's subcontractors shall carry worker's compensation insurance for their employees as required by law. The builder's risk policy of insurance shall name Landlord as an additional insured and shall not be cancelable without at least thirty (30) days' prior written notice to Landlord.

Tenant shall notify Landlord of its intention to commence construction ten (10) days prior to commencement and shall again notify Landlord of actual commencement within one (1) business day thereafter. Landlord shall have the right to post in a conspicuous location on the Building or the Leased Premises, as well as record with the County of Alameda, a Notice of Nonresponsibility.

Tenant shall, and shall cause Tenant's Project Manager to, use commercially reasonable efforts to cause construction of the Final Tenant Improvement Plans to be performed in as efficient a manner as is commercially reasonable. All work to be performed inside or outside of the Building during the period of Landlord's construction of the Landlord's Work shall be coordinated with Landlord. Tenant and the Tenant Improvement Contractor shall conduct their work and employ labor in such manner as to maintain harmonious labor relations.

Tenant, at Tenant's sole cost and expense, shall clear debris resulting from the Tenant Improvement construction as necessary so as not to interfere with the construction of the Landlord's Work. Landlord, at Landlord's sole cost and expense, shall clear debris resulting from the Landlord's Work construction as necessary so as not to interfere with the construction of the Tenant Improvements. No trash, or other debris, or other waste may be deposited at any time outside the Building except in containers reasonably approved by Landlord. If a party fails to comply with the immediately preceding sentence, the other party may, after written notice to such non-complying party, remove it at the non-complying party's cost and expense. During the Early Access Period, storage of Tenant Improvement construction materials, tools and equipment shall be coordinated with Landlord's contractor. Upon completion of the Tenant Improvements, Tenant shall cause the Building and the Outside Areas to be clean and free from construction debris resulting from Tenant's Tenant Improvement construction.

Tenant shall submit to Landlord within thirty (30) days after Tenant's receipt: a Certificate of Substantial Completion, AIA Document G704, by its Tenant Improvement Architect for the Final Tenant Improvement Plans, a copy of all final inspection cards for the Tenant Improvements signed by the appropriate City of Fremont inspector and the Temporary Certificate of Occupancy from the City of Fremont.

Tenant shall submit to Landlord two USBs containing copies of all Tenant Improvement as-built plans and specifications, warranties, and operating manuals covering all of the work in the Final Tenant Improvement Plans, and one paper hard-copy of same.

Any minor work required for Tenant's occupancy of the Leased Premises but not included in the Final Tenant Improvement Plans such as the procurement and installation of furniture, fixtures, equipment, interior artwork and signage, shall not require Landlord approval but shall be installed in a good and workmanlike manner by Tenant.

3. **Project Costs**. The costs and expenses of the development and construction of the Landlord's Work and the Tenant Improvements ("**Project Costs**") shall be paid in accordance with this Paragraph 3.

(a) Landlord's Work. The costs and expenses of the development and construction of the Landlord's Work shall be paid by Landlord at its sole cost and expense and not as part of Property Operating Expenses.

(b) Tenant Improvements. Unless specified otherwise herein, Tenant shall bear and pay the cost of the Tenant Improvements,(which cost shall include, without limitation, the costs of construction as provided for in the Tenant Improvement Contractor's contract, the cost of permits, all architectural, design, space planning, and engineering services obtained by Tenant in connection with Tenant Improvements, laboratory and office improvements, wiring and cabling costs, and cubicle costs and the construction supervision fee payable to Landlord in an amount equal to the lesser of (i) $150,000, and (ii) 1.5% of the cost (excluding such fee) of the Tenant Improvements; provided that so long as Tenant is not in default under the Lease beyond all applicable notice and cure periods, Landlord shall contribute a maximum of $150 per rentable square foot, for an aggregate maximum of (a) $15,121,200 (the "**Tenant Improvement Allowance**"), which shall be utilized only building improvements to the Building, the Generator and for any related costs, including but not limited to design, engineering, construction, furniture and equipment appurtenant to the Leased Premises, cabling, project management fees, moving expenses, and signage, plus (b) the additional sum of $350,000 (the "**Elevator Allowance**") to be used by Tenant to partially defray the cost of the freight elevator to be installed by Tenant. The Tenant Improvement Allowance shall be available to Tenant until the later of (i) December 1, 2022, as may be delayed by Force Majeure and Landlord Delays, and (ii) the date that is thirty (30) months after the Lease Commencement Date (the "**TI Allowance Deadline**"), after which Tenant shall have no further right to request any unrequested portion of the Tenant Improvement Allowance. The Elevator Allowance shall be available to Tenant until December 31, 2026, as may be delayed by Force Majeure and Landlord Delays (the "**Elevator Allowance Deadline**"; together with the TI Allowance Deadline, each an "**Allowance Deadline**"), after which Tenant shall have no further right to request any unrequested portion of the Elevator Allowance. Landlord acknowledges that Tenant may complete pre-construction, construction and installation of the freight elevator in phases over the course of the Term of the Lease, and agrees to make payments (which may be in multiple draws) of the Elevator Allowance to Tenant in accordance with this Paragraph 3. Subject to the applicable Allowance Deadline, based upon applications for payment prepared, certified and submitted by Tenant as described below, Landlord shall make progress payments from the Tenant Improvement Allowance or Elevator Allowance to Tenant in accordance with the provisions of this Paragraph 3 as follows:

(i) Not later than the 25th day of each month Tenant shall submit applications for payment to Landlord in a form reasonably acceptable to Landlord, including Tenant Improvement Contractor's Application and Certification for Payment AIA G702 certified by Tenant Improvement Architect, certified as correct by an authorized representative of Tenant and by Tenant's architect, for payment of Landlord's pro rata portion (as determined pursuant to subsection (iii) below) of the cost of the Tenant Improvements allocable to labor, materials and equipment incorporated in the Building during the period from the first day of the same month projected through the last day of the month. Each application for payment shall set forth such information and shall be accompanied by such supporting documentation as shall be reasonably requested by Landlord, including the following:

(A) Invoices and canceled checks.

(B) Fully executed conditional lien releases in the form prescribed by law from the Tenant Improvement Contractor and all subcontractors and suppliers furnishing labor or materials during such period and fully executed unconditional lien releases from all such entities covering the prior payment period.

(C) Tenant Improvement Contractor's worksheets showing percentages of completion.

(D) Tenant Improvement Contractor's certification as follows:

> "There are no known mechanics' or materialmen's liens outstanding at the date of this application for payment, all due and payable bills with respect to the Building have been paid to date or shall be paid from the proceeds of this application for payment, and there is no known basis for the filing of any mechanics' or materialmen's liens against the Building or the Property, and, to the best of our knowledge, waivers from all subcontractors are valid and constitute an effective waiver of lien under applicable law to the extent of payments that have been made or shall be made concurrently herewith."

(ii) Tenant shall submit with each application for payment all documents necessary to effect and perfect the transfer of title to the materials or equipment for which application for payment is made.

(iii) Prior to the TI Allowance Deadline, on or before the 30th day following submission of the application for payment, so long as Tenant is not in monetary default, or material non-monetary default beyond the expiration of any notice and cure periods expressly set forth in the Lease or this Work Letter, under the terms of this Work Letter or the Lease, Landlord shall pay a share of such payment pari passu with Tenant, determined by multiplying the amount of such payment by a fraction, the numerator of which is the amount of the Tenant Improvement Allowance, and the denominator of which is $20,000,000 (i.e., the total amount set forth in the "**Initial TI Budget**," defined herein as a budget including in reasonable detail the estimated construction cost of all Tenant Improvement work and materials for the entire Leased Premises, and the estimated cost of all professional services, fees and permits in connection therewith). In this regard, it shall be a condition to Landlord's obligation to make any disbursement of the Tenant Improvement Allowance that Tenant first shall have finalized and delivered to Landlord the Initial TI Budget. Tenant shall pay the balance of such payment, provided that at such time as Landlord has paid the entire Tenant Improvement Allowance on account of such Tenant Improvement work, all billings shall be paid entirely by Tenant. If upon completion of the Tenant Improvement Work and payment in full to the Tenant Improvement Contractor, the architect and engineer, and payment in full of all fees and permits, the portion of the cost of the Tenant Improvement Work, architects' and engineers' fees, permits and fees theretofore paid by Landlord is less than the Tenant Improvement Allowance, Landlord shall reimburse Tenant for costs expended by Tenant for Tenant Improvement work up to the amount by which the Tenant Improvement Allowance exceeds the portion of such cost theretofore paid by Landlord. Landlord shall have no obligation to advance the Tenant Improvement Allowance to the extent it exceeds the total cost of the Tenant Improvement Work. In no event shall Landlord have any responsibility for the cost of the Tenant Improvement Work in excess of the Improvement Allowance. Landlord shall have no obligation to make any payments to Tenant Improvement Contractor's material suppliers or subcontractors or to determine whether amounts due them from Tenant Improvement Contractor in connection with the Tenant Improvement work have, in fact, been paid.

(iv) Following the TI Allowance Deadline until the Elevator Allowance Deadline, Landlord shall pay the amounts requested by Tenant, on or before the 30th day following submission of the application for payment, so long as Tenant is not in default under the terms of this Work Letter or the Lease (beyond all applicable notice and cure periods). Landlord shall have no obligation to advance the Elevator Allowance to the extent it exceeds the total cost of Tenant's freight elevator, including, without limitation, all costs of pre-construction, construction, installation, equipment and assembly thereof. In no event shall Landlord have any responsibility for the cost of the freight elevator in excess of the Tenant Improvement Allowance and the Elevator Allowance.

(c) Evidence of Completion of Improvement Work**.** Upon the completion of the Improvement work, Tenant shall:

(i) Submit to Landlord a detailed breakdown of Tenant's final and total construction costs, together with receipted evidence showing payment thereof, satisfactory to Landlord.

(ii) Submit to Landlord evidence showing compliance with any and all other laws, orders and regulations of any and all governmental authorities having jurisdiction over the Building, including, without limitation, the building permit for the Tenant Improvements signed off by the applicable governmental authorities and authorization for physical occupancy of the Building.

(iii) Submit to Landlord the as-built plans and specifications referred to above.

4. Assignment of Rights Against Architect, Contractor, etc. Tenant hereby assigns to Landlord on a non-exclusive basis any and all rights Tenant may have against the Tenant Improvement Contractor, the Tenant Improvement Architect, the Tenant Improvement Project Manager, and any other of Tenant's consultants, subcontractors, agents, etc., relating to the Tenant Improvements, without in any way obligating Landlord to pursue or prosecute such rights. Landlord acknowledges and agrees that Landlord can enforce the same only if an Event of Default by Tenant has occurred. Tenant shall retain the right to pursue or prosecute any such rights to the extent that Landlord does not do so. Tenant shall promptly cause the Tenant Improvement Contractor, the Tenant Improvement Architect, the Tenant Improvement Project Manager, and any other of Tenant's consultants, subcontractors, agents, etc. (once each such person has been engaged) to execute and deliver to Landlord a consent in the form of Exhibit B hereto, consenting to the foregoing assignment.

5. **Completion; Delay.**

(a) If Landlord shall be actually delayed in Substantially Completing the Landlord's Work beyond the Intended Commencement Date as a result any of the following (collectively, "**Tenant Delays**"):

1. Any interference with the Landlord's Work due to entry into the Building by Tenant, or any of Tenant's agents, employees, licensees, contractors or subcontractors, which actually results in the delay of Substantial Completion of the Landlord's Work beyond the Intended Commencement Date; or

2. Any matters specifically identified elsewhere in this Work Letter or in the Lease as Tenant Delays,

then the date upon which Substantial Completion of the Landlord's Work is deemed to have occurred shall be advanced by the cumulative duration of such Tenant Delays, and the date upon which the Lease Commencement Date shall be deemed to have occurred in advance by the cumulative duration of such

Tenant Delays. A Tenant Delay shall not be deemed to have commenced until Landlord has provided written notice to Tenant that a Tenant Delay is occurring.

(b) Landlord Delay. A "**Landlord Delay**" means the length of any actual delay in the permitting, construction or completion of the Landlord's Work or Tenant Improvements which actually and directly delays Substantial Completion of the Landlord's Work beyond the Intended Commencement Date or materially delays substantial completion of the Tenant Improvements, which (a) is not caused by Force Majeure, and (b) is caused by:

1. Any interference with the Tenant Improvements due to entry into the Building by Landlord, or any of Landlord's agents, employees, licensees, contractors or subcontractors, which delays substantial completion of the Tenant Improvements or materially interferes with Tenant's access to the Building or the Property during the Early Access Period; or

2. Any unreasonable delay or failure of Landlord to fulfill its obligation to obtain any permits, inspections or approvals for the Landlord's Work or Landlord's other obligations with respect to the Property; or

3. Any matters specifically identified elsewhere in this Work Letter or in the Lease as Landlord Delays,

then the date upon which the Lease Commencement Date is deemed to have occurred shall be delayed by the cumulative duration of such Landlord Delays

6. **Arbitration.** All disputes under this Work Letter shall be submitted to arbitration under the office of JAMS in the County of Alameda, California, and shall be conducted pursuant to its Streamlined Arbitration Rules and Procedures (and Landlord and Tenant hereby submit to arbitration of such matter by JAMS and the determination of such arbitrator shall be final and binding upon both Landlord and Tenant).

7. **Communications**. For the avoidance of doubt, communications in the ordinary course of completing the Landlord's Work and the Tenant Improvements (including, without limitation, transmittals of plans and approvals thereof) may be conducted by electronic mail, in lieu of the notice provisions in Paragraph 13.10 of the Lease; provided, however, that any such communications must include a request to confirm receipt and if such confirmation is not received by the sender within one day, the provisions of Paragraph 13.10 must be complied with.

EXHIBIT A TO WORK LETTER

LANDLORD'S WORK

1. Remove and replace existing exterior window glazing to provide a fresh and modern look as well as with an energy efficient glazing product.

2. Landlord to decide by August 31, 2021, which items of personal property it desires to retain, and will remove those items as a component of Landlord's Work. Removal of any remaining items shall be Tenant's responsibility.

3. Paint the exterior of the building.

4. Provide new landscaping around the exterior of the Building approximately as noted on the Site Plan.

5. Resurface, paint, or repair the existing parking lot.

6. Install one roll-up door or the equivalent sliding glass doors for Lessee to receive UPS and FedEx deliveries.

7. Clear area around Loading Dock and ensure the Dock is in a functioning condition.

8. Perform any exterior changes required to comply with accessibility laws, except to the extent non-compliance is a result of the Tenant Improvements; in other words, this obligation will be deemed satisfied if such compliance would have been achieved upon completion Landlord's Work had work on the Tenant Improvements not yet been commenced

EXHIBIT B TO WORK LETTER

FORM OF CONSENT TO ASSIGNMENT

This **Consent to Assignment** (**"Consent**") is dated as of this __ day of _____, 2021, by _____, a _____ (["Tenant Improvement Architect"/"**Tenant Improvement Contractor**"/"**Tenant Improvement Project Manager**"/**Other Consultant**]), in favor of **_____, LLC**, a Delaware limited liability company ("Landlord").

Recitals

A. Landlord and _____, a _____ ("**Tenant**") entered into that certain Lease Agreement dated as of _____, 2021 (the "**Lease**") for premises located in the City of _____, County of _____, State of California, commonly known as or otherwise described as _____ Road, Suite __, _____, California; and

B. Exhibit B to the Lease is a Work Letter pursuant to which Tenant has retained [Tenant Improvement Architect/Tenant Improvement Contractor/Tenant Improvement Project Manager/Other Consultant].

Agreement

Now Therefore, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [Tenant Improvement Architect/Tenant Improvement Contractor/Tenant Improvement Project Manager/Other Consultant] hereby consents to the assignment effected by Paragraph 4 of the Work Letter.

In Witness Whereof, [Tenant Improvement Architect/Tenant Improvement Contractor/Tenant Improvement Project Manager/Other Consultant] has executed this Consent as of the date first written above.

[Tenant Improvement Architect/Tenant Improvement Contractor/Tenant Improvement Project Manager/Other Consultant]

•By: _____
•Title: _____

•By: _____
•Title: _____

EXHIBIT D

LEASE COMMENCEMENT DATE CERTIFICATE

This **LEASE COMMENCEMENT CERTIFICATE** ("**Certificate**") is made this _____ day of _____, 202_, by and between **_____ _____,** a _____ ("**Landlord**"), and **_____**, a _____ ("**Tenant**"), and is attached to and made a part of that certain Lease dated as of August 24, 2021, by and between Landlord and Tenant (the "**Lease**").

Landlord and Tenant hereby acknowledge and agree for all purposes of the Lease that the Lease Commencement Date as defined in the Lease is _____, 202_.

IN WITNESS WHEREOF, Landlord and Tenant have executed this Certificate on the date first above written.

LANDLORD:

_____,
a _____

By: _____
Its: _____

TENANT:

_____,
a _____

By: _____
Its: _____

EXHIBIT E

LETTER OF CREDIT TEXT SAMPLE

ARTICLE 19 L/C DRAFT LANGUAGE

IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER _____

ISSUE DATE: _____

ISSUING BANK:
SILICON VALLEY BANK
3003 TASMAN DRIVE
2ND FLOOR, MAIL SORT HF210
SANTA CLARA, CALIFORNIA 95054

BENEFICIARY:
A. ARDENWOOD VENTURES I, LLC
B. A DELAWARE LIMITED LIABILITY COMPANY
THREE EMBARCADERO CENTER, SUITE 2310
SAN FRANCISCO, CALIFORNIA 94111
ATTENTION: BILL DOYLE

APPLICANT:
PERSONALIS INC
1330 OBRIEN DRIVE
MENLO PARK, CA 94025

AMOUNT: US$1,790,350.08 (ONE MILLION SEVEN HUNDRED NINETY THOUSAND THREE HUNDRED FIFTY AND 08/100 U.S. DOLLARS)

EXPIRATION DATE: ONE YEAR FROM ISSUANCE

PLACE OF EXPIRATION: ISSUING BANK'S COUNTERS AT ITS ABOVE ADDRESS

DEAR SIR/MADAM:

WE HEREBY ESTABLISH OUR IRREVOCABLE STANDBY LETTER OF CREDIT NO. SVBSF_____ IN YOUR FAVOR AVAILABLE BY PAYMENT AGAINST YOUR PRESENTATION

AT THE BANK’S OFFICE AS DEFINED BELOW OF YOUR DRAFT AT SIGHT IN THE FORM OF EXHIBIT "A" ATTACHED HERETO. NO OTHER EVIDENCE OFAUTHORITY, CERTIFICATE, OR DOCUMENTATION IS REQUIRED.

PARTIAL DRAWS AND MULTIPLE PRESENTATIONS ARE ALLOWED.

THIS LETTER OF CREDIT SHALL BE AUTOMATICALLY EXTENDED FOR ADDITIONAL PERIODS OF ONE YEAR, WITHOUT AMENDMENT, FROM THE PRESENT OR EACH FUTURE EXPIRATION DATE UNLESS AT LEAST 60 DAYS PRIOR TO THE THEN CURRENT EXPIRATION DATE WE SEND TO YOU A NOTICE BY REGISTERED OR CERTIFIED MAIL OR OVERNIGHT COURIER SERVICE AT THE ABOVE ADDRESS THAT THIS LETTER OF CREDIT WILL NOT BE EXTENDED BEYOND THE THEN CURRENT EXPIRATION DATE. IN THE EVENT WE SEND SUCH NOTICE OF NON-EXTENSION, YOU MAY DRAW HEREUNDER BY YOUR PRESENTATION AT THE BANK’S OFFICE AS DEFINED BELOW OF YOUR DRAFT AT SIGHT IN THE FORM OF EXHIBIT "A" ATTACHED HERETO.

ALL DEMANDS FOR PAYMENT SHALL BE MADE BY PRESENTATION ON A BUSINESS DAY AT OUR OFFICE (THE “BANK’S OFFICE”) AT: SILICON VALLEY BANK, 3003 TASMAN DRIVE, MAIL SORT HF 210, SANTA CLARA, CA 95054, ATTENTION: GLOBAL TRADE FINANCE. AS USED IN THIS LETTER OF CREDIT, "BUSINESS DAY" SHALL MEAN ANY DAY OTHER THAN A SATURDAY, SUNDAY OR A DAY ON WHICH BANKING INSTITUTIONS IN THE STATE OF CALIFORNIA ARE AUTHORIZED OR REQUIRED BY LAW TO CLOSE.

FACSIMILE PRESENTATIONS ARE ALSO PERMITTED. EACH FACSIMILE TRANSMISSION SHALL BE MADE AT: (408) 496-2418 OR (408) 969-6510; AND UNDER CONTEMPORANEOUS TELEPHONE ADVICE TO: (408) 450-5001 OR (408) 654-7176, ATTENTION: GLOBAL TRADE FINANCE. ABSENCE OF THE AFORESAID TELEPHONE ADVICE SHALL NOT AFFECT OUR OBLIGATION TO HONOR ANY DRAW REQUEST.

THIS LETTER OF CREDIT IS TRANSFERABLE IN WHOLE BUT NOT IN PART ONE OR MORE TIMES, BUT IN EACH INSTANCE ONLY TO A SINGLE BENEFICIARY AS TRANSFEREE AND FOR THE THEN AVAILABLE AMOUNT, ASSUMING SUCH TRANSFER TO SUCH TRANSFEREE WOULD BE IN COMPLIANCE WITH THEN APPLICABLE LAW AND REGULATION, INCLUDING BUT NOT LIMITED TO THE REGULATIONS OF THE U.S. DEPARTMENT OF TREASURY AND U.S. DEPARTMENT OF COMMERCE. AT THE TIME OF TRANSFER, THE ORIGINAL LETTER OF CREDIT AND ORIGINALS OR COPIES OF ALL AMENDMENTS, IF ANY, TO THIS LETTER OF CREDIT MUST BE SURRENDERED TO US AT OUR ADDRESS INDICATED IN THIS LETTER OF CREDIT TOGETHER WITH OUR TRANSFER FORM ATTACHED HERETO AS EXHIBIT "B" DULY EXECUTED. APPLICANT SHALL PAY OUR TRANSFER FEE OF ¼ OF 1% OF THE TRANSFER AMOUNT (MINIMUM US$250.00) UNDER THIS LETTER OF CREDIT. EACH TRANSFER SHALL BE EVIDENCED BY EITHER (1) OUR ENDORSEMENT ON THE REVERSE OF THE LETTER OF CREDIT AND WE SHALL FORWARD THE ORIGINAL OF THE LETTER OF CREDIT SO ENDORSED TO THE TRANSFEREE OR (2) OUR ISSUING A REPLACEMENT LETTER OF CREDIT TO THE TRANSFEREE ON SUBSTANTIALLY THE SAME TERMS AND CONDITIONS AS THE TRANSFERRED LETTER OF CREDIT (IN WHICH EVENT THE TRANSFERRED LETTER OF CREDIT SHALL HAVE NO FURTHER EFFECT).

IF ANY INSTRUCTIONS ACCOMPANYING A DRAWING UNDER THIS LETTER OF CREDIT REQUEST THAT PAYMENT IS TO BE MADE BY TRANSFER TO YOUR ACCOUNT WITH ANOTHER BANK, WE WILL ONLY EFFECT SUCH PAYMENT BY FED WIRE TO A U.S. REGULATED BANK, AND WE AND/OR SUCH OTHER BANK MAY RELY ON AN ACCOUNT

NUMBER SPECIFIED IN SUCH INSTRUCTIONS EVEN IF THE NUMBER IDENTIFIES A PERSON OR ENTITY DIFFERENT FROM THE INTENDED PAYEE.

THIS LETTER OF CREDIT IS SUBJECT TO THE INTERNATIONAL STANDBY PRACTICES (ISP98), INTERNATIONAL CHAMBER OF COMMERCE, PUBLICATION NO. 590.

SILICON VALLEY BANK

_____
AUTHORIZED SIGNATURE

EXHIBIT "A"

DATE: _____ REF. NO. _____

AT SIGHT OF THIS DRAFT

PAY TO THE ORDER OF _____ _____US$_____

USDOLLARS _____
_____

DRAWN UNDER SILICON VALLEY BANK, SANTA CLARA, CALIFORNIA, STANDBY LETTER OF CREDIT NUMBER NO. _____ DATED _____

TO: SILICON VALLEY BANK
3003 TASMAN DRIVE
SANTA CLARA, CA 95054

_____
(BENEFICIARY'S NAME)

.....
Authorized Signature

GUIDELINES TO PREPARE THE DRAFT

1. DATE: ISSUANCE DATE OF DRAFT.
2. REF. NO.: BENEFICIARY'S REFERENCE NUMBER, IF ANY.
3. PAY TO THE ORDER OF: NAME OF BENEFICIARY AS INDICATED IN THE L/C (MAKE SURE BENEFICIARY ENDORSES IT ON THE REVERSE SIDE).

4. US$: AMOUNT OF DRAWING IN FIGURES.
5. USDOLLARS: AMOUNT OF DRAWING IN WORDS.
6. LETTER OF CREDIT NUMBER: SILICON VALLEY BANK'S STANDBY L/C NUMBER THAT PERTAINS TO THE DRAWING.
7. DATED: ISSUANCE DATE OF THE STANDBY L/C.
8. BENEFICIARY'S NAME: NAME OF BENEFICIARY AS INDICATED IN THE L/C.
9. AUTHORIZED SIGNATURE: SIGNED BY AN AUTHORIZED SIGNER OF BENEFICIARY.

IF YOU NEED FURTHER ASSISTANCE IN COMPLETING THIS DRAFT, PLEASE CALL OUR L/C PAYMENT SECTION AT 408-654-6274 OR 408-654-7716

EXHIBIT B

TRANSFER FORM

DATE: _____

TO: SILICON VALLEY BANK
3003 TASMAN DRIVE
SANTA CLARA, CA 95054
ATTN: GLOBAL TRADE FINANCE
STANDBY LETTERS OF CREDIT

RE: IRREVOCABLE STANDBY LETTER OF CREDIT
NO. _____ ISSUED BY
SILICON VALLEY BANK, SANTA CLARA
L/C AMOUNT: _____

GENTLEMEN:

FOR VALUE RECEIVED, THE UNDERSIGNED BENEFICIARY HEREBY IRREVOCABLY TRANSFERS TO:

_____
(NAME OF TRANSFEREE)

_____
(ADDRESS)

ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY TO DRAW UNDER THE ABOVE LETTER OF CREDIT UP TO ITS AVAILABLE AMOUNT AS SHOWN ABOVE AS OF THE DATE OF THIS TRANSFER.

BY THIS TRANSFER, ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY IN SUCH LETTER OF CREDIT ARE TRANSFERRED TO THE TRANSFEREE. TRANSFEREE SHALL HAVE THE SOLE RIGHTS AS BENEFICIARY THEREOF, INCLUDING SOLE RIGHTS RELATING TO ANY AMENDMENTS, WHETHER INCREASES OR EXTENSIONS OR OTHER AMENDMENTS, AND WHETHER NOW EXISTING OR HEREAFTER MADE. ALL AMENDMENTS ARE TO BE ADVISED DIRECTLY TO THE TRANSFEREE WITHOUT NECESSITY OF ANY CONSENT OF OR NOTICE TO THE UNDERSIGNED BENEFICIARY.

THE ORIGINAL OF SUCH LETTER OF CREDIT IS RETURNED HEREWITH, AND WE ASK YOU TO EITHER (1) ENDORSE THE TRANSFER ON THE REVERSE THEREOF, AND FORWARD IT DIRECTLY TO THE TRANSFEREE WITH YOUR CUSTOMARY NOTICE OF TRANSFER, OR (2) ISSUE A REPLACEMENT LETTER OF CREDIT TO THE TRANSFEREE ON SUBSTANTIALLY THE SAME TERMS AND CONDITIONS AS THE TRANSFERRED LETTER OF CREDIT (IN WHICH EVENT THE TRANSFERRED LETTER OF CREDIT SHALL HAVE NO FURTHER EFFECT).

SIGNATURE AUTHENTICATED

The name(s), title(s), and signature(s) conform to that/those on file with us for the company and the signature(s) is/are authorized to execute this instrument.

_____
(Name of Bank)

_____
(Address of Bank)

_____
(City, State, ZIP Code)

_____
(Authorized Name and Title)

_____
(Authorized Signature)

_____
(Telephone number)

SINCERELY,

_____
(BENEFICIARY'S NAME)

_____
(SIGNATURE OF BENEFICIARY)

_____
(NAME AND TITLE)

EXHIBIT F

FORM OF ESTOPPEL CERTIFICATE

_____, 20__

_____
_____
_____
_____

Re _____
_____, California

Ladies and Gentlemen:

Reference is made to that certain Lease, dated as of _____, 2021, between _____ LLC, a Delaware limited liability company ("Landlord"), and the undersigned (herein referred to as the "Lease"). A copy of the Lease [and all amendment thereto] is[are] attached hereto as **Exhibit A**. At the request of Landlord in connection with [_____ State reasons for request for estoppel certificate _____], the undersigned hereby certifies as of the date hereof to Landlord and to [state names of other parties requiring certification (*e.g.*, lender, purchaser, investor)] ("Lender"/ "Purchaser"/ "Investor") and each of your respective successors and assigns as follows:

1. The undersigned is the tenant under the Lease.

2. The Lease is in full force and effect and has not been amended, modified, supplemented or superseded except as indicated in Exhibit A.

3. There is no presently exercisable defense, offset, claim or counterclaim by or in favor of the undersigned against Landlord under the Lease or against the obligations of the undersigned under the Lease, nor is Tenant aware of there being a basis (with the giving of notice, the passage of time, or both) for such a defense, offset, claim, or counterclaim. The undersigned has no renewal, extension or expansion option, no right of first offer or right of first refusal and no other similar right to renew or extend the term of the Lease or expand the property demised thereunder except as may be expressly set forth in the Lease.

4. All improvements to be constructed in the Leased Premises by Landlord, if any, have been completed and accepted by Tenant, and any tenant construction or other allowances have been paid in full. **[DRAFTING NOTE: If any Landlord work is not completed or any allowances are not fully funded as of the date the estoppel is sent to Tenant, revise accordingly.]**

5. The undersigned is not aware of any default now existing of the undersigned or of Landlord under the Lease, nor of any event which with notice or the passage of time or both would constitute a default of the undersigned or of Landlord under the Lease.

6. The undersigned has not received notice of a prior transfer, assignment, hypothecation or pledge by Landlord of any of Landlord's interest in the Lease.

7. The current monthly base rent due under the Lease is $_____ and has been paid through _____, and all additional rent due and payable under the Lease has been paid through _____.

8. The term of the Lease commenced on _____, and expires on _____, unless sooner terminated pursuant to the provisions of the Lease. Landlord has performed all work required by the Lease for the undersigned's initial occupancy of the demised property.

9. The undersigned has deposited the sum of $_____ with Landlord as security for the performance of its obligations as tenant under the Lease, and no portion of such deposit has been applied by Landlord to any obligation under the Lease.

10. There is no free rent period pending, nor is Tenant entitled to any Landlord's contribution.

The above certifications are made to Landlord and [Lender/ Purchaser/ Investor] knowing that Landlord and [Lender/ Purchaser/ Investor] will rely thereon in [making a loan secured in part by an assignment of the Lease/ accepting an assignment of the Lease/ investing in Landlord/other]. Nothing in this estoppel certificate shall be deemed to amend, modify or alter the Lease; however, Tenant agrees that it shall be estopped from taking a position vis a vis Purchaser, Lender, or their successors or assigns, that conflict with the statements set forth in this estoppel. This estoppel certificate is delivered in good faith and shall not subject the undersigned or the individual signatory to any liability (other than estoppel effect) for any purpose, including, without limitation, damages for inaccuracies, errors or omissions.

Very truly yours,

_____
By:
Name:
Title:

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John West, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Personalis, 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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

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

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

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

Date: November 4, 2021

By: /s/ John West
John West
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Aaron Tachibana, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Personalis, 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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

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

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

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

Date: November 4, 2021

By: /s/ Aaron Tachibana
Aaron Tachibana
Chief Financial Officer
(Principal Financial Officer)

Exhibit 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

In connection with the Quarterly Report of Personalis, Inc. (the "Company") on Form 10-Q for the period ending September 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

Date: November 4, 2021

By: /s/ John West
John West
Chief Executive Officer
(Principal Executive Officer)

Exhibit 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

In connection with the Quarterly Report of Personalis, Inc. (the "Company") on Form 10-Q for the period ending September 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

Date: November 4, 2021

By: /s/ Aaron Tachibana
Aaron Tachibana
Chief Financial Officer
(Principal Financial Officer)