

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

FORM 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended June 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: 001-34180



FLUIDIGM CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

State or other jurisdiction of incorporation or organization

77-0513190

I.R.S. Employer Identification No.

2 Tower Place, Ste 2000 South San Francisco, CA
Address of principal executive offices

94080
Zip Code

Registrant's telephone number, including area code: (650) 266-6000

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, \$0.001 par value per share	FLDM	The Nasdaq Global Select 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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

As of July 31, 2021, there were 76,166,978 shares of the registrant's common stock, \$0.001 par value per share, outstanding.

FLUIDIGM CORPORATION

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

FLUIDIGM CORPORATION
CONDENSED CONSOLIDATED BALANCE SHEETS

(In thousands)

(Unaudited)

	June 30, 2021	December 31, 2020
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 30,863	\$ 68,520
Accounts receivable (net of allowance of \$356 at each of June 30, 2021 and December 31, 2020)	15,666	25,423
Inventories, net	25,074	19,689
Prepaid expenses and other current assets	6,603	4,031
Total current assets	78,206	117,663
Property and equipment, net	27,718	17,531
Operating lease right-of-use asset, net	38,717	38,114
Other non-current assets	4,106	4,680
Developed technology, net	34,082	40,206
Goodwill	106,486	106,563
Total assets	<u>\$ 289,315</u>	<u>\$ 324,757</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 11,224	\$ 9,220
Accrued compensation and related benefits	8,293	13,787
Operating lease liabilities, current	2,971	2,973
Other accrued liabilities	8,682	11,882
Deferred grant income, current	7,703	2,912
Deferred revenue, current	13,975	13,475
Total current liabilities	52,848	54,249
Convertible notes, net	53,943	54,224
Deferred tax liability	6,700	8,697
Operating lease liabilities, non-current	39,061	38,178
Deferred revenue, non-current	6,506	7,990
Deferred grant income, non-current	20,531	21,036
Other non-current liabilities	276	1,333
Total liabilities	179,865	185,707
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, \$0.001 par value, 10,000 shares authorized, no shares issued and outstanding at either June 30, 2021 or December 31, 2020	—	—
Common stock: \$0.001 par value, 200,000 shares authorized at June 30, 2021 and December 31, 2020; 76,166 and 74,543 shares issued and outstanding at June 30, 2021 and December 31, 2020, respectively	76	75
Additional paid-in capital	822,383	815,624
Accumulated other comprehensive loss	(284)	112
Accumulated deficit	(712,725)	(676,761)
Total stockholders' equity	109,450	139,050
Total liabilities and stockholders' equity	<u>\$ 289,315</u>	<u>\$ 324,757</u>

See accompanying notes

FLUIDIGM CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amounts)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue:				
Product revenue	\$ 22,627	\$ 17,405	\$ 47,355	\$ 36,386
Service revenue	6,627	5,140	12,913	10,326
Development revenue	850	3,000	2,330	3,000
Other revenue	914	513	1,214	3,963
Total revenue	31,018	26,058	63,812	53,675
Costs and expenses:				
Cost of product revenue	12,730	9,483	24,393	19,123
Cost of service revenue	1,867	1,237	3,957	2,762
Research and development	9,441	8,448	20,194	17,147
Selling, general and administrative	24,248	20,616	51,856	43,311
Total costs and expenses	48,286	39,784	100,400	82,343
Loss from operations	(17,268)	(13,726)	(36,588)	(28,668)
Interest expense	(896)	(897)	(1,783)	(1,797)
Other income (expense), net	504	463	219	(355)
Loss before income taxes	(17,660)	(14,160)	(38,152)	(30,820)
Income tax benefit	517	1,145	2,188	1,825
Net loss	\$ (17,143)	\$ (13,015)	\$ (35,964)	\$ (28,995)
Net loss per share, basic and diluted	\$ (0.23)	\$ (0.18)	\$ (0.48)	\$ (0.41)
Shares used in computing net loss per share, basic and diluted	75,452	70,916	75,084	70,691

See accompanying notes

FLUIDIGM CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Net loss	\$ (17,143)	\$ (13,015)	\$ (35,964)	\$ (28,995)
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustment	47	109	(396)	(194)
Net change in unrealized gain (loss) on investments	—	(33)	—	(33)
Other comprehensive income (loss), net of tax	47	76	(396)	(227)
Comprehensive loss	<u>\$ (17,096)</u>	<u>\$ (12,939)</u>	<u>\$ (36,360)</u>	<u>\$ (29,222)</u>

See accompanying notes

FLUIDIGM CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)
(Unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance as of December 31, 2020	74,543	\$ 75	\$ 815,624	\$ 112	\$ (676,761)	\$ 139,050
Issuance of restricted stock, net of shares withheld for taxes, and other	420	—	(525)	—	—	(525)
Stock-based compensation expense	—	—	3,677	—	—	3,677
Net loss	—	—	—	—	(18,821)	(18,821)
Other comprehensive loss, net of tax	—	—	—	(443)	—	(443)
Balance as of March 31, 2021	74,963	\$ 75	\$ 818,776	\$ (331)	\$ (695,582)	\$ 122,938
Issuance of restricted stock, net of shares withheld for taxes, and other	1,028	1	(1,028)	—	—	(1,027)
Issuance of common stock under ESPP	139	—	685	—	—	685
Issuance of common stock from option exercises	36	—	209	—	—	209
Stock-based compensation expense	—	—	3,741	—	—	3,741
Net loss	—	—	—	—	(17,143)	(17,143)
Other comprehensive loss, net of tax	—	—	—	47	—	47
Balance as of June 30, 2021	76,166	\$ 76	\$ 822,383	\$ (284)	\$ (712,725)	\$ 109,450

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance as of December 31, 2019	69,956	\$ 70	\$ 777,765	\$ (582)	\$ (623,641)	\$ 153,612
Issuance of restricted stock, net of shares withheld for taxes, and other	255	—	(146)	—	—	(146)
Cumulative-effect of new accounting standard for Topic 326 Credit Losses	—	—	—	—	(100)	(100)
Stock-based compensation expense	—	—	2,364	—	—	2,364
Acquisition of InstruNor AS	485	1	2,048	—	—	2,049
Net loss	—	—	—	—	(15,980)	(15,980)
Other comprehensive loss, net of tax	—	—	—	(303)	—	(303)
Balance as of March 31, 2020	70,696	\$ 71	\$ 782,031	\$ (885)	\$ (639,721)	\$ 141,496
Issuance of restricted stock, net of shares withheld for taxes, and other	286	—	(116)	—	—	(116)
Issuance of common stock under ESPP	301	—	645	—	—	645
Stock-based compensation expense	—	—	3,633	—	—	3,633
Net loss	—	—	—	—	(13,015)	(13,015)
Other comprehensive income, net of tax	—	—	—	76	—	76
Balance as of June 30, 2020	71,283	\$ 71	\$ 786,193	\$ (809)	\$ (652,736)	\$ 132,719

See accompanying notes

FLUIDIGM CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Six Months Ended June 30,	
	2021	2020
Operating activities		
Net loss	\$ (35,964)	\$ (28,995)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	7,418	6,000
Amortization of developed technology	5,965	5,936
Depreciation and amortization	1,851	2,016
Amortization of debt discounts, premiums and issuance costs	211	275
Lease amortization	265	1,331
Provision for excess and obsolete inventory	1,248	306
Loss on disposal of property and equipment	—	148
Other non-cash items	63	136
Changes in assets and liabilities:		
Accounts receivable, net	9,419	9,055
Inventories, net	(7,489)	(4,892)
Prepaid expenses and other assets	(2,593)	(706)
Accounts payable	1,903	3,136
Deferred revenue	(619)	1,965
Accrued compensation and related benefits	(5,359)	1,496
Other liabilities	(3,884)	(4,292)
Net cash used in operating activities	<u>(27,565)</u>	<u>(7,085)</u>
Investing activities		
Acquisition, net of cash acquired	—	(5,154)
Proceeds from NIH Contract	2,000	—
Proceeds from sale of investments	—	5,011
Proceeds from maturities of investments	—	29,400
Purchases of property and equipment	(11,095)	(1,671)
Net cash provided by (used in) investing activities	<u>(9,095)</u>	<u>27,586</u>
Financing activities		
Repayment of long-term debt	(501)	—
Proceeds from exercise of stock options	209	—
Proceeds from stock issuance from ESPP	685	645
Payments for taxes related to net share settlement of equity awards and other	(1,552)	(262)
Payment of debt issuance costs	—	(375)
Net cash provided by (used in) financing activities	<u>(1,159)</u>	<u>8</u>
Effect of foreign exchange rate fluctuations on cash and cash equivalents	162	(205)
Net increase (decrease) in cash, cash equivalents and restricted cash	<u>(37,657)</u>	<u>20,304</u>
Cash, cash equivalents and restricted cash at beginning of period	69,536	23,736
Cash, cash equivalents and restricted cash at end of period	<u>\$ 31,879</u>	<u>\$ 44,040</u>
Supplemental disclosures of cash flow information		
Cash paid for interest	\$ 1,520	\$ 1,531
Cash paid for income taxes, net of refunds	\$ 1,418	\$ 194
Non-cash right-of-use assets and lease liabilities	\$ 2,241	\$ 36,039
Asset retirement obligations	\$ 703	\$ 316

See accompanying notes

FLUIDIGM CORPORATION
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
June 30, 2021

1. Description of Business

Fluidigm Corporation (the Company, Fluidigm, we, our or us) improves life by driving meaningful insights in health and disease. Our innovative technologies explore the biological complexities of disease to advance human health through research, diagnostics and clinical applications. We create, manufacture, and market a range of products and services, including instruments, consumables, reagents and software that are used by researchers and clinical labs worldwide. Our customers are leading academic and government laboratories, as well as pharmaceutical, biotechnology, plant and animal research organizations, and clinical laboratories worldwide. The Company was formerly known as Mycometrix Corporation and changed its name to Fluidigm Corporation in April 2001. Fluidigm Corporation was founded in 1999 and is headquartered in South San Francisco, California.

2. Summary of Significant Accounting Policies

Basis of Presentation and Consolidation

The accompanying condensed consolidated financial statements have been prepared in conformity with U.S. generally accepted accounting principles (U.S. GAAP) and include the accounts of our wholly owned subsidiaries. As of June 30, 2021, we had wholly owned subsidiaries in Singapore, Canada, the Netherlands, Japan, France, Italy, the United Kingdom, China, Germany and Norway. All subsidiaries, except for Singapore, use their local currency as their functional currency. The Singapore subsidiary uses the U.S. dollar as its functional currency. All intercompany transactions and balances have been eliminated in consolidation.

Certain prior period amounts in the condensed consolidated financial statements were reclassified to conform with the current period presentation. These reclassifications were immaterial and did not affect prior period total assets, total liabilities, stockholders' equity, total revenue, total costs and expenses, loss from operations or net loss.

Unaudited Interim Financial Information

The accompanying interim condensed consolidated financial statements and related disclosures are unaudited, have been prepared on the same basis as the annual financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for a fair statement of the results of operations for the periods presented.

The year-end condensed consolidated balance sheet was derived from audited financial statements, but does not include all disclosures required by U.S. GAAP. The condensed consolidated results of operations for the three and six months ended June 30, 2021 are not necessarily indicative of the results to be expected for the full year or for any other year or interim period. The accompanying condensed consolidated financial statements should be read in conjunction with the audited financial statements and the related notes for the year ended December 31, 2020 included in our annual report on Form 10-K, filed with the SEC on February 25, 2021.

Use of Estimates

The preparation of financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions believed to be reasonable, which together form the basis for making judgments about the carrying values of assets and liabilities. The full extent to which the COVID-19 pandemic impacts our business, results of operations and financial condition will depend on numerous evolving factors including, but not limited to, the magnitude and duration of the pandemic, the extent to which it will impact worldwide macroeconomic conditions, including the speed of recovery, and governmental and business reactions to the pandemic. We assessed certain accounting matters that generally require consideration of forecasted financial information, including the unknown impact of COVID-19 as of June 30, 2021. These accounting matters included, but were not limited to, our allowance for doubtful accounts and credit losses, inventory and related reserves and the carrying value of goodwill and other long-lived assets. Actual results could differ materially from these estimates and could have a material adverse effect on our condensed consolidated financial statements.

Foreign Currency

Assets and liabilities of non-U.S. subsidiaries that use the local currency as their functional currency are translated into U.S. dollars at exchange rates in effect on the balance sheet date. The adjustments resulting from the foreign currency translations are recorded in accumulated other comprehensive loss, a separate component of stockholders' equity. Income and expense accounts are translated at monthly average exchange rates during the year.

Revenue Recognition

We generate revenue primarily from the sale of our products and services. Product revenue is derived from the sale of instruments and consumables, including integrated fluidic circuits (IFCs), assays and reagents. Service revenue is primarily derived from the sale of instrument service contracts, repairs, installation, training and other specialized product support services. We also generate revenue from product development agreements, license and royalty agreements and grants. Revenue is reported net of any sales, use and value-added taxes we collect from customers as required by government authorities. Research and development cost includes costs associated with development and grant revenue.

We recognize revenue based on the amount of consideration we expect to receive in exchange for the goods and services we transfer to the customer. Our commercial arrangements typically include multiple distinct products and services, and we allocate revenue to these performance obligations based on their relative standalone selling prices. Standalone selling prices (SSP) are generally determined using observable data from recent transactions. In cases where sufficient data is not available, we estimate a product's SSP using a cost plus a margin approach or by applying a discount to the product's list price.

Product Revenue

We recognize product revenue at the point in time when control of the goods passes to the customer and we have an enforceable right to payment. This generally occurs either when the product is shipped from one of our facilities or when it arrives at the customer's facility, based on the contractual terms. Customers generally do not have a unilateral right to return products after delivery. Invoices are generally issued at shipment and generally become due in 30 to 60 days.

We sometimes perform shipping and handling activities after control of the product passes to the customer. We have made an accounting policy election to account for these activities as product fulfillment activities rather than as separate performance obligations.

Service Revenue

We recognize revenue from repairs, maintenance, installation, training and other specialized product support services at the point in time the work is completed. Installation and training services are generally billed in advance of service. Repairs and other services are generally billed at the point the work is completed.

Revenue associated with instrument service contracts is recognized on a straight-line basis over the life of the agreement, which is generally one to three years. We believe this time-elapsing approach is appropriate for service contracts because we provide services on demand throughout the term of the agreement. Invoices are generally issued in advance of service on a monthly, quarterly, annual or multi-year basis. Payments made in advance of service are reported on our condensed consolidated balance sheet as deferred revenue.

Development Revenue

We have entered and may continue to enter into development agreements with third parties that provide for up-front and periodic milestone payments. Our development agreements may include more than one performance obligation. At the inception of the contract, we assess whether each obligation represents a separate performance obligation or whether such obligations should be combined as a single performance obligation. The transaction price for each development agreement is determined based on the amount of consideration we expect to be entitled to for satisfying all performance obligations within the agreement.

We assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue. In arrangements where we satisfy performance obligation(s) over time, we recognize development revenue typically using an input method based on our costs incurred relative to the total expected cost which determines the extent of our progress toward completion. As part of the accounting for these arrangements, we must develop estimates and assumptions that require judgment to determine the transaction price and progress towards completion. We review our estimate of the transaction price and progress toward completion based on the best information available to recognize the cumulative progress toward completion as of the end of each reporting period, and make revisions to such estimates as necessary.

We also generate revenue from development or collaboration agreements that do not include upfront or milestone-based payments and generally recognize revenue on these types of agreements based on the timing of development activities.

Other Revenue

Other revenue consists of license and royalty revenue and grant revenue. We recognize revenue from license agreements when the license is transferred to the customer and the customer is able to use and benefit from the license. For contracts that include sales-based royalties, we recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied.

In March 2020, we entered into an agreement to settle intellectual property infringement claims, in which we received a \$3.5 million payment in exchange for a perpetual license under certain Fluidigm intellectual property. The settlement is considered a multiple-element arrangement with each element accounted for individually. Accordingly, \$3.1 million of the proceeds was recognized as license revenue and \$0.4 million was offset against legal costs.

We receive grants from various entities to perform research and development activities over contractually defined periods. Grant revenue is not accounted for under ASC 606 Revenue from Contracts with Customers, as the grant agreement is not with a customer. As there is no authoritative U.S. GAAP guidance for grants awarded to for-profit entities, we have applied the guidance in ASC 958 Not-for-Profit Entities by analogy. Revenue is generally recognized provided that the conditions under which the grants were provided have been met and any remaining performance obligations are perfunctory.

Product Warranties

We generally provide a one-year warranty on our instruments. We accrue for estimated warranty obligations at the time of product shipment. We periodically review our warranty liability and record adjustments based on the terms of warranties provided to customers, and historical and anticipated warranty claim experience. This expense is recorded as a component of cost of product revenue in the condensed consolidated statements of operations.

Significant Judgments

Applying the revenue recognition practices discussed above often requires significant judgment. Judgment is required when identifying performance obligations, estimating SSP and allocating purchasing consideration in multi-element arrangements and estimating the future amount of our warranty obligations. Moreover, significant judgment is required when interpreting commercial terms and determining when control of goods and services passes to the customer. Any material changes created by errors in judgment could have a material effect on our operating results and overall financial condition.

Accounts Receivable

Trade accounts receivable are recorded at net invoice value. We review our exposure to accounts receivable and provide allowances of specific amounts if collectability is no longer reasonably assured based on historical experience and specific customer collection issues. We evaluate such allowances on a regular basis and adjust them as needed.

Concentrations of Business and Credit Risk

Financial instruments that potentially subject us to credit risk consist of cash, cash equivalents, investments, and accounts receivable. Our cash, cash equivalents, and investments may consist of deposits held with banks, money market funds, and other highly liquid investments that may at times exceed federally insured limits. Cash equivalents and investments are financial instruments that potentially subject us to concentrations of risk. Under our investment policy, we invest primarily in securities issued by the U.S. government. The goals of our investment policy, in order of priority, are as follows: preserve capital, meet liquidity needs, and optimize returns.

We generally do not require collateral to support credit sales. To reduce credit risk, we perform credit evaluations of our customers. One customer from whom we derived product and development revenue exceeded 10% of total revenue for the three months ended June 30, 2020. No customer represented more than 10% of total revenue for the three months ended June 30, 2021 or for the six months ended June 30, 2021 and 2020. There were no customers with outstanding trade receivable balances that represented more than 10% of total billed receivables as of June 30, 2021 or December 31, 2020.

Our products include components that are currently procured from a single source or a limited number of sources. We believe that other vendors would be able to provide similar components; however, the qualification of such vendors may require start-up time. In order to mitigate any adverse impacts from a disruption of supply, we attempt to maintain an adequate supply of critical limited-source components.

Leases

We determine if an arrangement is a lease, or contains a lease, at inception. Operating leases are included in operating lease right-of-use (ROU) assets and current and non-current operating lease liabilities in our condensed consolidated balance sheets. ROU assets represent our right-to-use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we generally use an incremental collateralized borrowing rate based on the estimated rate of interest for collateralized borrowing over a similar term of the lease payments at commencement date. Significant judgment is required in determining the incremental collateralized borrowing rate. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

We elected the short-term lease recognition exemption for all leases that qualify. For those leases that qualify, we will not recognize ROU assets or lease liabilities for leases with an initial lease term of one year or less. We also elected not to separate lease and nonlease components for our building leases. The nonlease components are generally variable in nature and are expected to represent most of our variable lease costs. Variable costs are expensed as incurred. We have taken a portfolio approach for our vehicle leases by country.

Business Combinations, Goodwill, Intangible Assets and Other Long-Lived Assets

We have completed acquisitions of businesses in the past and may acquire additional businesses or technologies in the future. The results of businesses acquired in a business combination are included in our condensed consolidated financial statements from the date of acquisition. We allocate the purchase price, which is the sum of the consideration provided in a business combination, to the identifiable assets and liabilities of the acquired business at their acquisition date fair values. The excess of the purchase price over the amount allocated to the identifiable assets and liabilities, if any, is recorded as goodwill. Determining the fair value of assets acquired and liabilities assumed requires management to use significant judgment and estimates, including the selection of valuation methodologies and estimates of future revenue.

Goodwill, which has an indefinite useful life, represents the excess of cost over fair value of net assets acquired. Our intangible assets include developed technology, patents and licenses. The cost of identifiable intangible assets with finite lives is generally amortized on a straight-line basis over the assets' respective estimated useful lives.

Goodwill and intangible assets with indefinite lives are not subject to amortization but are tested for impairment on an annual basis during the fourth quarter or whenever events or changes in circumstances indicate the carrying amount of these assets may not be recoverable. Events or changes in circumstances that could affect the likelihood that we will be required to recognize an impairment charge include, but are not limited to, declines in our stock price or market capitalization, economic downturns and other macroeconomic events, including the current COVID-19 pandemic, declines in our market share or revenues, and an increase in our losses, rapid changes in technology, failure to achieve the benefits of capacity increases and utilization, significant litigation arising out of an acquisition, or other matters. Any impairment charges could have a material adverse effect on our operating results and net asset value in the quarter in which we recognize the impairment charge.

In evaluating our goodwill and intangible assets with indefinite lives for indications of impairment, we first conduct an assessment of qualitative factors to determine whether it is more likely than not that the fair value of our reporting unit is less than its carrying amount. If we determine that it is more likely than not that the fair value of our reporting unit is less than its carrying amount, we compare the fair value of our reporting unit to its carrying value. If the fair value of our reporting unit exceeds its carrying value, goodwill is not considered impaired and no further analysis is required. If the carrying value of the reporting unit exceeds its fair value, then an impairment loss equal to the difference would be recorded to goodwill. We did not recognize any impairment of goodwill for any of the periods presented herein.

We evaluate our long-lived assets, including finite-lived intangibles, for indicators of possible impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. If any indicator of impairment exists, we assess the recoverability of the affected long-lived assets by determining whether the carrying value of the asset can be recovered through undiscounted future operating cash flows. If impairment is indicated, we estimate the asset's fair value using future discounted cash flows associated with the use of the asset and adjust the carrying value of the asset accordingly. We did not recognize any impairment of intangibles for any of the periods presented herein.

Deferred Grant Income

In September 2020, we executed a definitive contract with the National Institutes of Health (NIH) for a project under the NIH Rapid Acceleration of Diagnostics (RADx) program. The definitive contract, which amended the letter contract we entered into with the NIH in July 2020 (collectively, the NIH Contract), has a total value of up to \$34.0 million upon the achievement

of certain conditional milestones. Proceeds from the NIH Contract will be used primarily to expand production capacity and product throughput capabilities.

Accounting for the NIH Contract does not fall under ASC 606, Revenue from Contracts with Customers, as the NIH will not benefit directly from our expansion or product development. As there is no authoritative guidance under U.S. GAAP on accounting for government assistance to for-profit business entities, we applied International Accounting Standards (IAS) 20, Accounting for Government Grants and Disclosure of Government Assistance, by analogy when accounting for the NIH Contract payments to Fluidigm.

The NIH Contract proceeds used for production capacity expansion meet the definition of grants related to assets as the primary purpose for the payments is to fund the purchase and construction of capital assets to scale up production capacity. Under IAS 20, government grants related to assets are presented in the statement of financial position either by setting up the grant as deferred income or by deducting the grant in arriving at the carrying amount of the asset. Either of these two methods of presentation of grants related to assets in financial statements are regarded as acceptable alternatives under IAS 20. We have elected to record the grants received as deferred income using the first method.

Under IAS 20, grant proceeds are recognized when there is reasonable assurance the conditions of the grant will be met and the grant will be received. With the NIH Contract, this occurs when either each milestone has been accepted by NIH or management concludes the conditions of the grant have been substantially met. Deferred grant income related to production capacity expansion will be amortized over the period of depreciation for the related assets as a reduction of depreciation expense. Deferred grant income related to reimbursement of operating expenses is recorded as a reduction of those expenses incurred to date. Any grant proceeds that exceed the cost of the capital expenditures and expenses expected to be incurred at the completion of the NIH Contract will be reflected in other income.

Convertible Notes

In February 2014, we closed an underwritten public offering of 2.75% Senior Convertible Notes due 2034 (2014 Notes). In November 2019, we closed a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of \$55.0 million aggregate principal amount of our 5.25% Senior Convertible Notes due 2024 (2019 Notes). As the 2014 Notes and 2019 Notes do not provide for a cash conversion feature, the 2014 Notes and the 2019 Notes are recorded as debt in their entirety in accordance with ASC 470. Offering-related costs, including underwriting costs, were capitalized as debt issuance costs, recorded as an offset to the carrying value of the related Notes, and are amortized over the expected term of the related Notes using the effective interest method.

As provided by the indenture governing the 2014 Notes, in February 2021, holders of \$0.5 million of the 2014 Notes required us to repurchase their notes at 100% of the principal amount plus accrued and unpaid interest. We recorded a loss of \$9 thousand on the extinguishment of these notes, representing the difference between the price paid to extinguish the 2014 Notes and their carrying value, including unamortized debt issuance costs. The loss is included in other expense, net on the condensed consolidated statement of operations.

See Note 8 for a detailed discussion of the accounting treatment of the transactions and additional information.

Comprehensive Loss

Comprehensive loss is comprised of net loss and other comprehensive income (loss). Other comprehensive income (loss) consists of unrealized gains and losses on our investments and foreign currency translation adjustments. Total comprehensive loss for all periods presented has been disclosed in the condensed consolidated statements of comprehensive loss.

The components of accumulated other comprehensive loss, net of tax, for the three and six months ended June 30, 2021 are as follows (in thousands):

	Foreign Currency Translation Adjustment	Unrealized Gain (Loss) on Investments	Accumulated Other Comprehensive Income (Loss)
Ending balance at December 31, 2020	\$ 112	\$ —	\$ 112
Other comprehensive income (loss)	(443)	—	(443)
Ending balance at March 31, 2021	\$ (331)	\$ —	\$ (331)
Other comprehensive income (loss)	47	—	47
Ending balance at June 30, 2021	<u>\$ (284)</u>	<u>\$ —</u>	<u>\$ (284)</u>

Immaterial amounts of unrealized gains and losses have been reclassified into the condensed consolidated statement of operations for the three and six months ended June 30, 2021.

Net Loss per Share

Our basic and diluted net loss per share is calculated by dividing net loss by the weighted-average number of shares of common stock outstanding for the period. Restricted stock units, performance share units, and stock options to purchase our common stock are considered to be potentially dilutive common shares but have been excluded from the calculation of diluted net loss per share as their effect is anti-dilutive for all periods presented.

The following potentially dilutive common shares were excluded from the computations of diluted net loss per share for the periods presented because including them would have been anti-dilutive (in thousands):

	Six Months Ended June 30,	
	2021	2020
Stock options, restricted stock units and performance awards	7,944	8,237
2019 Convertible Notes	18,966	18,966
2019 Convertible Notes potential make-whole shares	809	2,412
2014 Convertible Notes	10	19
Total	27,729	29,634

Recent Accounting Changes and Accounting Pronouncements

Adoption of New Accounting Guidance

In November 2019, the FASB issued ASU 2019-12-Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. The amendments in this update improve consistent application of and simplify U.S. GAAP for Topic 740 by clarifying and amending existing guidance for, among other items, intra-period allocation, reporting tax law changes and losses in interim periods, state and local taxes not fully based on income and recognition of deferred tax liability related to certain transactions. There is also new guidance related to consolidated group reporting and tax impacts resulting from business combinations. The new guidance is effective for fiscal years beginning after December 15, 2020. The adoption of the new guidance did not have a significant impact on our financial results.

Recent Accounting Pronouncements

In August 2020, the FASB issued ASU 2020-06 Debt-Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging-Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity. The amendment to this ASU reduces the number of accounting models for convertible instruments and allows more contracts to qualify for equity classification, which is expected to result in more convertible instruments being accounted for as a single unit, rather than being bifurcated between debt and equity. The new guidance is effective for fiscal years beginning after December 15, 2021. We are currently evaluating the impact of adoption on our condensed consolidated financial statements.

3. NIH Contract

In 2020, we were awarded the NIH Contract under the RADx program to support the expansion of our production capacity and throughput capabilities for COVID-19 testing with our microfluidics technology. The NIH Contract has a total value of up to \$34.0 million upon the achievement of certain conditional milestones. The NIH Contract was modified in February 2021 to divide the remaining milestones into multiple discrete milestones, and modified again in May 2021 to change the due dates for some milestones. The milestones are expected to be completed in 2021 and no change was made to the total grant amount under the 2021 modifications. Proceeds from the NIH Contract are being used primarily to expand production capacity and, to a lesser extent, to offset related operating expenses.

The NIH has the right to terminate the NIH Contract for convenience. In the event of termination for convenience, we will be paid a percentage of the NIH Contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges. In the event of termination for cause due to our default, NIH is not liable for supplies or services not accepted.

If we fail to deliver within the time specified in the NIH Contract and the delay is due to Fluidigm's fault or negligence, we are required to pay liquidated damages in the amount of 33% of the amount(s) already disbursed to date under the NIH Contract within six months from the date of termination. We are in compliance with the terms of the NIH Contract and do not currently expect to pay any liquidated damages. We are working with the NIH to ensure we remain in compliance with the requirements and milestones of the NIH Contract.

The following table summarizes the activity under the NIH Contract through June 30, 2021 (in thousands):

	June 30, 2021	December 31, 2020
Total value of milestones reasonably assured	\$ 31,436	\$ 25,436
Cumulative amounts applied against operating expenses	(3,202)	(1,488)
Total deferred grant income	<u>\$ 28,234</u>	<u>\$ 23,948</u>
Short-term deferred grant income	\$ 7,703	\$ 2,912
Long-term deferred grant income	20,531	21,036
Deferred grant income	<u>\$ 28,234</u>	<u>\$ 23,948</u>
Total value of milestones reasonably assured	\$ 31,436	\$ 25,436
Cumulative funding received	(30,936)	(25,436)
Grant receivable from NIH Contract	<u>\$ 500</u>	<u>\$ —</u>

The grant receivable from the NIH Contract is included in prepaid expenses and other current assets on the condensed consolidated balance sheet at June 30, 2021. Short-term deferred grant income represents amounts expected to be recognized in income over the next twelve months, including estimated depreciation expense. The long-term deferred grant income includes capital expenditure amounts which will be amortized in later periods.

We expect to incur an aggregate \$23.0 million of capital expenditures associated with the NIH Contract and have incurred \$20.1 million of such capital expenditures through June 30, 2021. The majority of this amount is included in construction-in-progress, which is included in property and equipment, net in the condensed consolidated balance sheet as of June 30, 2021 (see Note 7).

4. Development Agreement

Effective March 31, 2020, we signed an OEM Supply and Development Agreement (Development Agreement) with a customer. Under the Development Agreement, Fluidigm will develop products based on our microfluidics technology. The Development Agreement provides up-front and periodic milestone payments during the development stage, which is expected to be completed in 2021. We recognized \$0.9 million and \$2.3 million of development revenue from this agreement during the three and six months ended June 30, 2021, respectively. During the three months ended June 30, 2020, we recognized \$3.0 million of revenue. Cumulatively, we have recognized \$11.1 million of development revenue associated with the agreement and expect to recognize another \$0.1 million upon completion of the Development Agreement. Unbilled receivables, which represent revenues recognized in excess of milestones billed, totaled \$2.1 million as of June 30, 2021, and are included in prepaid expenses and other current assets on our condensed consolidated balance sheet.

5. Revenue

Disaggregation of Revenue

The following table presents our revenue disaggregated by geographic region and by source for the three and six months ended June 30, 2021 and 2020 (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Geographic Markets:				
Americas	\$ 16,120	\$ 13,940	\$ 34,643	\$ 28,784
EMEA	9,220	6,557	18,362	14,653
Asia-Pacific	5,678	5,561	10,807	10,238
Total revenue	\$ 31,018	\$ 26,058	\$ 63,812	\$ 53,675
Sources:				
Instruments	\$ 10,179	\$ 8,577	\$ 17,887	\$ 18,048
Consumables	12,448	8,828	29,468	18,338
Product revenue	22,627	17,405	47,355	36,386
Service revenue	6,627	5,140	12,913	10,326
Development revenue	850	3,000	2,330	3,000
Other revenue:				
License revenue	93	63	93	3,163
Grant revenue	821	450	1,121	800
Total other revenue	914	513	1,214	3,963
Total revenue	\$ 31,018	\$ 26,058	\$ 63,812	\$ 53,675

Performance Obligations

We reported \$21.5 million of deferred revenue on our December 31, 2020 consolidated balance sheet. During the six months ended June 30, 2021, \$7.2 million of the opening balance was recognized as revenue and \$6.2 million of net additional advance payments were received from customers, primarily associated with instrument service contracts. At June 30, 2021, we reported \$20.5 million of deferred revenue.

The following table summarizes the expected timing of revenue recognition for unfulfilled performance obligations associated with instrument service contracts that were partially completed at June 30, 2021 (in thousands):

Fiscal Year	Expected Revenue
2021 remainder of the year	\$ 8,079
2022	8,918
2023	4,879
Thereafter	2,869
Total	\$ 24,745

(1) Expected revenue includes both billed amounts included in deferred revenue and unbilled amounts that are not reflected in our condensed consolidated financial statements and are subject to change if our customers decide to cancel or modify their contracts. Purchase orders for instrument service contracts can generally be canceled before the service period begins without penalty.

We apply the practical expedient that permits us not to disclose information about unsatisfied performance obligations for service contracts with an expected term of one year or less.

6. Goodwill and Intangible Assets, net

In connection with our acquisition of DVS Sciences in February 2014, we recognized \$104.1 million of goodwill and \$112.0 million of developed technology. In connection with our acquisition of InstruNor in January 2020, we recognized \$2.2 million (Euro 2.0 million) of goodwill and \$5.4 million (Euro 4.9 million) of developed technology. As the goodwill and developed technology from the InstruNor acquisition are recorded in the functional currency of our European operations, which is the Euro, these balances are revalued each period and the U.S. dollar value of these assets will fluctuate as foreign exchange rates change.

Goodwill and intangible assets with indefinite lives are not subject to amortization but are tested for impairment on an annual basis during the fourth quarter or whenever events or changes in circumstances indicate the carrying amount of these assets may not be recoverable. Qualitative assessment includes assessing significant events and circumstances such as our current results, assumptions regarding future performance, strategic initiatives and overall economic factors, including the ongoing global COVID-19 pandemic and macroeconomic developments to determine the existence of potential indicators of impairment and assess if it is more likely than not that the fair value of our reporting unit or intangible assets is less than their carrying value. If indicators of impairment are identified, a quantitative impairment test is performed. There have been no indicators of impairment in the first half of 2021.

Intangible assets also include other patents and licenses, which are included in other non-current assets. Intangible assets, net, were as follows (in thousands):

	June 30, 2021			
	Gross Amount	Accumulated Amortization	Net	Weighted-Average Amortization Period
Developed technology	\$ 117,762	\$ (83,680)	\$ 34,082	9.9 years
Patents and licenses	\$ 11,260	\$ (9,662)	\$ 1,598	7.0 years

	December 31, 2020			
	Gross Amount	Accumulated Amortization	Net	Weighted-Average Amortization Period
Developed technology	\$ 117,658	\$ (77,452)	\$ 40,206	9.9 years
Patents and licenses	\$ 11,256	\$ (9,238)	\$ 2,018	7.5 years

Total amortization expense for both the three and six months ended June 30, 2021 and June 30, 2020 was \$3.2 million and \$6.4 million, respectively.

Based on the carrying value of intangible assets as of June 30, 2021, the amortization expense is expected to be as follows (in thousands):

Fiscal Year	Developed Technology Amortization Expense	Patents and Licenses Amortization Expense	Total
2021 remainder of the year	\$ 5,960	\$ 340	\$ 6,300
2022	11,920	678	12,598
2023	11,920	572	12,492
2024	2,120	8	2,128
2025	720	—	720
Thereafter	1,442	—	1,442
Total	\$ 34,082	\$ 1,598	\$ 35,680

7. Balance Sheet Details

Cash, Cash Equivalents and Restricted Cash

Cash, cash equivalents and restricted cash consisted of the following as of June 30, 2021 and December 31, 2020 (in thousands):

	June 30, 2021	December 31, 2020
Cash and cash equivalents	\$ 30,863	\$ 68,520
Restricted cash	1,016	1,016
Total cash, cash equivalents and restricted cash	<u>\$ 31,879</u>	<u>\$ 69,536</u>

Short-term restricted cash of approximately \$16 thousand is included in prepaid expenses and other current assets and \$1.0 million of non-current restricted cash is included in other non-current assets in the condensed consolidated balance sheet as of June 30, 2021.

Inventories, net

Inventories consisted of the following as of June 30, 2021 and December 31, 2020 (in thousands):

	June 30, 2021	December 31, 2020
Raw materials	\$ 11,009	\$ 8,292
Work-in-process	973	1,214
Finished goods	13,092	10,183
Total inventories, net	<u>\$ 25,074</u>	<u>\$ 19,689</u>

Property and Equipment, net

Property and equipment consisted of the following as of June 30, 2021 and December 31, 2020 (in thousands):

	June 30, 2021	December 31, 2020
Computer equipment and software	\$ 4,306	\$ 4,240
Laboratory and manufacturing equipment	18,406	18,107
Leasehold improvements	7,788	7,203
Office furniture and fixtures	2,031	1,994
Property and equipment, gross	32,531	31,544
Less accumulated depreciation and amortization	(25,331)	(23,989)
Construction-in-progress	20,518	9,976
Property and equipment, net	<u>\$ 27,718</u>	<u>\$ 17,531</u>

The majority of the amounts included in construction-in-progress are related to the NIH Contract (see Note 3).

Accrued Compensation and Related Benefits

Accrued compensation and related benefits consisted of the following as of June 30, 2021 and December 31, 2020 (in thousands):

	June 30, 2021	December 31, 2020
Accrued incentive compensation	\$ 2,335	\$ 7,842
Accrued vacation	3,744	3,367
Accrued payroll taxes and other	2,214	2,578
Accrued compensation and related benefits	<u>\$ 8,293</u>	<u>\$ 13,787</u>

Warranties

Accrued warranty is included in other current liabilities on our condensed consolidated balance sheet. Activity for our warranty accrual for the six months ended June 30, 2021 and 2020 is summarized below (in thousands):

	Six Months Ended June 30,	
	2021	2020
Beginning balance	\$ 1,663	\$ 1,390
Accrual (release) for current period warranties	220	419
Warranty costs incurred	(522)	(277)
Ending balance	<u>\$ 1,361</u>	<u>\$ 1,532</u>

8. Convertible Notes and Credit Facility

2014 Senior Convertible Notes (2014 Notes)

In February 2014, we closed an underwritten public offering of \$201.3 million aggregate principal amount of our 2014 Notes. We received \$195.2 million, net of underwriting discounts, from the issuance of the 2014 Notes and incurred approximately \$1.1 million in offering-related expenses. The underwriting discount and offering-related expenses are being amortized to interest expense using the effective-interest rate method. The effective interest rate on the 2014 Notes, reflecting the impact of debt discounts and issuance costs, is 3.0%. The 2014 Notes will mature on February 1, 2034, unless earlier converted, redeemed, or repurchased in accordance with the terms of the 2014 Notes. Repurchase provisions for the 2014 Notes permit the holders of the 2014 Notes to require us to repurchase all or a portion of their 2014 Notes on each of February 6, 2021, February 6, 2024, and February 6, 2029, at a repurchase price in cash equal to 100% of the principal amount of the 2014 Notes plus accrued and unpaid interest. On February 6, 2021, holders of \$0.5 million of the 2014 Notes required us to repurchase their notes in accordance with this provision. We recorded a loss of \$9 thousand on the extinguishment of these notes, which is included in other expense, net in our condensed consolidated statement of operations.

We have retired the majority of the 2014 Notes through the issuance of the 2018 Notes and 2019 Notes, as discussed below, as well as the February 2021 redemption. As of June 30, 2021, there is \$0.6 million aggregate principal of the 2014 Notes outstanding.

2018 Senior Convertible Notes (2018 Notes)

In March 2018, we entered into separate privately negotiated transactions with certain holders of our 2014 Notes to exchange \$150.0 million in aggregate principal amount of the 2014 Notes for 2018 Notes, leaving \$51.3 million of the aggregate principal amount of the 2014 Notes outstanding. The 2018 Notes accrued interest at a rate of 2.75% payable semi-annually. The 2018 Notes were set to mature on February 1, 2034, unless earlier converted, redeemed, or repurchased in accordance with the terms of the indenture governing the 2018 Notes. In the first quarter of 2019, \$150.0 million of the 2018 Notes were converted into 19.5 million shares of our common stock and the bonds were retired.

2019 Senior Convertible Notes (2019 Notes)

In November 2019, we issued \$55.0 million aggregate principal amount of 2019 Notes. Net proceeds of the offering of the 2019 Notes issuance were \$52.7 million, after deductions for commissions and other debt issuance costs of approximately \$2.3

million. \$51.8 million of the proceeds of the 2019 Notes were used to retire \$50.2 million aggregate principal amount of our 2014 Notes, leaving \$1.1 million of aggregate principal value of 2014 Notes then outstanding.

The 2019 Notes bear interest at 5.25% per annum, payable semiannually in arrears on June 1 and December 1 of each year, beginning on June 1, 2020. The Notes will mature on December 1, 2024, unless earlier repurchased or converted pursuant to their terms. The 2019 Notes will be convertible at the option of the holder at any point prior to the close of business on the second scheduled trading day preceding the maturity date. The initial conversion rate of the Notes is 344.8276 shares of the Company's common stock per \$1,000 principal amount of 2019 Notes (which is equivalent to an initial conversion price of approximately \$2.90 per share). The conversion rate is subject to adjustment upon the occurrence of certain specified events. Those certain specified events include voluntary conversion of the 2019 Notes prior to our exercise of the Issuer's Conversion Option or in connection with a make-whole fundamental change, entitling the holders, under certain circumstances, to a make-whole premium in the form of an increase in the conversion rate determined by reference to a make-whole table set forth in the indenture governing the 2019 Notes. The conversion rate will not be adjusted for any accrued and unpaid interest.

The 2019 Notes will also be convertible at our option upon certain conditions in accordance with the terms of the indenture governing the 2019 Notes. On or after December 1, 2021 to December 1, 2022, if the price of the Company's common stock has equaled or exceeded 150% of the conversion price then in effect for a specified number of days (Issuer's Conversion Option), we may, at our option, elect to convert the 2019 Notes in whole but not in part into shares of the Company, determined in accordance with the terms of the indenture. On or after December 1, 2022, if the price of the Company's common stock has equaled or exceeded 130% of the conversion price then in effect for a specified number of days, we may, at our option, elect to convert the 2019 Notes in whole but not in part into shares of the Company, determined in accordance with the terms of the indenture.

Offering-related costs for the 2019 Notes were capitalized as debt issuance costs and are recorded as an offset to the carrying value of the 2019 Notes. The debt issuance costs are being amortized over the expected term of the 2019 Notes using the effective interest method through the maturity date of December 1, 2024. The effective interest rate on the 2019 Notes is 6.2%.

The carrying values of the components of the 2014 Notes and the 2019 Notes are as follows (in thousands):

	June 30, 2021	December 31, 2020
2.75% 2014 Notes due 2034		
Principal amount	\$ 578	\$ 1,079
Unamortized debt discount	(9)	(16)
Unamortized debt issuance cost	(2)	(4)
	<u>\$ 567</u>	<u>\$ 1,059</u>
5.25% 2019 Notes due 2024		
Principal amount	\$ 55,000	\$ 55,000
Unamortized debt issuance cost	(1,624)	(1,835)
	<u>\$ 53,376</u>	<u>\$ 53,165</u>
Net carrying value of all Notes	<u>\$ 53,943</u>	<u>\$ 54,224</u>

2018 Revolving Credit Facility

In August 2018, we entered into a revolving credit facility with Silicon Valley Bank (as amended, the Revolving Credit Facility) in an aggregate principal amount of up to the lesser of (i) \$15.0 million (Maximum Amount) or (ii) the sum of (a) 85% of our eligible receivables and (b) 50% of our eligible inventory, in each case, subject to certain limitations (Borrowing Base), provided that the amount of eligible inventory that may be counted towards the Borrowing Base shall be subject to a cap as set forth in the Revolving Credit Facility. Subject to the level of this Borrowing Base, we may make and repay borrowings from time to time until the maturity of the Revolving Credit Facility. Total availability under the Revolving Credit Facility as of June 30, 2021 was \$11.0 million. There were no borrowings outstanding under the Revolving Credit Facility at June 30, 2021.

The Revolving Credit Facility is collateralized by substantially all our property, other than intellectual property. The interest rate on outstanding loans under the Revolving Credit Facility is the greater of (i) prime rate plus 0.50% or (ii) 5.25%. Interest on any outstanding loans is due and payable monthly and the principal balance is due at maturity, though loans can be prepaid at any time without penalty. Fees for the Revolving Credit Facility include an annual commitment fee of \$112,500 and a quarterly unused line fee based on the Borrowing Base. Effective April 21, 2020, the Revolving Credit Facility was amended to extend the maturity date to August 2, 2022.

9. Leases

We have operating leases for buildings, equipment and vehicles. Existing leases have remaining terms of less than one year to ten years. Some leases contain options to extend the lease, usually for up to five years, and termination options.

Supplemental balance sheet information related to leases was as follows as of June 30, 2021 and December 31, 2020 (in thousands, except for discount rate and lease term):

	June 30, 2021	December 31, 2020
Operating lease right-of-use buildings	\$ 43,427	\$ 41,132
Operating lease right-of-use equipment	87	89
Operating lease right-of-use vehicles	661	679
Total operating lease right-of-use assets, gross	44,175	41,900
Accumulated amortization	(5,458)	(3,786)
Total operating lease right-of-use assets, net	<u>\$ 38,717</u>	<u>\$ 38,114</u>
Operating lease liabilities, current	\$ 2,971	\$ 2,973
Operating lease liabilities, non-current	39,061	38,178
Total operating lease liabilities	<u>\$ 42,032</u>	<u>\$ 41,151</u>
Weighted average remaining lease term (in years)	8.2	8.6
Weighted average discount rate per annum	12.0 %	11.9 %

10. Fair Value of Financial Instruments

The following tables summarize our cash and available-for-sale securities that were measured at fair value by significant investment category within the fair value hierarchy (in thousands):

	June 30, 2021						
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value	Cash and Cash Equivalents	Short-Term Marketable Securities	Cash- Restricted
Assets:							
Cash and money market funds	\$ 30,863	\$ —	\$ —	\$ 30,863	\$ 30,863	\$ —	\$ —
Cash-restricted	1,016	—	—	1,016	—	—	1,016
Total cash, cash equivalents and restricted cash	<u>\$ 31,879</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 31,879</u>	<u>\$ 30,863</u>	<u>\$ —</u>	<u>\$ 1,016</u>

	December 31, 2020						
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value	Cash and Cash Equivalents	Short-Term Marketable Securities	Cash- Restricted
Assets:							
Cash and money market funds	\$ 68,520	\$ —	\$ —	\$ 68,520	\$ 68,520	\$ —	\$ —
Cash-restricted	1,016	—	—	1,016	—	—	1,016
Total cash, cash equivalents and restricted cash	<u>\$ 69,536</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 69,536</u>	<u>\$ 68,520</u>	<u>\$ —</u>	<u>\$ 1,016</u>

Cash and cash equivalents are Level 1 measurements. There were no transfers between Level I and Level II measurements, and no changes in the valuation techniques used, during the six months ended June 30, 2021.

Convertible Notes

Our convertible notes are not regularly traded and it is difficult to estimate a reliable and accurate market price for these securities. The estimated fair values for these securities represent Level III valuations since a fair value for these securities cannot be determined by using readily observable inputs or measures, such as market prices. Fair values were estimated using pricing models and risk-adjusted value ranges.

The following table summarizes the par value, carrying value and the estimated fair value of the 2014 and 2019 Notes as of June 30, 2021 and December 31, 2020, respectively (in thousands):

	June 30, 2021			December 31, 2020		
	Par Value	Carrying Value	Fair Value	Par Value	Carrying Value	Fair Value
2014 Notes	\$ 578	\$ 567	\$ 601	\$ 1,079	\$ 1,059	\$ 1,122
2019 Notes	55,000	53,376	120,242	55,000	53,165	117,899
Total	<u>\$ 55,578</u>	<u>\$ 53,943</u>	<u>\$ 120,843</u>	<u>\$ 56,079</u>	<u>\$ 54,224</u>	<u>\$ 119,021</u>

11. Shareholders' Equity

2020 At-the-Market Offering

In March 2020, we entered into an Open Market Sale Agreement (Sale Agreement) with Jefferies LLC (Jefferies) to sell shares of our common stock having aggregate sales proceeds of up to \$50,000,000, from time to time, through an "at-the-market" equity offering program under which Jefferies acts as sales agent. During the third quarter of 2020, we sold 2.5 million shares of our common stock pursuant to the Sale Agreement. Our net proceeds from the sale of such shares of common stock were approximately \$20.1 million, after deducting related expenses, including commissions of approximately \$0.6 million and issuance costs of approximately \$0.2 million.

InstruNor Acquisition

In January 2020, we completed the acquisition of all of the outstanding shares of InstruNor. The purchase price was approximately \$7.2 million, consisting of \$5.2 million in cash and 485,451 shares of our common stock. No measurement period adjustments were made after January 2020 and the purchase price allocation has been finalized.

Common Shares Reserved

At June 30, 2021, we had reserved shares of common stock for future issuance under equity compensation plans as follows:

(in 000's)	Securities To Be Issued Upon Exercise Of Options	Securities To Be Issued Upon Release Of Restricted Stock and Performance Share Units	Number Of Remaining Securities Available For Future Issuance
2011 Equity Incentive Plan	1,463	6,192	4,159
DVS Sciences Inc. 2010 Equity Incentive Plan	12	—	—
2017 Inducement Award Plan	159	118	—
2017 Employee Stock Purchase Plan	—	—	2,786
	1,634	6,310	6,945

The number of shares available for future issuance reflects performance share units at the maximum number of shares that could be issued under these awards.

12. Stock-Based Plans

Our board of directors sets the terms, conditions, and restrictions related to our 2017 Employee Stock Purchase Plan (ESPP) and the grant of stock options, restricted stock units (RSUs) and performance-based awards under our equity incentive plans. Our board of directors determines the number of awards to grant and also sets vesting criteria.

In general, RSUs vest on a quarterly basis over a period of four years from the date of grant at a rate of either 25% on the first anniversary of the grant date and ratably each quarter over the remaining 12 quarters, or ratably each quarter over 16 quarters, subject to the employees' continued employment. In May 2020, we granted 1.8 million retention RSUs that vest over three years, with 50% of the RSUs vesting after one year and 25% of the RSUs vesting each year thereafter.

Incentive stock options and non-statutory stock options granted under our 2011 Equity Incentive Plan (2011 Plan) have a term of no more than ten years from the date of grant and an exercise price of at least 100% of the fair market value of the underlying common stock on the date of grant. If a participant owns stock representing more than 10% of the voting power of all classes of our stock on the grant date, an incentive stock option awarded to the participant will have a term of no more than five years from the date of grant and an exercise price of at least 110% of the fair market value of the underlying common stock on the date of grant. Generally, options vest at a rate of either 25% on the first anniversary of the option grant date and ratably each month over the remaining period of 36 months, or ratably each month over 48 months. We may grant options with different vesting terms from time to time.

For performance-based share awards, our board of directors sets the performance objectives and other vesting provisions in determining the number of shares or value of performance units and performance shares that will be paid out. Such payout will be a function of the extent to which performance objectives or other vesting provisions have been achieved.

2011 Equity Incentive Plan

In January 2011, our board of directors adopted the 2011 Plan under which incentive stock options, non-statutory stock options, RSUs, stock appreciation rights, performance stock units (PSUs), and performance shares may be granted to our employees, directors, and consultants. In April 2019, our board of directors authorized, and in June 2019, our stockholders approved an amendment and restatement of the 2011 Plan to make various changes, including increasing the number of shares reserved for issuance by approximately 5.0 million shares and extending the term of the 2011 Plan until April 2029. In May 2020, our board of directors authorized, and in June 2020, our stockholders approved an increase in the number of shares reserved for issuance under the 2011 Plan of 1.4 million shares. In April 2021, our board of directors authorized, and in May

2021, our stockholders approved an increase in the number of shares reserved for issuance under the 2011 Plan of 4.1 million shares.

Activity under the various plans was as follows:

Restricted Stock Units:

	Number of Units (in 000s)	Weighted-Average Grant Date Fair Value per Unit
Balance at December 31, 2020	4,862	\$ 4.98
RSUs granted	2,360	\$ 4.73
RSUs released	(1,583)	\$ 4.88
RSUs forfeited	(567)	\$ 4.49
Balance as of June 30, 2021	<u>5,072</u>	<u>\$ 4.95</u>

As of June 30, 2021, the unrecognized compensation costs related to outstanding unvested RSUs under our equity incentive plans were \$23.4 million. We expect to recognize those costs over a weighted average period of 2.8 years.

Stock Options:

	Number of Options (000s)	Weighted-Average Exercise Price per Option	Weighted- Average Remaining Contractual Life (in Years)	Aggregate Intrinsic Value ⁽¹⁾ in (000s)
Balance at December 31, 2020	1,635	\$ 7.33	6.2	
Options granted	93	\$ 5.56		
Options exercised	(36)	\$ 5.86		
Options forfeited	(58)	\$ 8.48		
Balance as of June 30, 2021	<u>1,634</u>	<u>\$ 7.32</u>	<u>6.0</u>	<u>\$ 978</u>
Vested at June 30, 2021	<u>1,427</u>	<u>\$ 7.38</u>	<u>5.7</u>	<u>\$ 898</u>
Unvested awards at June 30, 2021	<u>207</u>	<u>\$ 6.15</u>	<u>8.3</u>	<u>\$ 80</u>

(1) Aggregate intrinsic value as of June 30, 2021 was calculated as the difference between the closing price per share of our common stock on the last trading day of June 30, 2021, which was \$6.16, and the exercise price of the options, multiplied by the number of in-the-money options.

As of June 30, 2021, the unrecognized compensation costs related to outstanding unvested options under our equity incentive plans were \$0.7 million. We expect to recognize those costs over a weighted average period of 1.1 years.

Performance-based Awards

Performance Stock Units with Market Conditions

We have granted PSU awards to certain executive officers and senior level employees. The number of PSUs ultimately earned under these awards is calculated based on the Total Shareholder Return (TSR) of our common stock as compared to the TSR of a defined group of peer companies during the applicable three-year performance period. The percentage of PSUs that vest will depend on our relative position at the end of the performance period and can range from 0% to 200% of the number of units granted. Under FASB ASC Topic 718, the provisions of the PSU awards related to TSR are considered a market condition, and the effects of that market condition are reflected in the grant date fair value of the awards. We used a Monte Carlo simulation pricing model to incorporate the market condition effects at our grant date.

Based on the performance of our stock relative to our defined group of peer companies for the period 2018-2020, PSUs awarded in 2018 vested in 2021 at a rate of 118.6% of target. The performance adjustment in the table below reflects the impact of the above target performance.

Activity under the TSR-based PSUs is as follows:

	Number of Units (in 000s)	Weighted-Average Grant Date Fair Value per Unit
Balance at December 31, 2020	962	\$ 9.74
PSU granted	396	\$ 9.60
Performance adjustment for 2018 awards	21	\$ 10.09
PSU released	(133)	\$ 10.09
PSU forfeited	(36)	\$ 4.82
Balance at June 30, 2021	<u>1,210</u>	<u>\$ 9.80</u>

As of June 30, 2021, the unrecognized compensation costs related to these awards were \$6.0 million. We expect to recognize those costs over a weighted average period of 2 years.

Performance Stock Units with Performance Conditions. During 2019, we also granted performance stock units to a certain employee. The number of performance stock units that ultimately vest under these awards is dependent on achieving certain discrete operational milestones, the latest of which is December 31, 2021. As of June 30, 2021, there were approximately 29 thousand units of these awards outstanding with a weighted-average grant date fair value of \$6.46 per unit.

2017 Employee Stock Purchase Plan (ESPP)

Our ESPP offers U.S. and some non-U.S. employees the right to purchase shares of our common stock. Our ESPP program has a six-month offering period, with a new period commencing on the first trading day on or after May 31 and November 30 of each year. Employees are eligible to participate through payroll deductions of up to 10% of their compensation. Employees may not purchase more than \$25 thousand of stock for any calendar year. The purchase price at which shares are sold under the ESPP is 85% of the lower of the fair market value of a share of our common stock on the first day of the offering period or the last day of the offering period.

Stock-based Compensation Expense

Total stock-based compensation expense recognized was as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Restricted stock units, stock options and performance share units	\$ 3,566	\$ 3,331	\$ 7,039	\$ 5,443
Employee stock purchase plan	175	303	379	557
Total stock-based compensation	<u>\$ 3,741</u>	<u>\$ 3,634</u>	<u>\$ 7,418</u>	<u>\$ 6,000</u>

13. Income Taxes

Our quarterly provision for income taxes is based on an estimated effective annual income tax rate. Our quarterly provision for income taxes also includes discrete items, such as changes in valuation allowances or adjustments upon finalization of tax returns as well as infrequently occurring items, if any, including the effects of changes in tax laws or rates, in the interim period in which they occur.

We recorded a tax benefit of \$0.5 million and \$1.1 million for the three months ended June 30, 2021 and 2020, respectively. Higher earnings in our foreign operations in the quarter ended June 30, 2021 compared to the quarter ended June 30, 2020 resulted in higher tax expense for our foreign operations for the three months ended June 30, 2021. Discrete items primarily related to the finalization of 2020 tax returns offset these higher foreign taxes, contributing \$1.3 million to the tax benefit for the three months ended June 30, 2021. For the six months ended June 30, 2021 and 2020, we recorded a tax benefit of \$2.2 million and \$1.8 million, respectively. The increased tax benefit for the six months ended June 30, 2021 compared to the six months ended June 30, 2020 was also attributable to the aforementioned discrete items, partially offset by higher earnings in certain of our foreign operations.

Our tax benefit for income taxes for the periods presented differ from the 21% U.S. Federal statutory rate primarily due to maintaining a valuation allowance for our domestic deferred tax assets, which primarily consist of net operating loss carryforwards.

Our tax positions are subject to audits by multiple tax jurisdictions. We believe that we have provided adequate reserves for uncertain tax positions for all tax years still open for assessment. For the six months ended June 30, 2021 and 2020, respectively, we did not recognize any material interest or penalties related to uncertain tax positions. We expect to settle \$0.8 million of our uncertain tax positions within the next twelve months. The amount relates to our uncertain tax position in Singapore that we expect to receive a final determination from the local tax jurisdiction in the near future.

Recording deferred tax assets is appropriate when realization of these assets is more likely than not. Assessing the realizability of deferred tax assets is dependent upon several factors including historical financial results and future expected financial results. Domestic deferred tax assets have been offset by valuation allowances. Any release of valuation allowances could have the effect of decreasing the income tax provision in the period the valuation allowance is released. We continue to assess the likelihood that we will be able to recover our deferred tax assets, including those for which a valuation allowance is recorded. There can be no assurance that we will generate profits in the future periods enabling us to fully realize our deferred tax assets. The timing of recording a valuation allowance or the reversal of such valuation allowance is subject to objective and subjective factors that cannot be readily predicted in advance.

14. Information About Geographic Areas

We operate in one reporting segment that develops, manufactures and commercializes tools for life sciences research. Our chief executive officer manages our operations and evaluates our financial performance on a consolidated basis. For purposes of allocating resources and evaluating regional financial performance, our chief executive officer reviews separate sales information for the different regions of the world. Our general and administrative expenses and our research and development expenses are not allocated to any specific region. Most of our principal operations, other than manufacturing, and our decision-making functions are located at our corporate headquarters in the United States.

A summary table of our revenue disaggregated by geographic area and by source for the three and six months ended June 30, 2021 and 2020 is included in Note 5 to the condensed consolidated financial statements.

Revenue from customers in the United States represented \$15.5 million, or 50% of total revenues, and \$13.4 million, or 51% of total revenues, for the three months ended June 30, 2021 and 2020, respectively. For the six months ended June 30, 2021 and 2020, revenue from domestic customers totaled \$33.7 million, or 53% of total revenues, and \$27.5 million, or 51% of total revenues, respectively.

Revenues from customers in China represented \$2.5 million, or 8% of total revenues, and \$3.5 million, or 13% of total revenues, for the three months ended June 30, 2021 and 2020, respectively. For the six months ended June 30, 2021 and 2020, revenues from customers in China were less than 10% of total revenues. With the exception of China, no foreign country had revenue in excess of 10% of total revenues during any of the periods presented in this report.

15. Commitments and Contingencies

Indemnification

From time to time, we have entered into indemnification provisions under certain of our agreements in the ordinary course of business, typically with business partners, customers, and suppliers. Pursuant to these agreements, we may indemnify, hold harmless, and agree to reimburse the indemnified parties on a case-by-case basis for losses suffered or incurred by the indemnified parties in connection with any patent or other intellectual property infringement claim by any third party with respect to our products. The term of these indemnification provisions is generally perpetual from the time of the execution of the agreement. The maximum potential amount of future payments we could be required to make under these indemnification provisions is typically not limited to a specific amount. In addition, we have entered into indemnification agreements with our officers, directors, and certain other employees. With certain exceptions, these agreements provide for indemnification for related expenses including, among others, attorneys' fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding.

Contingencies

In September 2020, a putative class action complaint alleging violations of the federal securities laws was filed against the Company (also naming our Chief Executive Officer and Chief Financial Officer as defendants) in the U.S. District Court for the Northern District of California (Reena Saintjermain, et al. v. Fluidigm Corporation, et al). The Court appointed a lead plaintiff and lead counsel in December 2020, and an amended complaint was filed on February 19, 2021. The complaint, as amended, seeks unspecified damages on behalf of a purported class of persons and entities who acquired our common stock between February 7, 2019 and November 5, 2019 and alleges securities laws violations based on statements and alleged omissions made by the Company during such period. The Company filed a motion to dismiss the complaint on April 5, 2021 and, on August 4,

2021, the Court granted defendants' motion to dismiss with leave to amend. We believe the claims alleged in the complaint lack merit and we intend to defend this action vigorously.

From time to time, we may be subject to various legal proceedings and claims arising in the ordinary course of business. These include disputes and lawsuits related to intellectual property, mergers and acquisitions, licensing, contract law, tax, regulatory, distribution arrangements, employee relations and other matters. Periodically, we review the status of each matter and assess its potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and a range of possible losses can be estimated, we accrue a liability for the estimated loss. Legal proceedings are subject to uncertainties, and the outcomes are difficult to predict. Because of such uncertainties, accruals are based only on the best information available at the time. As additional information becomes available, we continue to reassess the potential liability related to pending claims and litigation and may revise estimates.

16. Subsequent Event

On August 2, 2021, we entered into a Fourth Amendment to Loan and Security Agreement (the Amendment) with Silicon Valley Bank (SVB), which amends the Loan and Security Agreement dated as of August 2, 2018, between the Company and SVB (as amended by the Default Waiver and First Amendment to Loan and Security Agreement dated September 7, 2018, the Second Amendment to Loan and Security Agreement dated November 20, 2019, and the Third Amendment to Loan and Security Agreement dated April 21, 2020, the Credit Agreement). The Amendment extends the maturity date of our \$15.0 million Revolving Credit Facility by one year, to August 2, 2023, and also provides for a term loan facility in an aggregate principal amount of \$10.0 million (Term Loan Facility). The maturity date of the Term Loan Facility is July 1, 2025, subject to the following condition: in the event the principal amount of our convertible debt exceeds \$0.6 million as of June 1, 2024 or if the maturity date of our 2019 Notes has not been extended beyond January 1, 2026 by that date, then the maturity date will be on June 1, 2024.

Upon execution of the Amendment, we drew a term loan advance of \$5.0 million, with additional term loans of up to \$5.0 million available subject to customary conditions. Interest on the term loans accrues on the outstanding principal amount thereof at the greater of (i) a floating per annum rate equal to three quarters of one percentage point (0.75%) above the prime rate (as customarily defined), or (ii) 4.00%, with a final payment equal to 6.5% of the original principal amount of each term loan advance due on the earlier of the maturity date of the Term Loan Facility or any earlier date of repayment of a term loan advance. Interest is payable monthly.

The principal amount of the term loan advances is repayable beginning on August 1, 2023, in twenty-four equal installments of principal plus monthly payments of accrued interest.

The Amendment also added a financial covenant to the Credit Agreement, requiring us to maintain a minimum Adjusted Quick Ratio (as defined) of at least 1.25 to 1.00.

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

The following discussion and analysis should be read together with our condensed consolidated financial statements and the notes to those statements included elsewhere in this Form 10-Q. This Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended, or Exchange Act, that are based on our management’s beliefs and assumptions and on information currently available to our management. The forward-looking statements are contained principally in the section entitled “Risk Factors” and this Management’s Discussion and Analysis of Financial Condition and Results of Operations. Forward-looking statements include information concerning our possible or assumed future cash flow, revenue, sources of revenue and results of operations, cost of product revenue and product margin, operating and other expenses, unit sales and the selling prices of our products, business strategies, financing plans, expansion of our business, competitive position, industry environment, potential growth opportunities, market growth expectations, and the effects of competition and public health crises (including the COVID-19 pandemic) on our business. Forward-looking statements include statements that are not historical facts and can be identified by terms such as “anticipates,” “believes,” “could,” “seeks,” “estimates,” “expects,” “intends,” “may,” “plans,” “potential,” “predicts,” “projects,” “should,” “will,” “would,” or similar expressions and the negatives of those terms.

Forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements. We discuss these risks in greater detail in Part II, Item 1A, “Risk Factors,” elsewhere in this quarterly report on Form 10-Q, and in our annual report on Form 10-K filed with the Securities and Exchange Commission (SEC). Given these uncertainties, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our management’s beliefs and assumptions only as of the date of this Form 10-Q.

Except as required by law, we assume no obligation to update these forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. You should read this Form 10-Q completely and with the understanding that our actual future results may be materially different from what we expect.

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Unless the context requires otherwise, references in this Form 10-Q to “Fluidigm,” the “Company,” “we,” “us,” and “our” refer to Fluidigm Corporation and its subsidiaries.

Overview

Fluidigm improves life by driving meaningful insights in health and disease. Our innovative technologies explore the biological complexities of disease to advance human health through research, diagnostics and clinical applications. We create, manufacture, and market a range of products and services, including instruments, consumables, reagents and software that are used by researchers and clinical labs worldwide. Our customers are leading academic and government laboratories, as well as pharmaceutical, biotechnology, plant and animal research organizations, and clinical laboratories worldwide. Together with our customers, we strive to increase the quality of life for all.

We distribute our systems through our direct sales force and support organizations located in North America, Europe, and Asia-Pacific, and through distributors or sales agents in several European, Latin American, Middle Eastern, and Asia-Pacific countries. Our manufacturing operations are located in Singapore and Canada. Our facility in Singapore manufactures our microfluidics instruments, which are assembled by our contract manufacturer located within our Singapore facility. All of our microfluidic products are fabricated at our Singapore facility. Our mass cytometry instruments, assays and reagents are manufactured at our facility in Canada. We also use U.S.-based third-party contract manufacturers for reagent manufacturing.

Our total revenue for the six months ended June 30, 2021 was \$63.8 million, compared to \$53.7 million for the six months ended June 30, 2020. We have incurred significant net losses since our inception in 1999 and, as of June 30, 2021, our accumulated deficit was \$712.7 million.

Recent Developments

The COVID-19 pandemic has given us an opportunity to demonstrate our product capabilities for diagnostics markets and build new accounts, while at the same time accessing a variety of external funding sources to support product development and innovation. Our response to the pandemic has driven more innovation, exposure of our products to new customers around the world, and increased consumables sales.

As vaccines and alternative testing options for the coronavirus have become more available and the perceived threat of the pandemic began to recede in the first half of 2021, the demand for our COVID-19 testing products slowed, resulting in a corresponding decline in COVID-19 testing revenue in the first and second quarters of 2021, compared to the fourth quarter of 2020. It is difficult to predict the impact of new strains of the coronavirus, such as the highly contagious Delta variant, on our COVID-19 testing business, and we anticipate that our revenue related to COVID-19 testing will continue to decline. For additional information on the various risks posed by the COVID-19 pandemic, refer to Part II, Item 1A. Risk Factors of this Form 10-Q.

Despite the uncertainties around the demand for COVID-19 testing products, Fluidigm continues to remain focused on growing its business across multiple applications. To date, our solutions span the spectrum from discovery to diagnostics, and we see an avenue for our products to move deeper into translational and clinical applications. We remain focused on bringing leading solutions, with a best-in-class value, throughput and accuracy, to our customers and the market.

We expect the improving outlook of our base business (excluding COVID-19 testing revenue) including the commercial release of CyTOF XT, our next generation mass cytometry instrument in May 2021, to offset the effects of the decline in COVID-19 testing revenue. We expect our product and service margin to be negatively impacted in the second half of 2021 as we enter a new product transition cycle and a less favorable product mix.

We expect our use of cash in the second half of 2021 to be lower than the first half of the year, as we expect inventory levels to decline through the second half with the commencement of sales of the CyTOF XT platform. In addition, capital expenditures associated with the RADx program will decline as that program comes to a close in the third quarter.

On August 2, 2021, the Company amended its Loan and Security Agreement dated as of August 2, 2018, between the Company and Silicon Valley Bank (SVB) (the Amendment). The Amendment extends the maturity date of our \$15.0 million revolving credit facility (Revolving Credit Facility) by one year, to August 2, 2023, and also provides for a term loan facility in an aggregate principal amount of \$10.0 million (Term Loan Facility). The maturity date of the Term Loan Facility is July 1, 2025, subject to the following condition: in the event the principal amount of our convertible debt exceeds \$0.6 million as of June 1, 2024 or if the maturity date of our 2019 Notes has not been extended beyond January 1, 2026 by that date, then the maturity date of the Term Loan Facility will be on June 1, 2024.

Upon execution of the Amendment, we drew a term loan advance of \$5.0 million with additional term loans of up to \$5.0 million available subject to customary conditions. Interest on the term loans accrues on the outstanding principal amount thereof at the greater of (i) a floating per annum rate equal to three quarters of one percentage point (0.75%) above the prime rate (as customarily defined), or (ii) 4.00%, with a final payment equal to 6.5% of the original principal amount of each term loan advance due on the earlier of the maturity date of the Term Loan Facility or any earlier date of repayment of a term loan advance. Interest is payable monthly. The principal amount of the term loan advances is repayable beginning on August 1, 2023, in twenty-four equal installments of principal plus monthly payments of accrued interest. The Amendment also added a financial covenant to the Loan and Security Agreement, requiring us to maintain a minimum Adjusted Quick Ratio (as defined) of at least 1.25 to 1.00.

Critical Accounting Policies, Significant Judgments and Estimates

Our condensed consolidated financial statements and the related notes included elsewhere in this Form 10-Q are prepared in accordance with accounting principles generally accepted in the United States. The preparation of these condensed financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, costs and expenses and related disclosures. We base our estimates on historical experience and on various other assumptions believed to be reasonable, which together form the basis for making judgments about the carrying values of assets and liabilities. The full extent to which the COVID-19 pandemic impacts our business, results of operations and financial condition will depend on numerous evolving factors including, but not limited to, the magnitude and duration of the pandemic, the extent to which it will impact worldwide macroeconomic conditions, including the speed of recovery, and governmental and business reactions to the pandemic. We evaluate our estimates and assumptions on an ongoing basis. To the extent that there are material differences between these estimates and actual results, our future financial statement presentation, financial condition, results of operations, and cash flows will be affected.

Recent Accounting Changes and Accounting Pronouncements

Adoption of New Accounting Guidance

In November 2019, the FASB issued ASU 2019-12 Income Taxes (Topic 740)-Simplifying the Accounting for Income Taxes. The amendments in this update improve consistent application of and simplify GAAP for Topic 740 by clarifying and amending existing guidance for, among other items, intra-period allocation, reporting tax law changes and losses in interim periods, state and local taxes not fully based on income and recognition of deferred tax liability related to certain transactions. There is also new guidance related to consolidated group reporting and tax impacts resulting from business combinations. The new guidance is effective for fiscal years beginning after December 15, 2020. The adoption of the new guidance did not have a significant impact on our financial results.

Recent Accounting Pronouncements

In August 2020, the FASB issued ASU 2020-06 Debt-Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging-Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity. The amendment to this ASU reduces the number of accounting models for convertible instruments and allows more contracts to qualify for equity classification, which is expected to result in more convertible instruments being accounted for as a single unit, rather than being bifurcated between debt and equity. The new guidance is effective for fiscal years beginning after December 15, 2021. We are currently evaluating the impact of adoption on our condensed consolidated financial statements.

Results of Operations

The following table presents comparative and common size condensed consolidated statements of operations data for the three and six months ended June 30, 2021 and 2020 (in thousands):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2021		2020		2021		2020	
Revenue	\$ 31,018	100 %	\$ 26,058	100 %	63,812	100 %	53,675	100 %
Costs and expenses:								
Cost of product revenue	12,730	41	9,483	36	24,393	38	19,123	36
Cost of service revenue	1,867	6	1,237	5	3,957	6	2,762	5
Research and development	9,441	30	8,448	33	20,194	32	17,147	32
Selling, general and administrative	24,248	78	20,616	79	51,856	81	43,311	80
Total costs and expenses	48,286	156	39,784	153	100,400	157	82,343	153
Loss from operations	(17,268)	(56)	(13,726)	(53)	(36,588)	(57)	(28,668)	(53)
Interest expense	(896)	(3)	(897)	(3)	(1,783)	(3)	(1,797)	(3)
Other income (expense), net	504	2	463	2	219	—	(355)	(1)
Loss before income taxes	(17,660)	(57)	(14,160)	(54)	(38,152)	(60)	(30,820)	(57)
Income tax benefit	517	2	1,145	4	2,188	3	1,825	3
Net loss	\$ (17,143)	(55)%	\$ (13,015)	(50)%	\$ (35,964)	(56)%	\$ (28,995)	(54)%

Revenue

We generate revenue primarily from sales of our products and services, development agreements, license and royalty agreements, and grants. Our product revenue consists of sales of instruments and consumables. Consumables revenue are largely driven by the size of our installed base of instruments and the annual level of pull-through per instrument. Service revenue is linked to the sales and active installed base of our instruments as our service revenue primarily consists of post-warranty service contracts, preventive maintenance plans, instrument parts, installation and training. We sell our products to leading academic and government laboratories, as well as pharmaceutical, biotechnology, clinical, plant and animal research organizations and clinical laboratories worldwide.

Development Revenue. Effective March 31, 2020, we signed an OEM Supply and Development Agreement (Development Agreement) with a customer. Under the Development Agreement, Fluidigm will develop products based on our microfluidics technology. The Development Agreement provides up-front and periodic milestone payments during the development stage, which is expected to be completed in the second half of 2021. We recognized \$0.9 million and \$3.0 million of development

revenue during the three months ended June 30, 2021 and 2020, respectively. We recognized \$2.3 million and \$3.0 million during the six months ended June 30, 2021 and 2020, respectively. To date, we have recognized \$11.1 million of revenue from this agreement and expect to recognize an additional \$0.1 million on completion of the Development Agreement.

We recognize revenue associated with the Development Agreement using an input method which determines the extent of our progress toward satisfaction of our performance obligations by comparing actual costs incurred to date to the total expected cost. Costs associated with the Development Agreement are recorded in research and development expense in the condensed consolidated statement of operations.

Grant Revenue. We receive grants to perform research and development activities over contractually defined periods. Grant revenue in the current year is attributable to a grant agreement entered into in the second half of 2019, which is expected to end in the second half of 2021. Costs associated with grant agreements are recorded in research and development expense in the condensed consolidated statement of operations.

License and Royalty Revenue. In March 2020, we entered into an agreement to settle intellectual property infringement claims, under which we received a \$3.5 million payment in exchange for a perpetual license to certain of our intellectual property. The settlement is considered a multiple-element arrangement with each element accounted for individually. Accordingly, \$3.1 million of the proceeds was recognized as license revenue and \$0.4 million was offset against legal costs.

Revenue from one customer exceeded 10% of total revenue for the three months ended June 30, 2020. No customer represented more than 10% of total revenue for the three months ended June 30, 2020 or for the six months ended June 30, 2021 and 2020. Revenue from our five largest customers represented 24% and 32% of total revenue for the three months ended June 30, 2021 and 2020, respectively. Excluding the license settlement agreement discussed above, revenue from our five largest customers represented 24% and 19% of total revenue for the six months ended June 30, 2021 and 2020, respectively.

The following table presents our total revenue disaggregated by source for the three and six months ended June 30, 2021 and 2020 (in thousands):

	Three Months Ended June 30,		Year-over-Year Change	Six Months Ended June 30,		Year-over-Year Change				
	2021	2020		2021	2020					
Revenue:										
Instruments	\$ 10,179	33 %	\$ 8,577	33 %	19 %	\$ 17,887	28 %	\$ 18,048	34 %	(1)%
Consumables	12,448	40	8,828	34	41 %	29,468	46	18,338	34	61 %
Product revenue	22,627	73	17,405	67	30 %	47,355	74	36,386	68	30 %
Service revenue	6,627	21	5,140	20	29 %	12,913	20	10,326	19	25 %
Product and service revenue	29,254	94	22,545	87	30 %	60,268	94	46,712	87	29 %
Development revenue	850	3	3,000	11	(72)%	2,330	4	3,000	6	(22)%
Grant revenue	821	3	450	2	82 %	1,121	2	800	1	40 %
License revenue	93	—	63	—	48 %	93	—	3,163	6	(97)%
Total revenue	<u>\$ 31,018</u>	<u>100 %</u>	<u>\$ 26,058</u>	<u>100 %</u>	19 %	<u>\$ 63,812</u>	<u>100 %</u>	<u>\$ 53,675</u>	<u>100 %</u>	19 %

The following table presents our total revenue disaggregated by geographic area for the three and six months ended June 30, 2021 and 2020 (in thousands):

	Three Months Ended June 30,		Year-over-Year Change	Six Months Ended June 30,		Year-over-Year Change				
	2021	2020		2021	2020					
Americas	\$ 16,120	52 %	\$ 13,940	54 %	16 %	\$ 34,643	54 %	\$ 28,784	54 %	20 %
EMEA	9,220	30	6,557	25	41 %	18,362	29	14,653	27	25 %
Asia-Pacific	5,678	18	5,561	21	2 %	10,807	17	10,238	19	6 %
Total revenue	<u>\$ 31,018</u>	<u>100 %</u>	<u>\$ 26,058</u>	<u>100 %</u>	19 %	<u>\$ 63,812</u>	<u>100 %</u>	<u>\$ 53,675</u>	<u>100 %</u>	19 %

Total Revenue

Three months ended June 30, 2021

Total revenue increased by \$5.0 million, or 19% for the three months ended June 30, 2021 compared to the three months ended June 30, 2020, driven primarily by higher product and service revenue, partially offset by lower development revenue.

Americas revenue, which includes our development, grant and license revenue, increased by \$2.2 million, or 16%, for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. The increase includes \$3.9 million of higher product and service revenue driven primarily by increased consumables and service revenue, partially offset by lower development and grant revenues. In Asia Pacific, revenue increased by \$0.1 million as slightly lower product revenues were more than offset by higher services revenues. The EMEA revenue growth reflects increases in instrument revenue resulting from placements of our CyTOF XT platform that was launched in May 2021 as well as higher consumables and service revenue. Changes in foreign exchange rates contributed 2 percentage points and 9 percentage points of the year-over-year growth in our total worldwide and EMEA revenues, respectively.

Six months ended June 30, 2021

Total revenue increased by \$10.1 million, or 19%, for the six months ended June 30, 2021 compared to the six months ended June 30, 2020, driven primarily by higher product, service and grant revenues, partially offset by lower development and license revenue.

Americas revenue increased by \$5.9 million, or 20%, for the six months ended June 30, 2021 compared to the six months ended June 30, 2020. The increase includes \$9.3 million of higher product and service revenue, partially offset by lower development and license revenue. The increase in product and service revenue was primarily attributable to consumables revenue related to our saliva based COVID-19 test, which received FDA Emergency Use Authorization in August 2020. In Asia Pacific, revenues increased due to higher service revenue as product revenue was essentially unchanged with lower instrument sales offset by higher consumables sales. The growth in EMEA revenue was broad-based, occurring in all revenue categories. Changes in foreign exchange rates contributed 2 percentage points and 8 percentage points of the year-over-year growth in our total worldwide and EMEA revenues, respectively.

Product and Service Revenue. The following table presents our revenue disaggregated by target market and by source for the three and six months ended June 30, 2021 and 2020 (in thousands):

	Three Months Ended June 30,				Year-Over-Year Change	Six Months Ended June 30,				Year-over-Year Change
	2021		2020			2021		2020		
Mass cytometry:										
Instruments	\$ 7,400	45%	\$ 5,359	43%	38%	\$ 12,366	40%	\$ 12,907	47%	(4)%
Consumables	4,545	27	3,635	29	25%	9,122	30	7,539	27	21 %
Total product revenue	11,945	72	8,994	72	33%	21,488	70	20,446	74	5 %
Service revenue	4,686	28	3,552	28	32%	9,173	30	7,064	26	30 %
Total product and service revenue	<u>\$ 16,631</u>	<u>100%</u>	<u>\$ 12,546</u>	<u>100%</u>	33%	<u>\$ 30,661</u>	<u>100%</u>	<u>\$ 27,510</u>	<u>100%</u>	11 %
Microfluidics:										
Instruments	\$ 2,779	22%	\$ 3,218	32%	(14)%	\$ 5,521	19%	\$ 5,141	27%	7 %
Consumables	7,903	63	5,193	52	52%	20,346	69	10,799	56	88 %
Total product revenue	10,682	85	8,411	84	27%	25,867	88	15,940	83	62 %
Service revenue	1,941	15	1,588	16	22%	3,740	12	3,262	17	15 %
Total product and service revenue	<u>\$ 12,623</u>	<u>100%</u>	<u>\$ 9,999</u>	<u>100%</u>	26%	<u>\$ 29,607</u>	<u>100%</u>	<u>\$ 19,202</u>	<u>100%</u>	54 %

Mass cytometry revenue increased in the three months ended June 30, 2021 compared to the three months ended June 30, 2020 as instruments, consumables and service revenues were each up year-over-year. The year-over-year increase was primarily attributable to low demand in the three months ended June 30, 2020 as a result of COVID-related lab closures. The release of the CyTOF XT, a new mass cytometry instrument, in May 2021 also contributed to the revenue growth in the current quarter. Microfluidics revenue increase was driven by increased levels of customer activity. Revenues related to our COVID-19 test, which received FDA Emergency Use Authorization in August 2020 were essentially flat compared to the three months

ended June 30, 2021. Increases in mass cytometry and microfluidics service revenues were primarily attributable to service plans and product maintenance.

Mass cytometry revenue increased for the six months ended June 30, 2021 as compared to the six months ended June 30, 2020 as many of our customers' facilities that were closed or operating at lower capacity in the first half of 2020 began to reopen in late 2020. Increased microfluidics revenues for the six months ended June 30, 2021 compared to the six months ended June 30, 2020 were driven by sales of consumables related to our saliva based COVID-19 test, which received FDA Emergency Use Authorization in August 2020, as well as customers beginning to return to pre-COVID levels of activity. Increases in mass cytometry and microfluidics service revenues were primarily attributable to service plans, spare parts and product maintenance.

We expect the average selling prices of our products to fluctuate over time based on market conditions, product mix, and currency fluctuations.

Product and Service Cost, Gross Profit and Margin

Cost of product revenue includes manufacturing costs incurred in the production process, including component materials, labor and overhead, installation, packaging, and delivery costs. In addition, cost of product revenue includes amortization of developed technology and intangibles, royalty costs for licensed technologies included in our products, warranty, provisions for slow-moving and obsolete inventory, and stock-based compensation expense. Our cost of product revenue and related product margin may fluctuate depending on the capacity utilization of our manufacturing facilities in response to market conditions and the demand for our products.

Cost of service revenue includes direct labor hours, overhead, and instrument parts. Our cost of service revenue and related service margin may fluctuate depending on the variability in material and labor costs of servicing instruments.

The following table presents our product and service cost, product and service gross profit and product and service margin for the three and six months ended June 30, 2021 and 2020 (in thousands):

	Three Months Ended June 30,		Year-over-Year Change	Six Months Ended June 30,		Year-over-Year Change
	2021	2020		2021	2020	
Cost of product revenue	\$ 12,730	\$ 9,483	34 %	\$ 24,393	19,123	28 %
Cost of service revenue	1,867	1,237	51 %	3,957	2,762	43 %
Cost of product and service revenue	<u>\$ 14,597</u>	<u>\$ 10,720</u>	36 %	<u>\$ 28,350</u>	<u>\$ 21,885</u>	30 %
Product and service gross profit	\$ 14,657	\$ 11,825	24 %	\$ 31,918	\$ 24,827	29 %
Product and service margin	50.1 %	52.5 %	(2.4) ppt	53.0 %	53.1 %	(0.1) ppt

Product and service margin decreased by 2.4 percentage points for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. Higher provisions for excess and obsolete inventory primarily related to COVID-19 testing consumables products reduced product and service margin by 2.7 percentage points for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. Other factors, including lower average selling prices of mass cytometry instruments and higher service costs further reduced product and service margin by 2.9 percentage points for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. Fixed depreciation and amortization costs on a higher revenue base partially offset these increases, positively impacting margin by 3.2 percentage points.

Product and service margin decreased by 0.1 percentage points for the six months ended June 30, 2021 compared to the six months ended June 30, 2020. Higher provisions for excess and obsolete inventory reduced gross margins by 1.4 percentage points. Other factors, including lower average selling prices for mass cytometry instruments and higher consumables costs, further reduced product and service margin by 1.8 percentage points. Fixed depreciation and amortization costs on a higher revenue base largely offset these increases, positively impacting margin by 3.1 percentage points.

Operating Expenses

The following table presents our operating expenses for the three and six months ended June 30, 2021 and 2020 (in thousands):

	Three Months Ended June 30,		Year-over-Year Change	Six Months Ended June 30,		Year-over-Year Change
	2021	2020		2021	2020	
Research and development	\$ 9,441	\$ 8,448	12 %	\$ 20,194	\$ 17,147	18 %
Selling, general and administrative	24,248	20,616	18 %	51,856	43,311	20 %
Total operating expenses	\$ 33,689	\$ 29,064	16 %	\$ 72,050	\$ 60,458	19 %

Research and Development

Research and development expense consists primarily of compensation-related costs, product development and material expenses, and other allocated facilities and information technology expenses. Our research and development efforts have focused primarily on enhancing our technologies and supporting development and commercialization of new and existing products and services. Research and development expense also includes costs incurred in conjunction with research grants and development arrangements. We have made substantial investments in research and development since our inception and expect to continue to do so.

Research and development expense increased by \$1.0 million, or 12%, for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. Compensation and benefit costs increased by \$0.8 million, primarily due to temporary salary reductions in the second quarter of 2020. Consulting costs increased by \$0.3 million due to development and grant related projects.

Research and development expense increased by \$3.0 million, or 18%, for the six months ended June 30, 2021 compared to the six months ended June 30, 2020. Compensation and benefit costs increased by \$1.9 million, primarily due to the absence of the 2020 temporary salary reductions, higher headcount, and annual merit increases. Consulting costs increased by \$0.9 million driven by development and grant related projects. Stock based compensation costs also increased by \$0.2 million for the six months ended June 30, 2021 compared to the three months ended June 30, 2020 primarily due an increase in the number of equity awards outstanding as a result of the retention awards granted in the second quarter of 2020.

We believe our continued investment in research and development is essential to our long-term competitive position. Accordingly, these expenses may increase in future periods.

Selling, General and Administrative

Selling, general and administrative expense consists primarily of personnel costs for our sales and marketing, business development, finance, legal, human resources, information technology, and general management, as well as professional services, such as legal and accounting services.

Selling, general and administrative expense increased by \$3.6 million, or 18%, for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. Salaries and benefits costs increased by \$1.7 million in the three months ended June 30, 2021 compared to the three months ended June 30, 2020 primarily due to temporary salary reductions implemented in the second quarter of 2020, as well as the absence of COVID-19 related government subsidies. Consulting costs increased by \$1.3 million due to market research-related initiatives. Travel and advertising and promotion expense each increased by \$0.3 million, reflecting a return to more normal spending levels following 2020 expense declines due to the COVID-19 pandemic.

Selling, general and administrative expense increased by \$8.5 million, or 20%, for the six months ended June 30, 2021 compared to the six months ended June 30, 2020. Salaries and benefits costs increased by \$4.5 million in the six months ended June 30, 2021 compared to the six months ended June 30, 2020 primarily due to the absence of the 2020 temporary salary reductions and COVID-19 related government subsidies, higher headcount and annual merit increases. Stock-based compensation costs increased by \$1.2 million for the six months ended June 30, 2021 compared to the three months ended June 30, 2020, primarily due to retention awards granted in the second quarter of 2020. Consulting costs increased by \$2.4 million due to market research-related initiatives and the use of contract employees to fill open positions. The remaining increase in selling, general and administrative expense was due to a variety of smaller items.

Interest Expense and Other Income (Expense), Net

The following table presents these items for the three and six months ended June 30, 2021 and 2020 (in thousands):

	<u>Three Months Ended June 30,</u>		<u>Year-over-Year Change</u>	<u>Six Months Ended June 30,</u>		<u>Year-over-Year Change</u>
	<u>2021</u>	<u>2020</u>		<u>2021</u>	<u>2020</u>	
Interest expense	\$ (896)	\$ (897)	(0)%	(1,783)	(1,797)	(1)%
Other income (expense), net	504	463	9 %	219	(355)	(162)%
Total	<u>\$ (392)</u>	<u>\$ (434)</u>	<u>(10)%</u>	<u>\$ (1,564)</u>	<u>\$ (2,152)</u>	<u>(27)%</u>

Interest expense is comprised primarily of interest on our convertible debt. For the three months ended June 30, 2021, other income, net totaled \$0.5 million and included \$0.3 million of foreign exchange gains attributable to a weaker U.S. dollar. For the three months ended June 30, 2020, other income, net totaled \$0.5 million and included \$0.4 million of foreign exchange gains.

For the six months ended June 30, 2021, other income, net totaled \$0.2 million and included \$0.1 million of foreign exchange losses offset by \$0.3 million of interest and other income. Other income, net for the six months ended June 30, 2021 also includes a \$9 thousand loss associated with the February 2021 repurchase of convertible debt. For the six months ended June 30, 2020, other expense, net totaled \$0.4 million and included \$0.6 million of foreign exchange losses partially offset by \$0.2 million of interest income.

Income Tax Benefit

Our tax provision is generally driven by three components: (i) tax provision from our foreign operations, (ii) tax benefits from the amortization of acquisition-related intangible assets, and (iii) discrete items, such as changes in valuation allowances or adjustments upon finalization of tax returns. Depending on the relative value of these components, we can have either a tax benefit or expense for any given period.

We recorded a tax benefit of \$0.5 million for an effective tax rate of 2.9%, for the three months ended June 30, 2021. In the three months ended June 30, 2020, we recorded a tax benefit of \$1.1 million for an effective tax rate of 8.1%. Higher earnings in our foreign operations in the quarter ended June 30, 2021 compared to the quarter ended June 30, 2020 resulted in higher tax expense for our foreign operations for three months ended June 30, 2021. Discrete items primarily related to the finalization of 2020 tax returns offset these higher foreign taxes, contributing \$1.3 million to the tax benefit for the three months ended June 30, 2021.

For the six months ended June 30, 2021, we recorded a tax benefit of \$2.2 million, resulting in an effective tax rate of 5.7%. For the six months ended June 30, 2020, we recorded a tax benefit of \$1.8 million, resulting in an effective rate of 5.9%. The benefit increased for the six months ended June 30, 2021 compared to the same period the previous year due to the discrete items discussed in the preceding paragraph.

Liquidity and Capital Resources

Sources of Liquidity

As of June 30, 2021, our principal sources of liquidity consisted of \$30.9 million of cash and cash equivalents, as well as \$1.0 million of restricted cash and \$10.9 million of availability under our Revolving Credit Facility.

The following table presents a comparative summary of our cash flows for the six months ended June 30, 2021 and 2020 (in thousands):

	Six Months Ended June 30,	
	2021	2020
Cash flow summary:		
Net cash used in operating activities	\$ (27,565)	\$ (7,085)
Net cash provided by (used in) investing activities	(9,095)	27,586
Net cash provided by (used in) financing activities	(1,159)	8
Effect of foreign exchange rate fluctuations on cash and cash equivalents	162	(205)
Net increase (decrease) in cash, cash equivalents and restricted cash	<u>\$ (37,657)</u>	<u>\$ 20,304</u>

Net Cash Used in Operating Activities

We derive cash flows from operations primarily from cash collected from the sale of our products and services, development arrangements, license agreements and grants. Our cash flows from operating activities are also significantly influenced by our use of cash for operating expenses and working capital to support our business. We have historically experienced negative cash flows from operating activities as we have expanded our business and built our infrastructure domestically and internationally.

Net cash used in operating activities for the six months ended June 30, 2021 was \$27.6 million and consisted of net loss of \$36.0 million, adjusted for non-cash items of \$17.0 million and cash used in assets and liabilities, net, of \$8.6 million. Non-cash items included stock-based compensation expense of \$7.4 million, amortization of developed technology of \$6.0 million, depreciation and amortization of \$1.9 million, provisions for excess and obsolete inventory of \$1.2 million, lease amortization of \$0.3 million, and a variety of smaller items. The cash used in assets and liabilities, net was primarily driven by a reduction of accrued compensation and related benefits of \$5.4 million due primarily to bonus payments in the first quarter of 2021, a reduction of other liabilities of \$3.9 million, an increase in prepaid expenses and other assets of \$2.6 million, and an increase of inventories, net of \$7.5 million. These uses of funds were partially offset by a decrease in accounts receivable, net, of \$9.4 million, an increase in accounts payable of \$1.9 million, and an increase in deferred revenue of \$0.6 million. Also included in net cash from operating activities was \$3.5 million of funding from the NIH Contract that has or will be used to offset costs.

Net cash used in operating activities for the six months ended June 30, 2020 was \$7.1 million and consisted of net loss of \$29.0 million, adjusted for non-cash items of \$16.1 million, and cash provided by assets and liabilities, net, of \$5.8 million. Non-cash items primarily included an amortization of developed technology of \$5.9 million, stock-based compensation expense of \$6.0 million, depreciation and amortization of \$2.0 million, lease amortization of \$1.3 million, and a variety of smaller items. The cash provided by assets and liabilities, net was primarily due to a decrease in accounts receivable, net of \$9.1 million, an increase in accounts payable of \$3.1 million, an increase in accrued compensation and related benefits of \$1.5 million, and an increase in deferred revenue of \$2.0 million, partially offset by an increase of inventory, net of \$4.9 million and a decrease in other liabilities of \$4.3 million.

Net Cash Provided by (Used in) Investing Activities

Our primary investing activities consist of purchases, sales, and maturities of our short-term investments and to a much lesser extent, capital expenditures for manufacturing, laboratory, computer equipment and software to support our infrastructure and work force. We expect to continue to incur costs for capital expenditures to expand capacity under the NIH Contract, improve manufacturing efficiencies and strengthen information technology and network security, as well as capital expenditures incurred in moving our corporate headquarters in 2020. However, we may choose to decrease or defer certain capital expenditures and development activities, while further optimizing our organization.

Net cash used in investing activities for the six months ended June 30, 2021 was \$9.1 million. Capital expenditures of \$11.1 million were incurred primarily to expand our microfluidics IFC production capacity in Singapore related to the NIH Contract. We also received proceeds from the NIH Contract of \$2.0 million that will be used to fund the expansion of our Singapore facility.

Net cash provided by investing activities for the six months ended June 30, 2020 was \$27.6 million. The amount included \$29.4 million of proceeds from the redemption of fixed maturity investments and \$5.0 million of proceeds from the sale of investments, partially offset by cash paid of \$5.2 million in connection with the acquisition of InstruNor AS and \$1.7 million of capital expenditures.

Net Cash Provided by (Used in) Financing Activities

Net cash used in financing activities totaled \$1.2 million during the six months ended June 30, 2021. The \$1.2 million outflow was attributable to the \$0.5 million repurchase of 2014 Notes completed in February 2021 and \$1.6 million of withholding tax payments related to the net share settlement of equity awards, partially offset by \$0.7 million of ESPP proceeds and \$0.2 million of proceeds from the exercise of stock options.

During the six months ended June 30, 2020, our cash flow associated with financing activities was negligible, as the \$0.6 million of ESPP proceeds we received were offset by \$0.4 million of payments for debt issuance costs and \$0.3 million of payments for withholding taxes associated with equity awards.

Capital Resources

At June 30, 2021 and December 31, 2020, our working capital, excluding deferred revenues and restricted cash, was \$11.4 million and \$49.9 million, respectively, including cash and cash equivalents of \$30.9 million and \$68.5 million, respectively. We had no investments as of June 30, 2021 and December 31, 2020.

In February 2014, we closed an underwritten public offering of our 2014 Notes. Pursuant to the Indenture governing the 2014 Notes, holders of the 2014 Notes have the right, subject to certain conditions specified in such indenture, to require the Company to repurchase all or a portion of their 2014 Notes on each of February 6, 2021, February 6, 2024, and February 6, 2029, at a repurchase price in cash equal to 100% of the principal amount of the 2014 Notes plus accrued and unpaid interest. On February 6, 2021, holders of \$0.5 million of the 2014 Notes caused us to repurchase their notes in accordance with this provision leaving \$0.6 million of 2014 Notes outstanding.

In November 2019, we closed a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of \$55.0 million aggregate principal amount of our 2019 Notes. The 2019 Notes bear interest at 5.25% per annum, payable semiannually on June 1 and December 1 of each year, beginning on June 1, 2020. The Notes will mature on December 1, 2024, unless earlier repurchased or converted pursuant to their terms. The 2019 Notes will be convertible at the option of the holder at any point prior to close of business on the second scheduled trading day preceding the maturity date. The initial conversion rate of the Notes is 344.8276 shares of the Company's common stock per \$1,000 principal amount of 2019 Notes (which is equivalent to an initial conversion price of \$2.90 per share). The conversion rate will be subject to adjustment upon the occurrence of certain specified events but will not be adjusted for any accrued and unpaid interest.

The 2019 Notes will also be convertible at our option upon certain conditions in accordance with the terms of the indenture governing the 2019 Notes. On or after December 1, 2021 to December 1, 2022, if the price of the Company's common stock has equaled or exceeded 150% of the Conversion Price (as defined in the indenture, currently \$2.90, subject to adjustment) for a specified number of days (Issuer's Conversion Option), we may, at our option, elect to convert the 2019 Notes in whole but not in part into shares of the Company, determined in accordance with the terms of the indenture. On or after December 1, 2022, if the price of the Company's common stock has equaled or exceeded 130% of the Conversion Price then in effect for a specified number of days, we may, at our option, elect to convert the 2019 Notes in whole but not in part into shares of the Company, determined in accordance with the terms of the indenture.

The foregoing summaries of the 2014 Notes and the 2019 Notes are not complete and are qualified in their entirety by the applicable indentures, forms of global notes, and other agreements and documents filed with the SEC.

In March 2020, we entered into the Sale Agreement with Jefferies to sell shares of our common stock having aggregate sales proceeds of up to \$50,000,000, from time to time, through the ATM equity offering program under which Jefferies acts as sales agent. During the third quarter of 2020, we sold 2.5 million shares of our common stock, pursuant to the Sale Agreement. Our net proceeds were approximately \$20.1 million, after deducting related expenses, including commissions of approximately \$0.6 million and issuance costs of approximately \$0.2 million.

On August 2, 2018, we entered into a Loan and Security Agreement with SVB (the Credit Agreement) for our Revolving Credit Facility. The Credit Agreement is collateralized by substantially all our property, other than intellectual property. On August 2, 2021, we amended our Credit Agreement with SVB (the Amendment). The Amendment extends the maturity date of our \$15.0 million Revolving Credit Facility by one year, to August 2, 2023, and also provides for a term loan facility in an aggregate principal amount of \$10.0 million (Term Loan Facility). The maturity date of the Term Loan Facility is July 1, 2025, subject to the following condition: in the event the principal amount of our convertible debt exceeds \$0.6 million as of June 1, 2024 or if the maturity date of our 2019 Notes has not been extended beyond January 1, 2026 by that date, then the maturity date of the Term Loan Facility will be June 1, 2024.

Upon execution of the Amendment, we drew a term loan advance of \$5.0 million, with additional term loans of up to \$5.0 million available subject to customary conditions. Interest on the term loans accrues on the outstanding principal amount

thereof at the greater of (i) a floating per annum rate equal to three quarters of one percentage point (0.75%) above the prime rate (as customarily defined), or 4.00%, with a final payment equal to 6.5% of the aggregate original principal amounts of each term loan advance due on the earlier of the maturity date of the Term Loan Facility or any earlier date of repayment of a term loan advance. Interest is payable monthly.

The principal amount of the term loan advances is repayable beginning on August 1, 2023, in twenty-four equal installments of principal plus monthly payments of accrued interest.

The Amendment also added a financial covenant to the Credit Agreement, requiring us to maintain a minimum Adjusted Quick Ratio (as defined) of at least 1.25 to 1.00.

As of June 30, 2021, total availability under the Revolving Credit Facility was \$10.9 million. We currently have no outstanding debt under the Revolving Credit Facility, and we are in compliance with all the terms and conditions of the Credit Agreement governing the Revolving Credit Facility. See Note 8 to our condensed consolidated financial statements for more information about the Revolving Credit Facility.

We believe our existing cash, cash equivalents, and investments, along with funding available from the Term Loan Facility and Revolving Credit Facility, will be sufficient to meet our working capital and capital expenditure needs for at least the next 18 months. However, we may experience lower than expected cash generated from operating activities or greater than expected capital expenditures, cost of revenue, or operating expenses, and we may need to raise additional capital to fund our operations, further our research and development activities, or acquire or invest in a business. Our future funding requirements will depend on many factors, including market acceptance of our products, the cost of our research and development activities, the cost of filing and prosecuting patent applications, the cost associated with litigation or disputes relating to intellectual property rights or otherwise, the cost and timing of regulatory clearances or approvals, if any, the cost and timing of establishing additional sales, marketing, and distribution capabilities, the cost and timing of establishing additional technical support capabilities, and the effect of competing technological and market developments. In the future, we may acquire businesses or technologies from third parties, and we may decide to raise additional capital through debt or equity financing to the extent we believe this is necessary to successfully complete these acquisitions.

If we require additional funds in the future, we may not be able to obtain such funds on acceptable terms, or at all, and our ability to raise additional capital may be adversely impacted by potential worsening global economic conditions and the recent disruptions to and volatility in the credit and financial markets in the United States and worldwide resulting from the COVID-19 pandemic. If we raise additional funds by issuing equity securities, our stockholders could experience dilution. Debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any additional debt or equity financing that we raise may contain terms that are not favorable to us or our stockholders. If we do not have, or are not able to obtain, sufficient funds, we may have to delay development or commercialization of our products or license to third parties the rights to commercialize products or technologies that we would otherwise seek to commercialize. We also may have to reduce marketing, customer support, research and development, or other resources devoted to our products.

Contractual Obligations and Commitments

Our operating lease obligations relate to leases for our current corporate headquarters and leases for manufacturing and office space for our foreign subsidiaries. In the second quarter of 2021, we entered into an agreement to extend our current lease in Singapore from June 2022 to June 2027. Please see Note 9 to our condensed consolidated financial statements for a discussion of our lease obligations.

Other than as disclosed above, there have been no material changes during the six months ended June 30, 2021 to our contractual obligations disclosed in our "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in our annual report on Form 10-K for the year ended December 31, 2020.

Off-Balance Sheet Arrangements

Since our inception, we have not had any off-balance sheet arrangements as defined in Item 303(a)(4) of the SEC's Regulation S-K.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in foreign currency exchange rates and interest rates. We do not hold or issue financial instruments for trading purposes.

Foreign Currency Exchange Risk

As we expand internationally our results of operations and cash flows will become increasingly subject to fluctuations due to changes in foreign currency exchange rates. Our revenue is generally denominated in the local currency of the contracting party. Historically, the majority of our revenue has been denominated in U.S. dollars. Our expenses are generally denominated in the currencies in which our operations are located, which is primarily in the United States, with a portion of expenses incurred in Singapore and Canada where our manufacturing facilities are located. Our results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates. The volatility of exchange rates depends on many factors that we cannot forecast with reliable accuracy. We have experienced and will continue to experience fluctuations in our net income or loss as a result of transaction gains or losses related to revaluing certain current asset and current liability balances that are denominated in currencies other than the functional currency of the entities in which they are recorded. For the six months ended June 30, 2021, we had a foreign currency loss of \$0.1 million compared to a foreign currency loss of \$0.6 million in the prior year for the same period. To date, we have not entered into any foreign currency hedging contracts although we may do so in the future. As our international operations grow, we will continue to reassess our approach to manage our risk relating to fluctuations in currency rates. If foreign currency exchange rates had changed by 10% during the periods presented, it would not have had a material impact on our financial position or results of operations.

Interest Rate Sensitivity

We had cash and cash equivalents of \$30.9 million as of June 30, 2021. These amounts were held primarily in cash on deposit with banks and money market funds which are short-term. We held no investments in treasury securities at June 30, 2021. Cash, cash equivalents and investments are held for working capital purposes. We believe that we do not have any material exposure to changes in the fair value of our money market portfolio as a result of changes in interest rates. Declines in interest rates, however, will reduce future investment income. If overall interest rates had decreased by 10% during the periods presented, our interest income would not have been materially affected.

Fair Value of Financial Instruments

We do not have material exposure to market risk with respect to investments. We do not use derivative financial instruments for speculative or trading purposes. We may adopt specific hedging strategies in the future.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2021. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of June 30, 2021, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the six months ended June 30, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

Control systems, no matter how well conceived and operated, are designed to provide a reasonable, but not an absolute, level of assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances

of fraud, if any, have been detected. Because of the inherent limitations in any control system, misstatements due to error or fraud may occur and not be detected.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

In September 2020, a putative class action complaint alleging violations of the federal securities laws was filed against the Company (also naming our Chief Executive Officer and Chief Financial Officer as defendants) in the U.S. District Court for the Northern District of California (Reena Saintjermain, et al. v. Fluidigm Corporation, et al). The Court appointed a lead plaintiff and lead counsel in December 2020, and an amended complaint was filed on February 19, 2021. The complaint, as amended, seeks unspecified damages on behalf of a purported class of persons and entities who acquired our common stock between February 7, 2019 and November 5, 2019 and alleges securities laws violations based on statements and alleged omissions made by the Company during such period. The Company filed a motion to dismiss the complaint on April 5, 2021 and, on August 4, 2021, the Court granted defendants' motion to dismiss with leave to amend. We believe the claims alleged in the complaint lack merit and we intend to defend this action vigorously.

In the normal course of business, we are from time to time involved in legal proceedings or potential legal proceedings, including matters involving employment, intellectual property, or others. Although the results of litigation and claims cannot be predicted with certainty, we currently believe that the final outcome of any currently pending matters would not have a material adverse effect on our business, operating results, financial condition, or cash flows. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources, and other factors.

Item 1A. Risk Factors

We operate in a rapidly changing environment that involves numerous uncertainties and risks. The following risks and uncertainties may have a material and adverse effect on our business, financial condition, or results of operations. You should consider these risks and uncertainties carefully, together with all of the other information included or incorporated by reference in this quarterly report on Form 10-Q. The risks described below are not the only ones we face. Our business is also subject to the risks that affect many other companies, such as employment relations, general economic conditions, global sociopolitical events and international operations. Further, additional risks not currently known to us or that we currently believe are immaterial may in the future materially and adversely affect our business, operations, liquidity and stock price. If any of these risks occur, our business, results of operations, or financial condition could suffer, the trading price of our securities could decline, and you may lose all or part of your investment.

Summary of Risk Factors

Risks Related to our Business, Industry, and Strategy

- The COVID-19 pandemic has significantly affected our business operations.
- Our financial results and revenue growth rates have varied significantly from quarter-to-quarter and year-to-year, and may not be consistent with market expectations.
- We have incurred losses since inception, and we may continue to incur substantial losses for the foreseeable future.
- The life science markets are highly competitive and subject to rapid technological change.
- If our research and product development efforts do not result in commercially viable products within anticipated timelines, if at all, our business and results of operations will be adversely affected.
- Market opportunities may not develop as quickly as we expect, limiting our ability to successfully sell our products.
- Our future success is dependent upon our ability to expand our customer base and introduce new applications.
- If our products fail to achieve and sustain sufficient market acceptance, our revenue will be adversely affected.
- We may not be able to develop new products or enhance the capabilities of our existing systems.
- Our business growth strategy involves the potential for significant acquisitions.
- Our efficiency and cost-savings initiatives could be disruptive to our operations.
- Implementation of a company-wide enterprise resource planning (ERP) system could adversely affect our business.

Risks Related to Operations and Reliance on Third Parties

- We may experience development or manufacturing problems or delays.
- Our business depends on research and development spending levels of our customers.
- If one or more of our manufacturing facilities become unavailable or inoperable, we will be unable to continue manufacturing our instruments, IFCs, assays and/or reagents.

- Disruption of our manufacturing facilities or other operations, or in the operations of our customers or business partners, could result in cancellation of orders, delays in deliveries or other business activities, or loss of customers.
- Any disruption or delay in the shipping or off-loading of our products may have an adverse effect on our financial condition and results of operations.
- We rely on single and sole source suppliers for some of the components and materials used in our products.
- Our business operations depend upon the continuing efforts of our management team and other key employees.
- Security breaches, loss of data, cyberattacks, and other IT failures could adversely affect our business.
- To use our analytical systems, customers typically need to purchase specialized reagents.
- Our distribution capabilities and direct sales, field support, and marketing forces must be sufficient to meet our customers' needs.

Risks Related to Quality and the Regulatory Environment

- Our products could have defects or errors.
- Although the FDA granted Emergency Use Authorization (EUA) for our Advanta Dx SARS-CoV-2 RT-PCR Assay in August 2020 and for the AZOVA COVID-19 Test Collection Kit in February 2021, these authorizations are only valid during the COVID-19 public health emergency.
- Our contract with the National Institutes of Health (NIH) could expose us to risks and costs.
- To the extent we elect to label and promote any of our non-EUA products as medical devices, we would be required to obtain prior approval or clearance by the FDA or comparable foreign regulatory authority.
- Our products could become subject to regulation as medical devices by the FDA or other regulatory agencies.
- Compliance or the failure to comply with current and future regulations affecting our products and business operations worldwide could cause us significant expense and adversely impact our business.

Risks Related to Economic Conditions and Operating a Global Business

- We generate a substantial portion of our revenue internationally.
- Adverse conditions in the global economy may significantly harm our revenue, profitability, and results of operations.
- We are subject to fluctuations in the exchange rate of the U.S. dollar and foreign currencies.

Financial, Tax, and Accounting Risks

- Our future capital needs are uncertain and we may need to raise additional funds in the future.
- Any failure to maintain effective internal control over financial reporting could adversely affect our business.
- We may not realize the value of our goodwill or other intangible assets.
- If we fail to comply with the covenants and other obligations under our Credit Facility, the lenders may be able to accelerate amounts owed under the facilities and may foreclose upon the assets securing our obligations.
- We are subject to risks related to taxation in multiple jurisdictions.
- Changes in accounting principles, or interpretations thereof, could impact our financial position and results of operations.
- We have a significant amount of outstanding indebtedness.

Risks Related to Intellectual Property

- Our ability to protect our intellectual property and proprietary technology is uncertain.
- We may be involved in lawsuits to protect or enforce our patents and proprietary rights.
- We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets.
- We depend on certain technologies that are licensed to us.
- We are subject to certain manufacturing restrictions related to licensed technologies that were developed with the financial assistance of U.S. governmental grants.
- We are subject to certain obligations and restrictions relating to technologies developed in cooperation with Canadian government agencies.

Risks Related to Our Common Stock

- Our stock price is volatile.
- Future sales of our common stock in the public market could cause our stock price to fall.
- We will have broad discretion over the use of the proceeds to us from our ATM equity offering program.
- If securities or industry analysts publish unfavorable research about us or cease to cover our business, our stock price and/or trading volume could decline.
- Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us more difficult.
- The forum selection provision in our bylaws could limit the ability of our stockholders to bring a claim in a judicial forum viewed by the stockholders as more favorable for disputes with us or our directors, officers or other employees.
- Any conversions of our 2014 Notes or 2019 Notes will dilute the ownership interest of our existing stockholders.

RISKS RELATED TO OUR BUSINESS, INDUSTRY, AND STRATEGY

The global COVID-19 pandemic has significantly affected our business operations and could adversely impact our financial position and cash flows to an extent that is unknown and difficult to predict.

The pandemic and international public health emergency caused by SARS-CoV-2, the novel strain of coronavirus that causes the disease commonly known as COVID-19, has spread throughout all the countries in which we and our customers, suppliers, and other business partners operate, causing significant disruption and volatility in global financial markets and raising the prospect of an extended global recession. Public health problems resulting from COVID-19 and precautionary measures instituted by governments and businesses to mitigate its spread, including travel restrictions and quarantines, could continue to contribute to a general slowdown in the global economy, cause increasingly adverse impacts on our customers, suppliers, and other business partners, and further disrupt our operations. Changes in our operations as a result of the COVID-19 pandemic have resulted in inefficiencies and delays, including in sales and product development efforts, and additional costs related to business continuity initiatives that cannot be fully mitigated through succession planning, employees working remotely, or teleconferencing technologies.

The COVID-19 pandemic and related governmental reactions have had, and may continue to have, a negative impact on our business, liquidity, results of operations, and stock price due to the occurrence of some or all of the following events or circumstances among others:

- reduced demand for some of our products and services due to the impact of COVID-19 on our customers, including in the global academic research community;
- diminished business productivity due to inefficiencies in employees working from home or increasing physical distancing and other pandemic response protocols in our production facilities;
- increased susceptibility to the risk of information technology security breaches and other disruptions due to increased volumes of remote access to our information systems from our employees working at home;
- the negative impact of travel restrictions and social distancing policies on our sales operations, marketing efforts, and customer field support;
- impaired ability to hire and effectively train new personnel due to travel restrictions and physical distancing protocols;
- increased operating costs if one of our facilities were to experience a COVID-19 outbreak;
- disruption of the operations of our contract manufacturers, suppliers, and other business partners;
- shortages or delays in the supply of components and materials used in our products; and
- increased volatility in our stock price due to financial market instability.

In addition to its negative impact on some aspects of our business, the COVID-19 pandemic has been a source of opportunity for our diagnostics business, opening up external funding sources to support innovation and product development and resulting in increased revenues due to sales of our Advanta Dx SARS-CoV-2 RT-PCR test and related sales of our microfluidics instruments. However, as vaccines and alternative testing options for the coronavirus have become available and the perceived threat of the pandemic has receded, the demand for our COVID-19 testing products has slowed, resulting in a corresponding decline in COVID-19 revenue. As a result of these trends, we have lowered our revenue expectations for 2021. If our revenues decline more than expected, we may be required implement cost control initiatives as the year progresses, and may be required to raise additional financing to support our investment priorities. Additional details concerning these risks are

provided in the risk factors below, including under “*Our efficiency and cost-savings initiatives could be disruptive to our operations and adversely affect our results of operations and financial condition,*” and “*Our future capital needs are uncertain and we may need to raise additional funds in the future, which may cause dilution to stockholders or may be upon terms that are not favorable to us.*”

The extent to which the COVID-19 pandemic will continue to impact our business and financial results will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the continued spread of the coronavirus; the emergence of new strains of the disease, such as the Delta variant; the availability, efficacy, and acceptance of COVID-19 vaccines; the duration of the public health emergency; and actions taken in the United States and elsewhere to contain the virus and prevent new outbreaks, such as social distancing and quarantines, business closures or business disruptions.

Because the severity, magnitude, and duration of the COVID-19 pandemic and its economic consequences are uncertain and rapidly changing, we are unable to predict the impact of COVID-19 on our operations, our financial performance, and our ability to successfully execute our business strategies and initiatives. The ultimate impact of the COVID-19 pandemic on our operations and financial performance depends on many factors that are not within our control, including, but not limited, to: governmental, business, and individual actions that have been and continue to be taken in response to the pandemic (including restrictions on travel, transport and workforce pressures); the impact of the pandemic and actions taken in response on global and regional economies, travel, and economic activity; the availability of federal, state, local or non-U.S. funding programs; general economic uncertainty in key global markets and financial market volatility; global economic conditions and levels of economic growth; and the pace of recovery when the COVID-19 pandemic subsides.

As the COVID-19 pandemic continues to affect our operating and financial results, it may also have the effect of heightening many of the other risks described in our other risk factors below. COVID-19 may also affect our operating and financial results in a manner that is not presently known to us or that we currently do not expect to present significant risks to our operations or financial results, particularly if the pandemic and its associated impacts reoccur in the coming months.

Our financial results and revenue growth rates have varied significantly from quarter-to-quarter and year-to-year due to a number of factors, and a significant variance in our operating results or rates of growth from market expectations, if any, could lead to substantial volatility in our stock price.

Our revenue, results of operations, and revenue growth rates have varied in the past and may continue to vary significantly from quarter-to-quarter or year-to-year. We may experience substantial variability in our product mix from period-to-period as revenue from sales of our instruments relative to sales of our consumables may fluctuate or deviate significantly from expectations. Our revenue increased year-over-year in 2019 compared to 2018, and again in 2020 compared to 2019, but we may not be able to achieve similar revenue growth in future periods. Variability in our quarterly or annual results of operations, mix of product revenue, including any decline in our revenue related to the COVID-19 pandemic, or variability in rates of revenue growth, if any, may lead to volatility in our stock price as research analysts and investors respond to these fluctuations. These fluctuations are due to numerous factors that are difficult to forecast, including:

- fluctuations in demand for our products; changes in customer budget cycles and capital spending;
- seasonal variations in customer operations;
- tendencies among some customers to defer purchase decisions to the end of the quarter;
- the large unit value of our systems, particularly our proteomics systems;
- changes in our pricing and sales policies or the pricing and sales policies of our competitors;
- our ability to design, manufacture, market, sell, and deliver products to our customers in a timely and cost-effective manner;
- fluctuations or reductions in revenue from sales of legacy instruments that may have contributed significant revenue in prior periods;
- quality control or yield problems in our manufacturing operations;
- our ability to timely obtain adequate quantities of the materials or components used in our products, which in certain cases are purchased through sole and single source suppliers;
- new product introductions and enhancements by us and our competitors;
- unanticipated increases in costs or expenses;
- our complex, variable and, at times, lengthy sales cycle;

- global economic conditions; and
- fluctuations in foreign currency exchange rates.

Additionally, we have certain customers who have historically placed large orders in multiple quarters during a calendar year. A significant reduction in orders from one or more of these customers could adversely affect our revenue and operating results, and if these customers defer or cancel purchases or otherwise alter their purchasing patterns, our financial results and actual results of operations could be significantly impacted. Other unknown or unpredictable factors also could harm our results.

The foregoing factors, as well as other factors, could materially and adversely affect our quarterly and annual results of operations and rates of revenue growth, if any. We have experienced significant revenue growth in the past but we may not achieve similar growth rates in future periods. You should not rely on our operating results for any prior quarterly or annual period as an indication of our future operating performance. If we are unable to achieve adequate revenue growth, our operating results could suffer and our stock price could decline. In addition, a significant amount of our operating expenses are relatively fixed due to our manufacturing, research and development, and sales and general administrative efforts. Any failure to adjust spending quickly enough to compensate for a shortfall relative to our anticipated revenue could magnify the adverse impact of such shortfalls on our results of operations. We expect that our sales will continue to fluctuate on an annual and quarterly basis and that our financial results for some periods may be below those projected by securities analysts, which could significantly decrease the price of our common stock.

We have incurred losses since inception, and we may continue to incur substantial losses for the foreseeable future.

We have incurred significant losses in each fiscal year since our inception, including net losses of \$53.0 million, \$64.8 million and \$59.0 million during the years 2020, 2019, and 2018, respectively. As of June 30, 2021, we had an accumulated deficit of \$712.7 million. These losses have resulted principally from costs incurred in our research and development programs, and from our manufacturing costs and selling, general, and administrative expenses. To date, we have funded our operations primarily through equity offerings, the issuance of debt instruments, and from sales of our products. Until we are able to generate additional revenue to support our level of operating expenses, we will continue to incur operating and net losses and negative cash flow from operations.

We believe that our continued investment in research and development, sales, and marketing is essential to our long-term competitive position and future revenue growth and, as a result, we may incur operating losses for the foreseeable future and may never achieve profitability.

The life science markets are highly competitive and subject to rapid technological change, and we may not be able to successfully compete.

The markets for our products are characterized by rapidly changing technology, evolving industry standards, changes in customer needs, emerging competition, new product introductions, and strong price competition. We compete with both established and development stage life science research companies that design, manufacture, and market instruments and consumables for gene expression analysis, single-cell targeted gene expression and protein expression analysis, SNP genotyping, quantitative polymerase chain reaction (qPCR), digital PCR, flow cytometry, cell imaging, and additional applications using well established laboratory techniques, as well as newer technologies such as bead encoded arrays, microfluidics, next-generation DNA sequencing (NGS), microdroplets, spatial protein expression, and photolithographic arrays. Most of our current competitors have significantly greater name recognition, greater financial and human resources, broader product lines and product packages, larger sales forces, larger existing installed bases, larger intellectual property portfolios, and greater experience and scale in research and development, manufacturing, and marketing than we do.

We consider Agilent Technologies, Inc., Thermo Fisher Scientific Inc. (Thermo), Bio-Rad Laboratories, Inc., NanoString Technologies, Inc. (NanoString), and Agena Bioscience, Inc. to be our principal competitors in the microfluidics space. We believe that Cytek Biosciences, Inc. and Becton, Dickinson and Company are currently our principal competitors for our mass cytometry market share, and that IonPath Inc., Akoya Biosciences, Inc., NanoString, and 10x Genomics, Inc. are our principal competitors for our Imaging Mass Cytometry™ market share. While the aforementioned principal competitors are the largest and most prevalent in their representative technology areas, the combined markets in which we compete have an additional 10 to 20 smaller competitors with competing approaches and technologies that we routinely face in selling situations.

Competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards, or customer requirements. In light of these advantages, even if our technology is more effective than the product or service offerings of our competitors, current or potential customers might accept competitive products and services in lieu of purchasing our technology. We anticipate that we will continue to face increased competition in the future as existing companies and competitors develop new or improved products and as new companies enter the market with new

technologies. Increased competition is likely to result in pricing pressures, which could reduce our profit margins and increase our sales and marketing expenses. In addition, mergers, consolidations, or other strategic transactions between two or more of our competitors, or between our competitor and one of our key customers, could change the competitive landscape and weaken our competitive position, adversely affecting our business.

If our research and product development efforts do not result in commercially viable products within anticipated timelines, if at all, our business and results of operations will be adversely affected.

Our business is dependent on the improvement of our existing products, our development of new products to serve existing markets, and our development of new products to create new markets and applications that were previously not practical with existing systems. We intend to devote significant personnel and financial resources to research and development activities designed to advance the capabilities of our technology. We have developed design rules for the implementation of our technology that are frequently revised to reflect new insights we have gained about the technology. In addition, we have discovered that biological or chemical reactions sometimes behave differently when implemented on our systems rather than in a standard laboratory environment. Furthermore, many such reactions take place within the confines of single cells, which have also demonstrated unexpected behavior when grown and manipulated within microfluidic environments. As a result, research and development efforts may be required to transfer certain reactions and cell handling techniques to our systems. In the past, product development projects have been significantly delayed when we encountered unanticipated difficulties in implementing a process on our systems. We may have similar delays in the future, and we may not obtain any benefits from our research and development activities. Any delay or failure by us to develop and release new products or product enhancements would have a substantial adverse effect on our business and results of operations.

Market opportunities may not develop as quickly as we expect, limiting our ability to successfully sell our products, or our product development and strategic plans may change and our entry into certain markets may be delayed, if it occurs at all.

The application of our technologies to high-throughput genomics, single-cell genomics and, particularly, mass cytometry applications are in many cases emerging market opportunities. We believe these opportunities will take several years to develop or mature and we cannot be certain that these market opportunities will develop as we expect. The future growth of our markets and the success of our products depend on many factors beyond our control, including recognition and acceptance by the scientific community, and the growth, prevalence, and costs of competing methods of genetic and protein analysis. Additionally, our success depends on the ability of our sales organization to successfully sell our products into these new markets. If we are not able to successfully market and sell our products, or to achieve the revenue or margins we expect, our operating results may be harmed and we may not recover our product development and marketing expenditures. In addition, our product development and strategic plans may change, which could delay or impede our entry into these markets.

Our future success is dependent upon our ability to expand our customer base and introduce new applications.

Our customer base is primarily composed of academic research institutions, translational research and medicine centers, cancer centers, clinical research laboratories, biopharmaceutical, biotechnology, and plant and animal research companies, and contract research organizations that perform analyses for research and commercial purposes. Our success will depend, in part, upon our ability to increase our market share among these customers, attract additional customers outside of these markets, and market new applications to existing and new customers as we develop such applications. Attracting new customers and introducing new applications require substantial time and expense. For example, it may be difficult to identify, engage, and market to customers who are unfamiliar with the current applications of our systems. Any failure to expand our existing customer base or launch new applications would adversely affect our ability to increase our revenue.

If our products fail to achieve and sustain sufficient market acceptance, our revenue will be adversely affected.

Our success depends on our ability to develop and market products that are recognized and accepted as reliable, enabling and cost-effective. Most of our potential customers already use expensive research systems in their laboratories and may be reluctant to replace those systems. Market acceptance of our systems will depend on many factors, including our ability to convince potential customers that our systems are an attractive alternative to existing technologies. Compared to some competing technologies, our technology is relatively new, and most potential customers have limited knowledge of, or experience with, our products. Prior to adopting our systems, some potential customers may need to devote time and effort to testing and validating our systems. Any failure of our systems to meet these customer benchmarks could result in customers choosing to retain their existing systems or to purchase systems other than ours, and revenue from the sale of legacy instruments that may have contributed significant revenue in prior periods may decrease.

In addition, it is important that our systems be perceived as accurate and reliable by the scientific and medical research community as a whole. Historically, a significant part of our sales and marketing efforts has been directed at convincing industry leaders of the advantages of our systems and encouraging such leaders to publish or present the results of their evaluation of our system. If we are unable to continue to induce leading researchers to use our systems, or if such researchers are unable to achieve and publish or present significant experimental results using our systems, acceptance and adoption of our systems will be slowed and our ability to increase our revenue would be adversely affected.

We may not be able to develop new products or enhance the capabilities of our existing systems to keep pace with rapidly changing technology and customer requirements, which could have a material adverse effect on our business, revenue, financial condition, and operating results.

Our success depends on our ability to develop new products and applications for our technology in existing and new markets, while improving the performance and cost-effectiveness of our systems. New technologies, techniques, or products could emerge that might offer better combinations of price and performance than our current or future product lines and systems. Existing markets for our products, including high-throughput genomics, single-cell genomics and mass cytometry, as well as potential markets for our products such as high-throughput NGS and molecular applications, are characterized by rapid technological change and innovation. It is critical to our success for us to anticipate changes in technology and customer requirements and to successfully introduce new, enhanced, and competitive technology to meet our customers' and prospective customers' needs on a timely and cost-effective basis. Developing and implementing new technologies will require us to incur substantial development costs and we may not have adequate resources available to be able to successfully introduce new applications of, or enhancements to, our systems. We cannot guarantee that we will be able to maintain technological advantages over emerging technologies in the future. While we typically plan improvements to our systems, we may not be able to successfully implement these improvements. If we fail to keep pace with emerging technologies, demand for our systems will not grow and may decline, and our business, revenue, financial condition, and operating results could suffer materially. In addition, if we introduce enhanced systems but fail to manage product transitions effectively, customers may delay or forgo purchases of our systems and our operating results may be adversely affected by product obsolescence and excess inventory. Even if we successfully implement some or all of these planned improvements, we cannot guarantee that our current and potential customers will find our enhanced systems to be an attractive alternative to existing technologies, including our current products.

Our business growth strategy involves the potential for significant acquisitions, and our operating results and prospects could be harmed if we are unable to integrate future acquisitions successfully.

We may acquire other businesses to improve our product offerings or expand into new markets. Our future acquisition strategy will depend on our ability to identify, negotiate, complete, and integrate acquisitions and, if necessary, to obtain satisfactory debt or equity financing to fund those acquisitions. Mergers and acquisitions are inherently risky, and any transaction we complete may not be successful. Any merger or acquisition we may pursue would involve numerous risks, including but not limited to the following:

- difficulties in integrating and managing the operations, technologies, and products of the companies we acquire;
- diversion of our management's attention from normal daily operation of our business;
- our inability to maintain the key business relationships and the reputations of the businesses we acquire;
- our inability to retain key personnel of the acquired company;
- uncertainty of entry into markets in which we have limited or no prior experience and in which competitors have stronger market positions;
- our dependence on unfamiliar affiliates and customers of the companies we acquire;
- insufficient revenue to offset our increased expenses associated with acquisitions;
- our responsibility for the liabilities of the businesses we acquire, including those which we may not anticipate;
- the possibility that we may not realize the value of acquired assets recorded as goodwill or intangible assets, and would be required to incur material charges relating to the impairment of those assets; and
- our inability to maintain internal standards, controls, procedures, and policies.

We may be unable to secure the equity or debt funding necessary to finance future acquisitions on terms that are acceptable to us. If we finance acquisitions by issuing equity or convertible debt securities, our existing stockholders will likely experience dilution, and if we finance future acquisitions with debt funding, we will incur interest expense and may have to comply with financial covenants and secure that debt obligation with our assets.

Our efficiency and cost-savings initiatives could be disruptive to our operations and adversely affect our results of operations and financial condition.

From time to time, we have implemented efficiency and cost-savings initiatives intended to stabilize our business operations. These efficiency initiatives have included targeted workforce reductions, optimizing our facilities, and reducing excess space. In 2020, in response to the uncertainty arising from the COVID-19 pandemic, we initiated a range of additional actions aimed at temporarily reducing our operating expenses and preserving liquidity. These actions included implementing temporary enterprise-wide salary reductions of 20% for employees at or above the 'director' level and 10% for all others, temporarily reducing our board members' cash retainers by 20%, and constraining hiring. Although we have discontinued our hiring constraints and pandemic-related pay reductions, actions such as these may be required in the future to preserve liquidity and optimize our organization. For example, we may need to decrease or defer capital expenditures and development activities or implement further operating expense reduction measures. The implementation of further efficiency and cost-savings initiatives could impair our ability to invest in developing, marketing and selling new and existing products, be disruptive to our operations, make it difficult to attract or retain employees, result in higher than anticipated charges, divert the attention of management, result in a loss of accumulated knowledge, impact our customer and supplier relationships, and otherwise adversely affect our results of operations and financial condition.

If we seek to implement a company-wide enterprise resource planning (ERP) system, such implementation could adversely affect our business and results of operations or the effectiveness of internal control over financial reporting.

We have considered implementing a company-wide ERP system to handle the business and financial processes within our operations and corporate functions. ERP implementations are complex and time-consuming projects that involve substantial expenditures on system software and implementation activities that can continue for several years. ERP implementations also require transformation of business and financial processes in order to reap the benefits of the ERP system. If we decide to implement a company-wide ERP system, our business and results of operations could be adversely affected if we experience operating problems and/or cost overruns during the ERP implementation process, or if the ERP system and the associated process changes do not give rise to the benefits that we expect. If we do not effectively implement the ERP system as planned or if the system does not operate as intended, our business, results of operations, and internal controls over financial reporting could be adversely affected.

RISKS RELATED TO OPERATIONS AND RELIANCE ON THIRD PARTIES

We may experience development or manufacturing problems or delays that could limit the potential growth of our revenue or increase our losses.

We may encounter unforeseen situations in the manufacturing and assembly of our products that would result in delays or shortfalls in our production. For example, our production processes and assembly methods may have to change to accommodate any significant future expansion of our manufacturing capacity, which may increase our manufacturing costs, delay production of our products, reduce our product margin, and adversely impact our business. Conversely, if demand for our products shifts such that a manufacturing facility is operated below its capacity for an extended period, we may adjust our manufacturing operations to reduce fixed costs, which could lead to uncertainty and delays in manufacturing times and quality during any transition period.

Additionally, all of our integrated fluidic circuits (IFCs) for commercial sale are manufactured at our facility in Singapore. Production of the elastomeric block that is at the core of our IFCs is a complex process requiring advanced clean rooms, sophisticated equipment, and strict adherence to procedures. Any contamination of the clean room, equipment malfunction, or failure to strictly follow procedures can significantly reduce our yield in one or more batches. We have in the past experienced variations in yields due to such factors. A drop in yield can increase our cost to manufacture our IFCs or, in more severe cases, require us to halt the manufacture of our IFCs until the problem is resolved. Identifying and resolving the cause of a drop in yield can require substantial time and resources.

Furthermore, developing an IFC for a new application may require developing a specific production process for that type of IFC. While all of our IFCs are produced using the same basic processes, significant variations may be required to ensure adequate yield of any particular type of IFC. Developing such a process can be time consuming, and any unexpected difficulty in doing so can delay the introduction of a product.

If our manufacturing activities are adversely impacted, or if we are otherwise unable to keep up with demand for our products by successfully manufacturing, assembling, testing, and shipping our products in a timely manner, our revenue could be impaired, market acceptance for our products could be adversely affected and our customers might instead purchase our competitors' products.

Our business depends on research and development spending levels of our customers, a reduction in which could limit our ability to sell our products and adversely affect our business.

We expect that our revenue in the foreseeable future will continue to be derived primarily from sales of our systems, IFCs, assays, and reagents to academic research institutions, translational research and medicine centers, cancer centers, clinical research laboratories biopharmaceutical, biotechnology, and plant and animal research companies, and contract research organizations worldwide. Our success will depend upon their demand for and use of our products. Accordingly, the spending policies and practices of these customers—which have been impacted by the COVID-19 pandemic and may additionally be impacted by other factors—could have a significant effect on the demand for our technology. These policies may be based on a wide variety of factors, including concerns regarding any future federal government budget sequestrations, the availability of resources to make purchases, the spending priorities among various types of equipment, policies regarding spending during recessionary periods, and changes in the political climate. In addition, academic, governmental, and other research institutions that fund research and development activities may be subject to stringent budgetary constraints that could result in spending reductions, reduced allocations, or budget cutbacks, which could jeopardize the ability of these customers to purchase our products. Our operating results may fluctuate substantially due to reductions and delays in research and development expenditures by our customers. For example, reductions in operating expenditures by global academic research facilities because of the COVID-19 pandemic have resulted in lower than expected sales of our mass cytometry instruments. Similar reductions and delays in customer spending may result from other factors that are not within our control, such as:

- changes in economic conditions;
- natural disasters or public health crises;
- changes in government programs that provide funding to research institutions and companies;
- changes in the regulatory environment affecting life science and plant and animal research companies engaged in research and commercial activities;
- differences in budget cycles across various geographies and industries;
- market-driven pressures on companies to consolidate operations and reduce costs;
- mergers and acquisitions in the life science and plant and animal research industries; and
- other factors affecting research and development spending.

Any decrease in our customers' budgets or expenditures, or in the size, scope, or frequency of capital or operating expenditures, could materially and adversely affect our operations or financial condition.

If one or more of our manufacturing facilities become unavailable or inoperable, we will be unable to continue manufacturing our instruments, IFCs, assays and/or reagents and, as a result, our business will be harmed until we are able to secure a new facility.

We manufacture our microfluidics analytical and preparatory instruments and IFCs for commercial sale at our facility in Singapore and our mass cytometry instruments, assays, and reagents for commercial sale at our facility in Canada. No other manufacturing facilities are currently available to us, particularly facilities of the size and scope of our Singapore and Canada operations. Our facilities and the equipment we use to manufacture our instruments, IFCs, assays, and reagents would be costly to replace and could require substantial lead times to repair or replace. Our facilities may be harmed or rendered inoperable by natural or man-made disasters, which may render it difficult or impossible for us to manufacture our products for some period of time. If any of our facilities become unavailable to us, we cannot provide assurances that we will be able to secure a new manufacturing facility on acceptable terms, if at all. The inability to manufacture our products, combined with our limited inventory of manufactured supplies, may result in the loss of customers or harm our reputation, and we may be unable to reestablish relationships with those customers in the future. Although we possess insurance for damage to our property and the disruption of our business, 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, or at all. If our manufacturing capabilities are impaired, we may not be able to manufacture and ship our products in a timely manner, which would adversely impact our business.

Disruption of our manufacturing facilities or other operations, or in the operations of our customers or business partners, due to earthquake, flood, other natural catastrophic events, public health crises, or terrorism could result in cancellation of orders, delays in deliveries or other business activities, or loss of customers and could seriously harm our business.

We have significant manufacturing operations in Singapore and Canada and operations in the United States. In addition, our business is international in nature, with our sales, service and administrative personnel and our customers located in

numerous countries throughout the world. Operations at our manufacturing facilities and our subcontractors, as well as our other operations and those of our customers, are subject to disruption for a variety of reasons, including work stoppages, acts of war, terrorism, public health crises (including the ongoing COVID-19 pandemic), fire, earthquake, volcanic eruptions, energy shortages, flooding, or other natural disasters. Such disruption could cause delays in, among other things, shipments of products to our customers, our ability to perform services requested by our customers, or the installation of our products at customer sites.

We cannot provide any assurance that alternate means of conducting our operations (whether through alternate production capacity or service providers or otherwise) would be available if a major disruption were to occur or that, if such alternate means were available, they could be obtained on favorable terms.

Any disruption or delay in the shipping or off-loading of our products, whether domestically or internationally, may have an adverse effect on our financial condition and results of operations.

We rely on shipping providers to deliver products to our customers globally. Labor, tariff, or World Trade Organization-related disputes, piracy, physical damage to shipping facilities or equipment caused by severe weather or terrorist incidents, congestion at shipping facilities, complications related to public health crises (including the ongoing COVID-19 pandemic), inadequate equipment to load, dock, and offload our products, energy-related tie-ups, or other factors could disrupt or delay shipping or off-loading of our products domestically and internationally. Such disruptions or delays may have an adverse effect on our financial condition and results of operations.

We rely on a limited number of third-party suppliers for some of the components and materials used in our products, and the loss of any of these suppliers, or delays or problems in the supply of components and materials could harm our business.

We rely on a limited number of third-party suppliers for certain components and materials used in our products, including single and sole source suppliers. Additionally, several of our instruments are assembled at the facilities of contract manufacturers in Singapore. We do not have long-term contracts with our suppliers of these components and materials or our assembly service providers. The loss of a single or sole source supplier of any of the following components and/or materials would require significant time and effort to locate and qualify an alternative source of supply, if at all:

- The IFCs used in our microfluidic systems are fabricated using a specialized polymer, and other specialized materials, that are available from a limited number of sources. In the past, we have encountered quality issues that have reduced our manufacturing yield or required the use of additional manufacturing processes.
- The electron multiplier detector included in the Hyperion/Helios systems and certain metal isotopes used with the Hyperion/Helios systems are purchased from sole source suppliers.
- The raw materials for our Delta Gene and SNP Type assays and Access Array target-specific primers are available from a limited number of sources.

Our reliance on single and sole source suppliers and assembly service providers also subjects us to other risks that could harm our business, including the following:

- we may be subject to increased component or assembly costs and
- we may not be able to obtain adequate supply or services in a timely manner or on commercially reasonable terms.

We have in the past experienced quality control and supply problems with some of our suppliers, such as manufacturing errors, and may again experience problems in the future. We may not be able to quickly establish additional or replacement suppliers, particularly for our single source components, or assembly service providers. Any interruption or delay in the supply of components or materials or assembly of our instruments, or our inability to obtain components, materials, or assembly services from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand of our customers and cause them to cancel orders or switch to competitive products.

Our business operations depend upon the continuing efforts of our management team and other skilled and experienced personnel, and if we are unable to retain them or to recruit and train new key executives, scientists, and technical support personnel, we may be unable to achieve our goals.

Our success depends largely on the skills, experience, and performance of our management team and scientific and technical support personnel. The loss of the services of any key member of our management team or our scientific or technical support staff might significantly delay or prevent the development of our products or achievement of other business objectives by diverting management's attention to transition matters and identification of suitable replacements, if any, and could have a

material adverse effect on our business. Our research and product development efforts could also be delayed or curtailed if we are unable to attract, train, and retain highly skilled employees, particularly, senior scientists and engineers. For example, as part of our cost reduction program to manage the impact of the COVID-19 pandemic, we implemented temporary enterprise-wide salary reductions and delayed implementation of 2020 merit-based salary increases. Although all salaries have been restored as of the date of this filing, any reinstatement of salary reductions or any other failure to maintain competitive levels of compensation may negatively impact our ability to retain the personnel necessary to achieve our goals. We do not maintain fixed term employment contracts or significant key person life insurance with any of our employees.

Additionally, to expand our research and product development efforts, we need to retain and recruit scientists skilled in areas such as molecular and cellular biology, assay development, and manufacturing. We also need highly trained technical support personnel with the necessary scientific background and ability to understand our systems at a technical level to effectively support potential new customers and the expanding needs of current customers. Competition for these people is intense and we may face challenges in retaining and recruiting such individuals if, for example, our stock price declines, reducing the retention value of equity awards, or our business or technology is no longer perceived as leading in our field. Because of the complex and technical nature of our systems and the dynamic market in which we compete, any failure to attract and retain a sufficient number of qualified employees could materially harm our ability to develop and commercialize our technology.

Security breaches, loss of data, cyberattacks, and other information technology failures could disrupt our operations, damage our reputation, and adversely affect our business, operations, and financial results.

We are dependent upon our data and information technology systems for the effective operation of our business and for the secure maintenance and storage of confidential data relating to our business and third-party businesses. Our information technology systems may be damaged, disrupted or shut down due to attacks by experienced programmers or hackers who may be able to penetrate our security controls and deploy computer viruses, cyberattacks, phishing schemes, or other malicious software programs, or due to employee error or malfeasance, power outages, hardware failures, telecommunication or utility failures, catastrophes or other unforeseen events, and our system redundancy and other disaster recovery planning may be ineffective or inadequate in preventing or responding to any of these circumstances. Any such compromise of our information technology systems could result in the unauthorized publication of our confidential business or proprietary information and unauthorized release of customer, supplier or employee data, any of which could expose us to a risk of legal claims or proceedings, liability under privacy or other laws, disruption of our operations and damage to our reputation, which could divert our management's attention from the operation of our business and materially and adversely affect our business, revenues and competitive position. In addition, our liability insurance may not be sufficient in type or amount to cover us against claims related to security breaches, cyberattacks and other related breaches. The cost and operational consequences of implementing further data protection measures, either as a response to specific breaches or as a result of evolving risks, could be significant. In addition, our inability to use or access our information systems at critical points in time could adversely affect the timely and efficient operation of our business. Any delayed sales, significant costs or lost customers resulting from these technology failures could adversely affect our business, operations, and financial results.

We have implemented security controls to protect our information technology infrastructure but, due to the ever-evolving nature of information security threats, we are not fully insulated from technology disruptions that could adversely impact us. For example, in early 2019, we experienced a ransomware attack that infiltrated and encrypted certain of our information technology systems, including systems containing critical business data. Immediately following the attack, actions were taken to recover the compromised systems and we were able to restore their operation without significant loss of business data within weeks. Based on the nature of the attack and its impact on our systems, we do not believe confidential data was lost or disclosed. If, however, confidential data were determined to have been released in the course of any event, it is possible that we could be the subject of actions by governmental authorities or claims from persons alleging they suffered damages from such a release. We believe our mitigation measures and expanded information security program have reduced, but cannot eliminate, the risk of a similar attack, and we anticipate additional work and expense in the future as we continuously improve our security processes and initiatives in response to ever-changing information security challenges.

In addition to risks affecting our own systems, we could also be negatively impacted by a data breach or cyber incident happening to a third party's network and affecting us. Third parties with which we conduct business have access to certain portions of our sensitive data, including information pertaining to our customers and employees. In the event that these third parties do not adequately safeguard our data, security breaches could result and negatively impact our business, operations, and financial results.

Due to the COVID-19 pandemic, we have an increased number of employees working remotely. As a result, we may have increased cyber security and data security risks, due to increased use of home wi-fi networks and virtual private networks, as well as increased disbursement of physical machines. While we have implemented security controls, updated our policies, and

augmented our information security training program to reduce the risk of cyberattacks and security breaches, there is no guarantee that these measures will be adequate to safeguard all systems with the increased number of employees working remotely.

To use our products—our Biomark, EP1, Helios/CyTOF 2, and Hyperion systems in particular—customers typically need to purchase specialized reagents. Any interruption in the availability of these reagents for use in our products could limit our ability to market our products.

Our products, our Biomark, EP1, Helios, and Hyperion systems in particular, must be used in conjunction with one or more reagents designed to produce or facilitate the particular biological or chemical reaction desired by the user. Many of these reagents are highly specialized and available to the user only from a single supplier or a limited number of suppliers. Although we sell reagents for use with certain of our products, our customers may purchase these reagents directly from third-party suppliers, and we have no control over the supply of those materials. In addition, our products are designed to work with these reagents as they are currently formulated. We have no control over the formulation of reagents sold by third-party suppliers, and the performance of our products might be adversely affected if the formulation of these reagents is changed. If one or more of these reagents were to become unavailable or were reformulated, our ability to market and sell our products could be materially and adversely affected.

In addition, the use of a reagent for a particular process may be covered by one or more patents relating to the reagent itself, the use of the reagent for the particular process, the performance of that process, or the equipment required to perform the process. Typically, reagent suppliers, who are either the patent holders or their authorized licensees, sell the reagents along with a license or covenant not to sue with respect to such patents. The license accompanying the sale of a reagent often purports to restrict the purposes for which the reagent may be used. If a patent holder or authorized licensee were to assert against us or our customers that the license or covenant relating to a reagent precluded its use with our systems, our ability to sell and market our products could be materially and adversely affected. For example, our Biomark system involves real-time quantitative polymerase chain reaction (qPCR) technology. Leading suppliers of reagents for real-time qPCR reactions include Life Technologies Corporation (now part of Thermo) and Roche Diagnostics Corporation, who are our direct competitors, and their licensees. These real-time qPCR reagents are typically sold pursuant to limited licenses or covenants not to sue with respect to patents held by these companies. We do not have any contractual supply agreements for these real-time qPCR reagents, and we cannot assure you that these reagents will continue to be available to our customers for use with our systems, or that these patent holders will not seek to enforce their patents against us, our customers, or suppliers.

If we are unable to expand our direct sales, field support, and marketing forces or distribution capabilities to adequately address our customers' needs, our business may be adversely affected.

We may not be able to market, sell, and, distribute our products effectively enough to support our planned growth. We sell our products primarily through our own sales force and through distributors in certain territories. Our future sales will depend in large part on our ability to continue to increase the scope of our marketing efforts and develop and substantially expand our direct sales force and field application specialist and service engineer teams. Our products are technically complex and used for highly specialized applications. As a result, we believe it is necessary to continue to develop a direct sales force that includes people with specific scientific backgrounds and expertise, and a marketing group with technical sophistication. We have experienced significant changes in our sales organization. In addition, as part of our cost reduction program to manage the impact of the COVID-19 pandemic, we implemented temporary enterprise-wide salary reductions, including with respect to our sales and marketing employees. Although all salaries have been restored to prior levels as of the date of this filing, any reinstatement of salary reductions or any other failure to maintain competitive levels of compensation may negatively impact our ability to maintain the skilled sales and marketing force necessary to support our business activities. As a result, our future success will depend largely on our ability to retain and motivate such personnel. Because competition for such employees is intense, we can provide no assurance that we will be able to retain them on favorable or commercially reasonable terms, if at all. Failure to attract and retain our current personnel or to build an efficient and effective sales and marketing force would negatively impact sales of our products and reduce our revenue and profitability.

In addition, we may continue to enlist one or more sales representatives and distributors to assist with sales, distribution, and customer support globally or in certain regions of the world. If we do seek to enter into such arrangements, we may not be successful in attracting desirable sales representatives and distributors, or we may not be able to enter into such arrangements on favorable terms. If our sales and marketing efforts, or those of any third-party sales representatives and distributors, are not successful, our technologies and products may not gain market acceptance, which would materially and adversely impact our business operations.

RISKS RELATED TO QUALITY AND THE REGULATORY ENVIRONMENT

Our products could have defects or errors, which may give rise to claims against us, adversely affect market adoption of our systems, and adversely affect our business, financial condition, and results of operations.

Our systems utilize novel and complex technology and such systems may develop or contain undetected defects or errors. We cannot assure you that material performance problems, defects, or errors will not arise, and as we increase the density and integration of our systems, these risks may increase. We generally provide warranties that our systems will meet performance expectations and will be free from defects. The costs incurred in correcting any defects or errors may be substantial and could adversely affect our operating margins. For example, we have experienced a performance issue with respect to certain IFCs used in our C1 systems due to the presence of more than one cell in an IFC chamber. Although we have redesigned such C1 IFCs, we may experience additional unexpected product defects or errors that could affect our ability to adequately address these performance issues.

In manufacturing our products, including our systems, IFCs, and assays, we depend upon third parties for the supply of various components, many of which require a significant degree of technical expertise to produce. In addition, we purchase certain products from third-party suppliers for resale. If our suppliers fail to produce components to specification or provide defective products to us for resale and our quality control tests and procedures fail to detect such errors or defects, or if we or our suppliers use defective materials or workmanship in the manufacturing process, the reliability and performance of our products will be compromised.

If our products contain defects, we may experience:

- a failure to achieve market acceptance or expansion of our product sales;
- loss of customer orders and delay in order fulfillment;
- damage to our brand reputation;
- increased cost of our warranty program due to product repair or replacement;
- product recalls or replacements;
- inability to attract new customers;
- diversion of resources from our manufacturing and research and development departments into our service department; and
- legal claims against us, including product liability claims, which could be costly and time consuming to defend and result in substantial damages.

In addition, certain of our products are marketed for use with products sold by third parties. For example, certain of our systems are marketed as compatible with major NGS instruments. If such third-party products are not produced to specification, are produced in accordance with modified specifications, or are defective, they may not be compatible with our products. In such case, the reliability and performance of our products may be compromised.

The occurrence of any one or more of the foregoing could negatively affect our business, financial condition, and results of operations.

Although the FDA granted Emergency Use Authorization (EUA) for our Advanta Dx SARS-CoV-2 RT-PCR Assay in August 2020 and for the AZOVA COVID-19 Test Collection Kit in February 2021, these authorizations are only valid during the COVID-19 public health emergency, and when the federally declared public health emergency ends, we will be required to stop commercial distribution of our assay and the collection kit immediately in the United States unless we comply with FDA requirements, which may include obtaining FDA clearance or approval for our assay under a traditional regulatory pathway for in vitro diagnostics, which is lengthy and expensive.

Under section 564 of the Federal Food, Drug, and Cosmetic Act (FD&C Act), the FDA has authority to allow certain unapproved medical products or unapproved uses of approved medical products to be used during a public health emergency under an EUA. In issuing an EUA, the FDA will consider the totality of scientific evidence available to the FDA regarding safety, efficacy and known and potential risks of such products and availability of alternatives to the emergency use products, among others. EUAs issued by the FDA will specify the scope of authorization and conditions of authorization, including limitations on distribution and conditions related to product advertising and promotion. Once granted, an EUA is effective until the declaration that circumstances exist justifying the authorization of the emergency use is terminated under Section 564(b)(2) of the FD&C Act or the EUA is revoked under Section 564(g) of the FD&C Act, after which the product must be cleared or

approved by the FDA under a traditional pathway as defined by the FDA and we must comply with the FDA quality system regulations in order to remain on the market or to continue commercialization of the product.

In August 2020, the FDA granted EUA for our Advanta Dx SARS-CoV-2 RT-PCR Assay for qualitative detection of nucleic acid from SARS-CoV-2 in saliva specimens from individuals suspected by their healthcare providers of having COVID-19, with the use of the assay limited to CLIA high complexity laboratories. Four supplements have been submitted and authorized as follows: S001 for addition of the FDA Reference Panel Results, S002 for software updates and labeling changes, S003 for addition of alternative source of targets and labeling updates, and S004 for addition of AZOVA home collection kit. In February 2021, the FDA granted EUA for the AZOVA COVID-19 Test Collection Kit, which is authorized for self-collection of saliva specimens at home, for use with the Advanta Dx SARS-CoV-2 RT-PCR Assay. As set forth in each EUA, we are required to comply with the conditions of authorization, including certain requirements pertaining to FDA notification, distribution, printed materials, advertising and promotion. If we, our distributors, or authorized laboratories do not comply with the EUA requirements, our business, financial condition and results of operations may be adversely impacted, and we may be subject to regulatory or enforcement actions, including the issuance of an untitled letter, a warning letter, penalties, or fines, among other adverse actions.

If the FDA's policies and guidance change unexpectedly and/or materially or if we misinterpret them, potential sales of Advanta Dx SARS-CoV-2 RT-PCR and the AZOVA COVID-19 Test Collection Kit could be adversely impacted. In addition, the FDA will revoke an EUA where it is determined that the underlying public health emergency no longer exists or warrants such authorization, or if new evidence becomes available that indicates the test does not meet the conditions of authorization or perform as provided in the EUA application. We cannot predict how long this EUA will remain effective. The termination or revocation of the EUA and changing policies and regulatory requirements could adversely impact our business, financial condition and results of operations. The demand for our product and our profitability may decline or be adversely impacted by the federal government's implementation of a national COVID-19 testing strategy. Given the uncertain nature of the COVID-19 pandemic and future legislation and regulation in this space, we can provide no assurance with respect to our ability to achieve or sustain profitability on a quarterly or annual basis.

Our contract with the National Institutes of Health (NIH) could expose us to unique risks and costs as an entity contracting with the federal government.

The NIH launched the Rapid Acceleration of Diagnostics (RADx) program to expedite development, commercialization, and implementation of technologies for COVID-19 testing to help increase testing in the United States. In July 2020, we entered into a letter contract with the NIH for a project under the RADx program. The letter contract provided access to approximately \$12.2 million of the total proposed funding for the project prior to execution of a further definitive contract for the project. In September 2020, we executed a definitive contract with the NIH as an amendment to the letter contract (collectively, the NIH Contract) to expand production capacity and throughput capabilities for COVID-19 testing with our microfluidics technology. Pursuant to the terms of the NIH Contract, the funding for the project was increased by approximately \$22.0 million, for a total contract value of up to approximately \$34.0 million. Release of funding under the NIH Contract is based on the achievement of milestones, including expansion of our manufacturing facilities, addition of production lines, and achieving full production capacity.

There is significant competition among RADx projects, which are evaluated by experts on a rolling basis. Projects with the most potential for success are advanced to the next stage. There is no certainty that we can meet all the milestones in our NIH Contract on a timely basis, if at all. If we do not meet all the milestones, we will not be able to access all \$34.0 million in funding under the NIH Contract. We cannot guarantee that we will be able to access all the available funding under the NIH Contract in a timely manner, or at all. We must prioritize among many different opportunities, and we may expend our limited resources on programs that do not yield a successful or profitable product candidate and may forego other more profitable opportunities. Further, the Bayh-Dole Act applies to all NIH research and development funding granted to for-profit organizations, which requires the government to be provided a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world.

Factors that could materially adversely affect our funding under the NIH Contract include:

- budgetary constraints affecting U.S. government spending generally, or NIH in particular;
- changes in U.S. government or NIH fiscal policies or available funding, including due to changes in Congressional appropriations;
- changes in U.S. government or NIH programs, requirements or priorities;
- adoption of new laws or regulations;
- technological developments;

- U.S. government shutdowns, threatened shutdowns or budget delays;
- competition and consolidation in our industry; and
- general economic conditions.

These or other factors could cause NIH to reduce its funding or future activities under the NIH Contract, or to exercise its right to terminate the NIH Contract for convenience, either of which could have a material adverse effect on the revenue generated by the NIH Contract.

The NIH Contract includes certain provisions from the Federal Acquisition Regulations, some of which are customary or legally required, that give the U.S. government substantial rights and remedies, many of which are not typically found in commercial contracts. For example, the NIH Contract contains provisions permitting unilateral termination or modification, in whole or in part, at the convenience of the U.S. government. Under general principles of government contracting law, if the U.S. government terminates a contract for convenience, the government contractor may recover only its incurred or committed costs, settlement expenses and profit on work completed prior to the termination. If the U.S. government terminates a contract for default, the government contractor is entitled to recover costs incurred and associated profits on accepted items only and may be liable for excess costs incurred by the government in procuring undelivered items from another source. In addition, government contracts normally contain additional requirements that may increase our costs of doing business, reduce our profits, and expose us to liability for failure to comply with these terms and conditions. These requirements include, for example, mandatory internal control systems and policies, mandatory socioeconomic compliance requirements, including labor standards, non-discrimination and affirmative action programs and environmental compliance requirements and public disclosures of certain contract information, which may enable competitors to gain insights into our research program. If we fail to maintain compliance with these requirements, we may be subject to potential contract or False Claims Act liability and to termination of our NIH Contract.

Other examples of rights and remedies under the NIH Contract include provisions that allow NIH to:

- terminate the NIH Contract, in whole or in part, for any reason or no reason;
- unilaterally reduce or modify the U.S. government's obligations under the NIH Contract, without our consent, including by imposing price adjustments;
- claim rights, including intellectual property rights, in or to (i) products, (ii) data, and (iii) facilities, in each case developed under the NIH Contract;
- under certain circumstances involving public health and safety, license inventions made under such agreements to third parties;
- suspend us from receiving new contracts pending resolution of alleged violations of procurement laws or regulations;
- impose U.S. manufacturing requirements for products that embody inventions conceived or first reduced to practice under the NIH Contract;
- suspend or debar us from doing future business with the government;
- change the course of a development program in a manner that differs from the NIH Contract's original terms or from our desired development plan, including decisions regarding our partners in the program;
- pursue civil or criminal remedies under the False Claims Act and False Statements Act; and
- control or prohibit the export of products.

Furthermore, we may be required to enter into agreements and subcontracts with third parties, including suppliers, consultants and other third-party contractors in order to satisfy our contractual obligations pursuant to our agreements with the U.S. government. Negotiating and entering into such arrangements can be time-consuming and we may not be able to reach agreement with such third parties. Any such agreement must also be compliant with the terms of the NIH Contract. Any delay or inability to enter into such arrangements or entering into such arrangements in a manner that is non-compliant with the terms of our contract, may result in violations of our contract.

U.S. government agencies routinely audit and investigate government contractors and recipients of federal grants and contracts. These agencies review a contractor's performance under its contracts, cost structure and compliance with applicable laws, regulations and standards. The audit may also include review of the adequacy of, and a contractor's compliance with, its internal control systems and policies, including the contractor's accounting, purchasing, property, estimating, compensation and management information systems. If an audit uncovers improper or illegal activities, we may be subject to civil and criminal penalties and administrative sanctions. In addition, we could suffer serious reputational harm if allegations of impropriety were made against us, which could cause our stock price to decrease.

To the extent we elect to label and promote any of our non-EUA products as medical devices, we would be required to obtain prior approval or clearance by the FDA or comparable foreign regulatory authority, which could take significant time and expense and could fail to result in a marketing authorization for the intended uses we believe are commercially attractive. Obtaining marketing authorization in one jurisdiction does not mean that we will be successful in obtaining marketing authorization in other jurisdictions where we conduct business.

Except for the Advanta Dx SARS-CoV-2 RT-PCR Assay and the AZOVA COVID-19 Test Collection Kit authorized by the FDA under an EUA granted in August 2020 and February 2021, respectively, our other products are currently labeled, promoted and sold to academic research institutions, translational research and medicine centers, cancer centers, clinical research laboratories, contract research organizations, and biopharmaceutical, biotechnology, and plant and animal research companies as “research use only” (RUO), and are not designed, or intended to be used, for clinical diagnostic tests or as medical devices as currently marketed. If we elect to label and market our products for use as, or in the performance of, clinical diagnostics in the United States, thereby subjecting them to FDA regulation as medical devices, we would be required to obtain premarket 510(k) clearance or premarket approval from the FDA, unless an exception applies.

We are currently registered with the FDA as a medical device manufacturer, with the reagents for the Advanta Dx SARS-CoV-2 RT-PCR Assay listed as our sole medical device product. As noted in the issued EUA for the Advanta Dx SARS-CoV-2 RT-PCR Assay and the AZOVA COVID-19 Test Collection Kit, the FDA has waived certain quality system requirements under 21 CFR Part 820 for the duration of the EUA. We may in the future list some of our other products with the FDA pursuant to an FDA Class I listing for general purpose laboratory equipment if we pursue clinical applications for such equipment. While this regulatory classification is generally exempt from certain FDA requirements, such as the need to submit a premarket notification commonly known as a 510(k), and some of the requirements of the FDA’s Quality System Regulations (QSRs), we would be subject to ongoing FDA “general controls,” which include compliance with FDA regulations for labeling, inspections by the FDA, complaint evaluation, corrections and removals reporting, promotional restrictions, reporting adverse events or malfunctions for our products, and general prohibitions against misbranding and adulteration. If we do not comply with all the requirements of the EUA or the normal regulatory requirements for any of our medical device products, including additional regulatory requirements that would apply to the Advanta Dx SARS-CoV-2 RT-PCR Assay and the AZOVA COVID-19 Test Collection Kit after the expiration or termination of the EUA, we may be subject to regulatory or enforcement actions, including the issuance of an untitled letter, a warning letter, penalties, or fines, among other adverse actions, any of which may adversely impact our business, financial condition and results of operations. Compliance with additional or changing regulatory requirements can be time-consuming and costly.

In addition, we may in the future submit 510(k) premarket notifications to the FDA to obtain FDA clearance of certain of our products on a selected basis. It is possible, in the event we elect to submit 510(k) applications for certain of our products, that the FDA would take the position that a more burdensome premarket application, such as a premarket approval application or a de novo application is required for some of our products. If such applications were required, greater time and investment would be required to obtain FDA approval. Even if the FDA agreed that a 510(k) was appropriate, FDA clearance can be expensive and time consuming. It generally takes a significant amount of time to prepare a 510(k), including conducting appropriate testing on our products, and several months to years for the FDA to review a submission. Notwithstanding the effort and expense, FDA clearance or approval could be denied for some or all of our products. Even if we were to seek and obtain regulatory approval or clearance, it may not be for the intended uses we believe are important or commercially attractive.

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

In addition, to the extent we decide to seek regulatory marketing authorization for certain of our products in countries outside of the United States, we or our partners, or collaborators, will need to obtain regulatory marketing authorization for our products for the intended use in the jurisdiction where such products will be marketed. Regulatory clearance or approval in one jurisdiction does not mean that we will be successful in obtaining regulatory marketing authorization in other jurisdictions where we conduct business. Sales of such products outside the United States will likely be subject to foreign regulatory requirements, which can vary greatly from country to country. As a result, the time required to obtain clearances or approvals outside the United States may differ from that required to obtain FDA clearance or approval and we may not be able to obtain foreign regulatory approvals on a timely basis or at all. In Europe, we need to comply with the In Vitro Diagnostic Directive

98/79/EC and transition to the In Vitro Diagnostic Regulation 2017/746, which became effective May 26, 2017, with an application date of May 26, 2022. This will increase the difficulty of regulatory approvals in Europe in the future. In addition, the FDA regulates exports of medical devices. Failure to comply with these regulatory requirements or obtain and maintain required approvals, clearances and certifications could impair our ability to commercialize our products for diagnostic use outside of the United States.

In February 2021, we announced a supply and distribution agreement to market our CyTOF technology, panels, and reagents to clinical labs in China. As part of the agreement, we are working to seek National Medical Products Administration (NMPA) approval for our CyTOF instrument for diagnostic use in China. As we increase our operations outside of the United States, our compliance and operational costs will increase, and we will be exposed to greater liability under additional laws and regulations.

Our products could become subject to regulation as medical devices by the FDA or other regulatory agencies even if we do not elect to seek regulatory clearance or approval to market our products for diagnostic purposes, which would adversely impact our ability to market and sell our products and harm our business.

As products that are currently labeled, promoted and intended as RUO, our products are not currently subject to regulation as medical devices by the FDA or comparable agencies of other countries. However, the FDA or comparable agencies of other countries could disagree with our conclusion that our products are currently intended for research use only or deem our current sales, marketing and promotional efforts as being inconsistent with research use only products. For example, our customers may independently elect to use our research use only labeled products in their own laboratory developed tests (LDTs) for clinical diagnostic use. The FDA has historically exercised enforcement discretion in not enforcing the medical device regulations against laboratories offering LDTs. However, on October 3, 2014, the FDA issued two draft guidance documents that set forth the FDA's proposed risk-based framework for regulating LDTs, which are designed, manufactured, and used within a single laboratory. The draft guidance documents provide the anticipated details through which the FDA would propose to establish an LDT oversight framework, including premarket review for higher-risk LDTs, such as those that have the same intended use as FDA-approved or cleared companion diagnostic tests currently on the market. In January 2017, the FDA announced that it would not issue final guidance on the oversight of LDTs and manufacturers of products used for LDTs, but would seek further public discussion on an appropriate oversight approach, and give Congress an opportunity to develop a legislative solution. More recently, the FDA has issued warning letters to certain genomics labs for illegally marketing genetic tests that claim to predict patients' responses to specific medications, noting that the FDA has not created a legal "carve-out" for LDTs and retains discretion to take action when appropriate, such as when certain genomic tests raise significant public health concerns. As manufacturers develop more complex genetic tests and diagnostic software, the FDA may increase its regulation of LDTs. Any future legislative or administrative rule making or oversight of LDTs, if and when finalized, may impact the sales of our products and how customers use our products, and may require us to change our business model in order to maintain compliance with these laws. We cannot predict how these various efforts will be resolved, how Congress or the FDA will regulate LDTs in the future, or how that regulatory system will impact our business.

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

In August 2020, as part of the U.S. government's efforts to combat COVID-19 and consistent with the direction in Executive Orders 13771 and 13924, the Department of Health and Human Services (HHS) announced rescission of guidances and other informal issuances of the FDA regarding premarket review of LDTs absent notice-and-comment rulemaking, stating that, absent notice-and-comment rulemaking, those seeking approval or clearance of, or an emergency use authorization, for an LDT may nonetheless voluntarily submit a premarket approval application, premarket notification or an EUA request, respectively, but are not required to do so. However, laboratories opting to use LDTs without FDA premarket review or authorization would not be eligible for liability protection under the Public Readiness and Emergency Preparedness Act, or the PREP Act. Following this HHS announcement, the FDA announced in October 2020 that it will no longer review EUA requests for COVID-19 LDTs at this time and will continue to prioritize review of EUA requests for point-of-care tests, home collection tests, at-home tests, tests that reduce reliance on test supplies, and high-throughput tests that are widely distributed. While these actions by HHS and the FDA are expected to reduce the regulatory burden on clinical laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 that develop LDTs, it is unclear how this action as well as legislation and

executive orders by the Biden administration and state governments and FDA regulation will impact the industry, including our business and that of our customers. In an FDA FAQ updated on January 13, 2021, FDA indicated that it is reviewing EUA requests from laboratories that offer COVID-19 diagnostic tests and appears to take a different position from the HHS rescission policy. HHS's policy and the FDA's position with respect to LDTs in the short term and in general in the long-term may change, especially as the leadership at FDA changes under the Biden administration. Congress recently introduced an updated legislation called the Verifying Accurate, Leading-edge IVCT Development Act (VALID Act), which, if enacted, will establish a new risk-based regulatory framework for in vitro clinical tests (IVCTs), which include IVDs, LDTs, collection devices, and instruments used with such tests, and a technology certification program, among other proposals. The adoption of new restrictions on IVDs, LDTs, or RUOs, whether by the FDA or Congress, could adversely affect demand for our specialized reagents and instruments. Further, we could be required to obtain premarket clearance or approval from the FDA before we can sell our products to certain customers.

If the FDA determines our products or related applications should be subject to additional regulation as in vitro diagnostic devices based upon customers' use of our products for clinical diagnostic or therapeutic decision-making purposes, our ability to market and sell our products could be impeded and our business, prospects, results of operations and financial condition may be adversely affected. In addition, the FDA could consider our products to be misbranded or adulterated under the Federal Food, Drug, and Cosmetic Act and subject to recall and/or other enforcement action.

Compliance or the failure to comply with current and future regulations affecting our products and business operations worldwide, such as environmental regulations enacted in the European Union, could cause us significant expense and adversely impact our business.

We are subject to many federal, state, local, and foreign regulations relating to various aspects of our business operations. Governmental entities at all levels are continuously enacting new regulations, and it is difficult to identify all applicable regulations and anticipate how such regulations will be implemented and enforced. We continue to evaluate the necessary steps for compliance with applicable regulations. To comply with applicable regulations, we have and will continue to incur significant expense and allocate valuable internal resources to manage compliance-related issues. In addition, such regulations could restrict our ability to expand or equip our facilities, or could require us to acquire costly equipment or to incur other significant expenses to comply with the regulations. For example, the Restriction on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive (RoHS) and the Waste Electrical and Electronic Equipment Directive (WEEE), both enacted in the European Union, regulate the use of certain hazardous substances in, and require the collection, reuse, and recycling of waste from, products we manufacture. Certain of our products sold in these countries are subject to WEEE and RoHS. These and similar regulations that have been or are in the process of being enacted in other countries may require us to redesign our products, use different types of materials in certain components, or source alternative components to ensure compliance with applicable standards, and may reduce the availability of parts and components used in our products by negatively impacting our suppliers' ability to source parts and components in a timely and cost-effective manner.

The Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulation (EC) No. 1907/2006 is the European Union's regulation on chemicals and their safe use. The list of chemicals has been updated and some of the updates affect chemicals used in our products. We will request a research exception, but if not granted, we will need to reduce the concentration of some of the chemicals in our products, which will require significant research and development and operations efforts.

Any such redesigns, required use of alternative materials, or limited availability of parts and components used in our products may detrimentally impact the performance of our products, add greater testing lead times for product introductions, reduce our product margins, or limit the markets for our products, and if we fail to comply with any present and future regulations, we could be subject to future fines, penalties, and restrictions, such as the suspension of manufacturing of our products or a prohibition on the sale of products we manufacture. Any of the foregoing could adversely affect our business, financial condition, or results of operations.

RISKS RELATED TO ECONOMIC CONDITIONS AND OPERATING A GLOBAL BUSINESS

We generate a substantial portion of our revenue internationally and our international business exposes us to business, regulatory, political, operational, financial, and economic risks associated with doing business outside of the United States.

During the years 2020, 2019, and 2018, approximately 54%, 63%, and 57% respectively, of our product and service revenue was generated from sales to customers located outside of the United States. We believe that a significant percentage of our future revenue will continue to come from international sources as we expand our international operations and develop

opportunities in other countries. Engaging in international business inherently involves a number of difficulties and risks, including:

- required compliance with existing and changing foreign regulatory requirements and laws that are or may be applicable to our business in the future, such as the European Union's General Data Protection Regulation and other data privacy requirements, labor and employment regulations, anticompetition regulations, the U.K. Bribery Act of 2010 and other anticorruption laws, and the RoHS and WEEE directives and REACH regulation, which regulate the use and importation of certain hazardous substances in, and require the collection, reuse, and recycling of waste from, products we manufacture;
- required compliance with U.S. laws such as the Foreign Corrupt Practices Act, and other U.S. federal laws and regulations established by the Office of Foreign Assets Control;
- export requirements and import or trade restrictions;
- laws and business practices favoring local companies;
- longer payment cycles and difficulties in enforcing agreements and collecting receivables through certain foreign legal systems;
- changes in social, economic, and political conditions or in laws, regulations and policies governing foreign trade, manufacturing, development, and investment both domestically as well as in the other countries and jurisdictions in which we operate and into which we sell our products, including as a result of the separation of the United Kingdom from the European Union (Brexit);
- business interruptions resulting from global sociopolitical events, including war and terrorism, public health crises (including the ongoing COVID-19 pandemic), and natural disasters including earthquakes, typhoons, floods and fires;
- potentially adverse tax consequences, tariffs, customs charges, bureaucratic requirements, and other trade barriers;
- difficulties and costs of staffing and managing foreign operations; and
- difficulties protecting or procuring intellectual property rights.

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

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

Adverse economic conditions in the U.S. and international markets, including the worldwide economic disruption related to the COVID-19 pandemic, have negatively affected our revenues and operating results and may continue to do so. Even before the current public health crisis took hold, the global credit and financial markets had been experiencing volatility and disruptions, including diminished liquidity and credit availability, increased concerns about inflation and deflation, and the downgrade of U.S. debt and exposure risks on other sovereign debts, decreased consumer confidence, lower economic growth, volatile energy costs, increased unemployment rates, and uncertainty about economic stability. Geopolitical events including the COVID-19 pandemic, the United States government's adoption and expansion of trade restrictions, and the United Kingdom's withdrawal from the European Union have caused significant economic, market, political and regulatory uncertainty in some of our markets. Volatility and disruption of financial markets could limit our customers' ability to obtain adequate financing or credit to purchase and pay for our products in a timely manner or to maintain operations, which could result in a decrease in sales volume that could harm our results of operations. General concerns about the fundamental soundness of domestic and international economies may also cause our customers to reduce their purchases. Changes in governmental banking, monetary, and fiscal policies to address liquidity and increase credit availability may not be effective. Significant government investment and allocation of resources to assist the economic recovery of sectors that do not include our customers may reduce the resources available for government grants and related funding for life science, plant and animal research, and clinical research and development. Continuation or further deterioration of these financial and macroeconomic conditions could significantly harm our sales, profitability, and results of operations.

We are subject to fluctuations in the exchange rate of the U.S. dollar and foreign currencies.

A majority of our product sales are currently denominated in U.S. dollars and fluctuations in the value of the U.S. dollar relative to foreign currencies could decrease demand for our products and adversely impact our financial performance. For example, if the value of the U.S. dollar increases relative to foreign currencies, our products could become more costly to the international consumer and therefore less competitive in international markets, or if the value of the U.S. dollar decreases relative to the Singapore dollar or the Canadian dollar, it would become more costly in U.S. dollars for us to manufacture our

products in Singapore and/or in Canada. Additionally, our expenses are generally denominated in the currencies of the countries in which our operations are located, which is primarily in the United States, with a portion of expenses incurred in Singapore and Canada where a significant portion of our manufacturing operations are located. Our results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates. The volatility of exchange rates depends on many factors that we cannot forecast with reliable accuracy. We have experienced and will continue to experience fluctuations in our net income or loss as a result of transaction gains or losses related to revaluing certain current asset and current liability balances that are denominated in currencies other than the functional currency of the entities in which they are recorded. Fluctuations in currency exchange rates could have an adverse impact on our financial results in the future.

FINANCIAL, TAX, AND ACCOUNTING RISKS

Our future capital needs are uncertain and we may need to raise additional funds in the future, which may cause dilution to stockholders or may be upon terms that are not favorable to us.

We believe that our existing cash, cash equivalents, and investments, along with funding available under our \$10.0 million term loan facility and \$15.0 million revolving senior credit facility (collectively, Credit Facility) will be sufficient to meet our anticipated cash requirements for at least the next 18 months. However, we have continued to experience losses and, if that trend continues, we may need to seek additional sources of financing. In addition, we may need to raise substantial additional capital for various purposes, including:

- expanding the commercialization of our products;
- funding our operations;
- furthering our research and development; and
- acquiring other businesses or assets and licensing technologies.

Our future funding requirements will depend on many factors, including:

- market acceptance of our products;
- the cost of our research and development activities;
- the cost of filing and prosecuting patent applications;
- the cost of defending any litigation including intellectual property, employment, contractual or other litigation;
- the cost and timing of regulatory clearances or approvals, if any;
- the cost and timing of establishing additional sales, marketing, and distribution capabilities;
- the cost and timing of establishing additional technical support capabilities;
- fluctuations in cash demands (e.g., due to interest or principal payments or payouts under existing cash compensation plans);
- variability in sales and timing of related cash collections;
- the effectiveness of our efficiency and cost-savings initiatives;
- the impact of any natural disasters or public health crises (including the COVID-19 pandemic);
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in businesses, products, and technologies, although we currently have no commitments or agreements relating to any of these types of transactions.

To the extent we draw on our Credit Facility or otherwise incur additional indebtedness, the risks described above could increase. Further, if we increase our indebtedness, our actual cash requirements in the future may be greater than expected. Our cash flow from operations may not be sufficient to repay all of the outstanding debt as it becomes due, and we cannot assure you that we will be able to obtain additional funds on acceptable terms, or at all. The ongoing COVID-19 pandemic has led to significant disruption and volatility in the global capital markets, increasing the cost of—and adversely impacting access to—capital. We entered into an Open Market Sale Agreement (Sale Agreement) with Jefferies LLC (Jefferies) to sell shares of our common stock having aggregate sales proceeds of up to \$50 million, from time to time, through an at-the-market (ATM) equity offering program under which Jefferies acts as sales agent. During the third quarter of 2020, we sold approximately 2.5 million shares of our common stock pursuant to the Sale Agreement, for aggregate gross proceeds of \$20.9 million. Our net proceeds were approximately \$20.1 million, after deducting related expenses, including commissions of approximately \$0.6 million and issuance costs of approximately \$0.2 million. If we raise additional funds by issuing equity securities, either under the ATM

program or otherwise, our stockholders will experience dilution. Debt financing in addition to the Credit Facility, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any additional debt or equity financing that we raise may contain terms that are not favorable to us or our stockholders, and our ability to raise additional capital may be adversely impacted by the impact of the COVID-19 pandemic on the economy.

If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish some rights to our technologies or our products, or grant licenses on terms that are not favorable to us. If we do not have or are unable to raise adequate funds, we may have to liquidate some or all of our assets, delay development or commercialization of our products, or license to third parties the rights to commercialize products or technologies that we would otherwise seek to commercialize. We also may have to reduce marketing, customer support, research and development, or other resources devoted to our products, or cease operations. Any of these factors could harm our operating results.

If we fail to maintain effective internal control over financial reporting in the future, the accuracy and timing of our financial reporting may be impaired, which could adversely affect our business and our stock price.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. Our testing may reveal deficiencies in our internal control over financial reporting that are deemed to be material weaknesses.

Our compliance with Section 404 requires that we incur substantial accounting expense and expend significant management time on compliance-related issues. We currently do not have an internal audit group, and we continue to evaluate our need for additional accounting and financial staff with appropriate public company experience and technical accounting knowledge. Moreover, if we do not comply with the requirements of Section 404, or if we or our independent registered public accounting firm identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by The Nasdaq Stock Market LLC, the SEC, or other regulatory authorities, which would require additional financial and management resources.

We may not realize the value of our goodwill or other intangible assets, which would be reflected in an impairment charge.

Our business acquisitions typically result in goodwill and other intangible assets, which affect the amount of future period amortization expense and possible impairment expense. We make estimates and assumptions in valuing such intangible assets that affect our condensed consolidated financial statements. As of June 30, 2021, we had approximately \$142.6 million of goodwill and net intangible assets, including approximately \$106.5 million of goodwill and \$35.7 million of net intangible assets. These assets represent a significant portion of the assets recorded on our condensed consolidated balance sheet and relate primarily to our acquisition of DVS Sciences, Inc. (DVS) in February 2014 and InstruNor in 2020. In addition, if in the future we acquire additional businesses, technologies, or other intangible assets, a substantial portion of the value of such assets may be recorded as goodwill or intangible assets.

We assess the realizability of goodwill and indefinite-lived intangible assets annually as well as whenever events or changes in circumstances indicate that these assets may be impaired. We assess the realizability of definite-lived intangible assets whenever events or changes in circumstances indicate that these assets may be impaired. These events or circumstances would generally include operating losses or a significant decline in earnings associated with the acquired business or asset. Our ability to realize the value of the goodwill and intangible assets will depend on the future cash flows of these businesses. These cash flows in turn depend in part on how well we have integrated these businesses. If we are not able to realize the value of the goodwill and intangible assets, we may be required to incur material charges relating to the impairment of those assets.

If we fail to comply with the covenants and other obligations under our Credit Facility, the lenders may be able to accelerate amounts owed under the facilities and may foreclose upon the assets securing our obligations.

In August 2021, we amended our Revolving Credit Facility, which provides for secured revolving loans in an aggregate amount of up to \$15.0 million, to extend the maturity date to August 2, 2023 and to provide for a new \$10.0 million term loan facility (the Term Loan Facility and, together with the Revolving Credit Facility, the Credit Facility). The Credit Facility is secured by substantially all of our assets, other than intellectual property. The Credit Facility contains customary affirmative and negative covenants which, unless waived by the bank, limit our ability to, among other things, incur additional indebtedness, grant liens, make investments, repurchase stock, pay dividends, transfer assets, enter into affiliate transactions, undergo a change of control, or engage in merger and acquisition activity, including merging or consolidating with a third party. If we fail to comply with the covenants and our other obligations under the Credit Facility, the lenders would be able to

accelerate the required repayment of amounts due under the Credit Facility and, if they are not repaid, could foreclose upon the assets securing our obligations under the Credit Facility.

Our ability to use net operating loss carryforwards to offset future taxable income for U.S. federal income tax purposes and other tax benefits may be limited.

Section 382 of the Internal Revenue Code of 1986, as amended (the Code), imposes an annual limitation on the amount of taxable income that may be offset by net operating loss carryforwards (NOLs) if a corporation experiences an “ownership change.” As provided in Section 382 of the Code, an “ownership change” occurs when a company’s “five-percent shareholders” collectively increase their ownership in the company by more than 50 percentage points (by value) over a rolling three-year period. Various states also have limitations on the use of state NOLs following an ownership change.

Future changes in our stock ownership, some of which are outside our control, could result in an ownership change under Section 382 of the Code. If we experience an ownership change, our ability to use our NOLs or other tax benefits could be substantially limited, which could significantly impair their value. There is no assurance that we will be able to fully utilize our NOLs or other tax benefits, which could adversely impact our results of operations.

We believe that these tax benefits are a valuable asset for us and we monitor our stock ownership to determine whether our NOLs are at material risk of limitation based on an ownership change pursuant to Section 382. If our board of directors determines a potential risk exists that our NOLs could be limited, it could elect to adopt a tax benefit preservation plan in an effort to protect our tax benefits. Adoption of a tax benefit preservation plan could make it more difficult for a third party to acquire, or could discourage a third party from acquiring, us or a large block of our common stock.

We are subject to risks related to taxation in multiple jurisdictions and if taxing authorities disagree with our interpretations of existing tax laws or regulations, our effective income tax rate could be adversely affected and we could have additional tax liability.

We are subject to income taxes in both the United States and certain foreign jurisdictions. Significant judgments based on interpretations of existing tax laws or regulations are required in determining the provision for income taxes. For example, we have made certain interpretations of existing tax laws or regulations based upon the operations of our business internationally and we have implemented intercompany agreements based upon these interpretations and related transfer pricing analyses. If the U.S. Internal Revenue Service or other taxing authorities disagree with the positions, our effective income tax rate could be adversely affected and we could have additional tax liability, including interest and penalties. From time to time, we may review our corporate structure and tax positions in the various international jurisdictions in which we operate and such review may result in changes to how we structure our international business operations, which may adversely impact our effective income tax rate. Our effective income tax rate could also be adversely affected by changes in the mix of earnings in tax jurisdictions with different statutory tax rates, changes in the valuation of deferred tax assets and liabilities, changes in existing tax laws or tax rates, changes in the level of non-deductible expenses (including share-based compensation), changes in our future levels of research and development spending, mergers and acquisitions, or the result of examinations by various tax authorities. Payment of additional amounts as a result of changes in applicable tax law or upon final adjudication of any disputes could have a material impact on our results of operations and financial position.

Changes in accounting principles, or interpretations thereof, could have a significant impact on our financial position and results of operations.

We prepare our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP). These principles are subject to interpretation by the SEC and various bodies formed to interpret and create appropriate accounting principles. A change in these principles can have a significant effect on our reported results and may even retroactively affect previously reported transactions. Additionally, the adoption of new or revised accounting principles may require that we make significant changes to our systems, processes and controls.

It is not clear if or when potential changes in accounting principles may become effective, whether we have the proper systems and controls in place to accommodate such changes and the impact that any such changes may have on our financial position and results of operations.

We have a significant amount of outstanding indebtedness, and our financial condition and results of operations could be adversely affected if we do not efficiently manage our liabilities.

We have significant outstanding convertible debt. As of June 30, 2021, we had outstanding \$0.6 million aggregate principal amount of our 2.75% Senior Convertible Notes due 2034 (2014 Notes) and \$55.0 million aggregate principal amount of our 5.25% convertible senior notes due 2024 (2019 Notes). The 2014 Notes will mature on February 1, 2034, unless earlier

converted, redeemed, or repurchased in accordance with the terms of the 2014 Notes. Pursuant to the terms of the indenture governing the 2014 Notes (2014 Notes Indenture), holders of the 2014 Notes may require us to repurchase all or a portion of the 2014 Notes at a repurchase price in cash equal to 100% of the principal amount of such 2014 Notes plus accrued and unpaid interest thereon, on each of February 6, 2024 and February 6, 2029. The 2019 Notes will mature on December 1, 2024, unless earlier converted, or repurchased in accordance with the terms of the 2019 Notes.

If we undergo a fundamental change (as defined in the 2014 Notes Indenture or the indenture governing the 2019 Notes, as applicable (collectively, the Convertible Notes)), holders of the applicable series of Convertible Notes may require us to repurchase such Convertible Notes in whole or in part for cash at a repurchase price equal to 100% of the principal amount of the applicable series of Convertible Notes plus accrued and unpaid interest. If we refinance all or any portion of the Convertible Notes, we may issue additional convertible notes or other debt, which could include additional company obligations and represent more dilution to existing stockholders and noteholders.

This significant amount of debt has important risks to us and our investors, including:

- requiring a portion of our cash flow from operations to make interest payments on this debt;
- increasing our vulnerability to general adverse economic and industry conditions;
- reducing the cash flow available to fund capital expenditures and other corporate purposes and to grow our business;
- limiting our flexibility in planning for, or reacting to, changes in our business and the industry; and
- limiting our ability to borrow additional funds as needed or take advantage of business opportunities as they arise.

In addition, to the extent we draw on our Revolving Credit Facility or otherwise incur additional indebtedness, the risks described above could increase. Further, if we increase our indebtedness, our actual cash requirements in the future may be greater than expected. Our cash flow from operations may not be sufficient to repay all of the outstanding debt as it becomes due, and we may not be able to borrow money, sell assets or otherwise raise funds on acceptable terms, or at all, to refinance our debt.

RISKS RELATED TO INTELLECTUAL PROPERTY

Our ability to protect our intellectual property and proprietary technology through patents and other means is uncertain.

Our commercial success depends in part on our ability to protect our intellectual property and proprietary technologies. We rely on patent protection, where appropriate and available, as well as a combination of copyright, trade secret, and trademark laws, and nondisclosure, confidentiality, and other contractual restrictions to protect our proprietary technology. However, these legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. We apply for patents covering our products and technologies and uses thereof, as we deem appropriate. However, we may fail to apply for patents on important products and technologies in a timely fashion or at all. Our pending U.S. and foreign patent applications may not issue as patents or may not issue in a form that will be sufficient to protect our proprietary technology and gain or keep our competitive advantage. Any patents we have obtained or do obtain may be subject to re-examination, reissue, opposition, or other administrative proceeding, or may be challenged in litigation, and such challenges could result in a determination that the patent is invalid or unenforceable. In addition, competitors may be able to design alternative methods or devices that avoid infringement of our patents. Both the patent application process and the process of managing patent disputes can be time consuming and expensive.

Furthermore, the laws of some foreign countries may not protect our intellectual property rights to the same extent as do the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions. 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. Changes in either the patent laws or in interpretations of patent laws in the United States or other countries may diminish the value of our intellectual property. We cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents. For example:

- we might not have been the first to make the inventions covered by each of our pending patent applications;
- we might not have been the first to file patent applications for these inventions;
- the patents of others may have an adverse effect on our business; and
- others may independently develop similar or alternative products and technologies or duplicate any of our products and technologies.

To the extent our intellectual property, including licensed intellectual property, offers inadequate protection, or is found to be invalid or unenforceable, our competitive position and our business could be adversely affected.

We may be involved in lawsuits to protect or enforce our patents and proprietary rights, to determine the scope, coverage and validity of others' proprietary rights, or to defend against third-party claims of intellectual property infringement, any of which could be time-intensive and costly and may adversely impact our business or stock price.

Litigation may be necessary for us to enforce our patent and proprietary rights, determine the scope, coverage, and validity of others' proprietary rights, and/or defend against third-party claims of intellectual property infringement against us as well as against our suppliers, distributors, customers, and other entities with which we do business. Litigation could result in substantial legal fees and could adversely affect the scope of our patent protection. The outcome of any litigation or other proceeding is inherently uncertain and might not be favorable to us, and we might not be able to obtain licenses to technology that we require. Even if such licenses are obtainable, they may not be available at a reasonable cost. We could therefore incur substantial costs related to royalty payments for licenses obtained from third parties, which could negatively affect our product margins or financial position. Further, we could encounter delays in product introductions, or interruptions in product sales, as we develop alternative methods or products.

As we move into new markets and applications for our products, incumbent participants in such markets may assert their patents and other proprietary rights against us as a means of impeding our entry into such markets or as a means to extract substantial license and royalty payments from us. Our commercial success may depend in part on our non-infringement of the patents or proprietary rights of third parties. Numerous significant intellectual property issues have been litigated, and will likely continue to be litigated, between existing and new participants in our existing and targeted markets. For example, some of our products provide for the testing and analysis of genetic material, and patent rights relating to genetic materials remain a developing area of patent law. A recent U.S. Supreme Court decision held, among other things, that claims to isolated genomic DNA occurring in nature are not patent eligible, while claims relating to synthetic DNA may be patent eligible. We expect the ruling will result in additional litigation in our industry. In addition, third parties may assert that we are employing their proprietary technology without authorization, and if they are successful in making such claims, we may be forced to enter into license agreements, pay additional royalties or license fees, or enter into settlements that include monetary obligations or restrictions on our business.

Our customers have been sued for various claims of intellectual property infringement in the past, and we expect that our customers will be involved in additional litigation in the future. In particular, our customers may become subject to lawsuits claiming that their use of our products infringes third-party patent rights, and we could become subject to claims that we contributed to or induced our customer's infringement. In addition, our agreements with some of our suppliers, distributors, customers, and other entities with which we do business may require us to defend or indemnify these parties to the extent they become involved in infringement claims against us, including the claims described above. We could also voluntarily agree to defend or indemnify third parties in instances where we are not obligated to do so if we determine it would be important to our business relationships. If we are required or agree to defend or indemnify any of these third parties in connection with any infringement claims, we could incur significant costs and expenses that could adversely affect our business, operating results, or financial condition.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of our employees' former employers or other institutions or third parties with which such employees may have been previously affiliated.

Many of our employees were previously employed at universities or other life science or plant and animal research companies, including our competitors or potential competitors. In the future, we may become subject to claims that our employees, or we, have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers or other third parties or institutions with which our employees may have been previously affiliated. Litigation may be necessary to defend against these claims. A resulting loss of key research personnel work product could hamper or prevent our ability to commercialize certain potential products or a loss of or inability to hire key marketing, sales or research and development personnel could adversely affect our future product development, sales and revenues, any of which could severely harm our business. Even if we are successful in defending against any such claims, litigation could result in substantial costs and be a distraction to management.

We depend on certain technologies that are licensed to us. We do not control these technologies and any loss of our rights to them could prevent us from selling our products, which would have an adverse effect on our business.

We rely on licenses in order to be able to use various proprietary technologies that are material to our business, including our core IFC, multi-layer soft lithography, and mass cytometry technologies. In some cases, we do not control the prosecution,

maintenance, or filing of the patents to which we hold licenses, or the enforcement of these patents against third parties. Additionally, our business and product development plans anticipate and may substantially depend on future in-license agreements with additional third parties, some of which are currently in the early discussion phase. For example, Fluidigm Canada Inc. (Fluidigm Canada), an Ontario corporation and wholly owned subsidiary of Fluidigm Sciences, was party to an interim license agreement, now expired, with Nodality, Inc., or Nodality, under which Nodality granted Fluidigm Canada a worldwide, non-exclusive, research use only, royalty bearing license to certain cytometric reagents, instruments, and other products. While we were able to secure a license under a new license agreement with Nodality, we cannot provide assurances that we will always be able to obtain suitable license rights to technologies or intellectual property of other third parties on acceptable terms, if at all.

In-licensed intellectual property rights that are fundamental to our business being operated present numerous risks and limitations. For example, all or a portion of the license rights granted may be limited for research use only, and in the event we attempt to expand into diagnostic applications, we would be required to negotiate additional rights, which may not be available to us on commercially reasonable terms, if at all.

Our rights to use the technology we license are also subject to the negotiation and continuation of those licenses. Certain of our licenses contain provisions that allow the licensor to terminate the license upon specific conditions. Our rights under the licenses are subject to our continued compliance with the terms of the license, including the payment of royalties due under the license. Because of the complexity of our products and the patents we have licensed, determining the scope of the license and related royalty obligation can be difficult and can lead to disputes between us and the licensor. An unfavorable resolution of such a dispute could lead to an increase in the royalties payable pursuant to the license. If a licensor believed we were not paying the royalties due under the license or were otherwise not in compliance with the terms of the license, the licensor might attempt to revoke the license. If such an attempt were successful and the license is terminated, we might be barred from marketing, producing, and selling some or all of our products, which would have an adverse effect on our business. Potential disputes between us and one of our existing licensors concerning the terms or conditions of the applicable license agreement could result, among other risks, in substantial management distraction; increased expenses associated with litigation or efforts to resolve disputes; substantial customer uncertainty concerning the direction of our product lines; potential infringement claims against us and/or our customers, which could include efforts by a licensor to enjoin sales of our products; customer requests for indemnification by us; and, in the event of an adverse determination, our inability to operate our business as currently operated. Termination of material license agreements could prevent us from manufacturing and selling our products unless we can negotiate new license terms or develop or acquire alternative intellectual property rights that cover or enable similar functionality. Any of these factors would be expected to have a material adverse effect on our business, operating results, and financial condition and could result in a substantial decline in our stock price.

We are subject to certain manufacturing restrictions related to licensed technologies that were developed with the financial assistance of U.S. governmental grants.

We are subject to certain U.S. government regulations because we have licensed technologies that were developed with U.S. government grants. In accordance with these regulations, these licenses provide that products embodying the technologies are subject to domestic manufacturing requirements. If this domestic manufacturing requirement is not met, the government agency that funded the relevant grant is entitled to exercise specified rights, referred to as “march-in rights,” which if exercised would allow the government agency to require the licensors or us to grant a non-exclusive, partially exclusive, or exclusive license in any field of use to a third party designated by such agency. All of our microfluidic systems revenue is dependent upon the availability of our IFCs, which incorporate technology developed with U.S. government grants. Our genomics instruments, including microfluidic systems and IFCs, are manufactured at our facility in Singapore. The federal regulations allow the funding government agency to grant, at the request of the licensors of such technology, a waiver of the domestic manufacturing requirement. Waivers may be requested prior to any government notification. We have assisted the licensors of these technologies with the analysis of the domestic manufacturing requirement, and, in December 2008, the sole licensor subject to the requirement applied for a waiver of the domestic manufacturing requirement with respect to the relevant patents licensed to us by this licensor. In July 2009, the funding government agency granted the requested waiver of the domestic manufacturing requirement for a three-year period commencing in July 2009. In June 2012, the licensor requested a continued waiver of the domestic manufacturing requirement with respect to the relevant patents, but the government agency has not yet taken any action in response to this request. If the government agency does not grant the requested waiver or the government fails to grant additional waivers of such requirement that may be sought in the future, then the U.S. government could exercise its march-in rights with respect to the relevant patents licensed to us. In addition, the license agreement under which the relevant patents are licensed to us contains provisions that obligate us to comply with this domestic manufacturing requirement. We are not currently manufacturing instruments and IFCs in the United States that incorporate the relevant licensed technology. If our lack of compliance with this provision constituted a material breach of the license agreement, the license of the relevant patents could be terminated or we could be compelled to relocate our manufacturing of microfluidic systems and IFCs to the United States to avoid or cure a material breach of the license agreement. Any of the exercise of march-in rights, the

termination of our license of the relevant patents or the relocation of our manufacturing of microfluidic systems and IFCs to the United States could materially adversely affect our business, operations and financial condition.

We are subject to certain obligations and restrictions relating to technologies developed in cooperation with Canadian government agencies.

Some of our Canadian research and development is funded in part through government grants and by government agencies. The intellectual property developed through these projects is subject to rights and restrictions in favor of government agencies and Canadians generally. In most cases the government agency retains the right to use intellectual property developed through the project for non-commercial purposes and to publish the results of research conducted in connection with the project. This may increase the risk of public disclosure of information relating to our intellectual property, including confidential information, and may reduce its competitive advantage in commercializing intellectual property developed through these projects. In certain projects, we have also agreed to use commercially reasonable efforts to commercialize intellectual property in Canada, or more specifically in the province of Ontario, for the economic benefit of Canada and the province of Ontario. These restrictions will limit our choice of business and manufacturing locations, business partners and corporate structure and may, in certain circumstances, restrict our ability to achieve maximum profitability and cost efficiency from the intellectual property generated by these projects. In one instance, a dispute with the applicable government funded entity may require mediation, which could lead to unanticipated delays in our commercialization efforts to that project. One of our Canadian government funded projects is also subject to certain limited “march-in” rights in favor of the government of the Province of Ontario, under which we may be required to grant a license to our intellectual property, including background intellectual property developed outside the scope of the project, to a responsible applicant on reasonable terms in circumstances where the government determines that such a license is necessary in order to alleviate emergency or extraordinary health or safety needs or for public use. In addition, we must provide reasonable assistance to the government in obtaining similar licenses from third parties required in connection with the use of its intellectual property. Instances in which the government of the Province of Ontario has exercised similar “march-in” rights are rare; however, the exercise of such rights could materially adversely affect our business, operations and financial condition.

RISKS RELATED TO OUR COMMON STOCK

Our stock price is volatile.

Our stock is currently traded on the Nasdaq Global Select Market (Nasdaq), but we can provide no assurance that we will be able to maintain an active trading market on Nasdaq or any other exchange in the future. The trading volume of our stock tends to be low relative to our total outstanding shares, and we have several stockholders who hold substantial blocks of our stock. As of December 31, 2020, we had 74,543,141 shares of common stock outstanding, and stockholders holding at least 5% of our stock, individually or with affiliated persons or entities, collectively beneficially owned or controlled approximately 33.6% of such shares. Sales of large numbers of shares by any of our large stockholders could adversely affect our trading price, particularly given our relatively small historic trading volumes. If stockholders holding shares of our common stock sell, indicate an intention to sell, or if it is perceived that they will sell, substantial amounts of their common stock in the public market, the trading price of our common stock could decline. Moreover, if there is no active trading market or if the volume of trading is limited, holders of our common stock may have difficulty selling their shares. In addition, the concentration of ownership of our outstanding common stock (approximately 38.3% held by our top six stockholders as of December 31, 2020) means that a relatively small number of stockholders have significant control over the outcomes of stockholder voting.

The trading price of our common stock is highly volatile and subject to wide fluctuations in response to various factors, some of which are beyond our control. These factors include:

- the impact of public health crises, including the COVID-19 pandemic, on global financial markets;
- actual or anticipated quarterly variation in our results of operations or the results of our competitors;
- our failure to achieve performance consistent with our financial guidance and/or market expectations;
- announcements or communications by us or our competitors relating to, among other things, new commercial products, technological advances, significant contracts, commercial relationships, capital commitments, acquisitions or sales of businesses, and/or misperceptions in or speculation by the market regarding such announcements or communications;
- issuance of new or changed securities analysts’ reports or recommendations for our stock;
- developments or disputes concerning our intellectual property or other proprietary rights;
- commencement of, or our involvement in, litigation;

- market conditions in the life science, plant and animal research, and contract research organization sectors;
- failure to complete significant sales;
- manufacturing disruptions that could occur if we are unable to successfully expand our production in our current or an alternative facility;
- any future sales of our common stock or other securities in connection with raising additional capital or otherwise;
- any major change to the composition of our board of directors or management; and
- general economic conditions and slow or negative growth of our markets.

The stock market in general, and market prices for the securities of technology-based companies like ours in particular, have from time to time experienced volatility that often has been unrelated to the operating performance of the underlying companies. These broad market and industry fluctuations may adversely affect the market price of our common stock regardless of our operating performance.

In several recent situations where the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. As discussed in the Legal Proceedings section of this quarterly report on Form 10-Q, a class action securities lawsuit against us is currently pending. While we are continuing to defend such action vigorously, the defense of this action and any additional actions can be costly, divert the time and attention of our management, and harm our operating results, and any judgment against us or any future stockholder litigation could result in substantial costs.

Future sales of our common stock in the public market could cause our stock price to fall.

Our stock price could decline as a result of sales of a large number of shares of our common stock or the perception that these sales could occur. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate.

In addition, in the future, we may issue additional shares of common stock or other equity or debt securities convertible into common stock in connection with a financing, acquisition, litigation settlement, employee arrangements or otherwise. Any such future issuance, including any issuances pursuant to our ATM equity offering program under our Sale Agreement with Jefferies, could result in substantial dilution to our existing stockholders and could cause our stock price to decline.

We will have broad discretion over the use of the proceeds to us from our ATM equity offering program and may apply the proceeds to uses that do not improve our operating results or the value of your securities.

We will have broad discretion to use the net proceeds to us from our ATM equity offering program, and investors will be relying solely on the judgment of our board of directors and management regarding the application of these proceeds. Investors will not have the opportunity, as part of their investment decision, to assess whether the proceeds are being used appropriately. Our use of the proceeds may not improve our operating results or increase the value of the securities offered pursuant to the ATM equity offering program.

If securities or industry analysts publish unfavorable research about us or cease to cover our business, our stock price and/or trading volume could decline.

The trading market for our common stock may rely, in part, on the research and reports that equity research analysts publish about us and our business. We do not have any control of the analysts or the content and opinions included in their reports. The price of our stock could decline if one or more equity research analysts downgrade our stock or issue other unfavorable commentary or research. If one or more equity research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which in turn could cause our stock price or trading volume to decline.

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

Provisions in our certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control or changes in our management, including provisions that:

- authorize our board of directors to issue, without further action by the stockholders, up to 10,000,000 shares of undesignated preferred stock;

- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;
- specify that special meetings of our stockholders can be called only by our board of directors, the chairman of the board, the chief executive officer or the president;
- establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- establish that our board of directors is divided into three classes, Class I, Class II, and Class III, with each class serving staggered three-year terms;
- provide that our directors may be removed only for cause;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;
- specify that no stockholder is permitted to cumulate votes at any election of directors; and
- require a super-majority of votes to amend certain of the above-mentioned provisions.

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

The forum selection provision in our bylaws could limit the ability of our stockholders to bring a claim in a judicial forum viewed by the stockholders as more favorable for disputes with us or our directors, officers or other employees.

Our bylaws provide that the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, another State court in Delaware or the federal district court for the District of Delaware) is the exclusive forum for the following (except for any claim as to which such court determines that there is an indispensable party not subject to the jurisdiction of such court (and the indispensable party does not consent to the personal jurisdiction of such court within 10 days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than such court or for which such court does not have subject matter jurisdiction):

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

This provision does not apply to suits brought to enforce a duty or liability created by the Exchange Act or any other claim for which the U.S. federal courts have exclusive jurisdiction.

Our bylaws further provide that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

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. Any person or entity purchasing or otherwise acquiring any interest in any of our securities shall be deemed to have notice of and consented to these provisions. There is uncertainty as to whether a court would enforce such provisions, and the enforceability of similar choice of forum provisions in other companies' charter documents has been challenged in legal proceedings.

It is possible that a court could find these types of provisions to be inapplicable or unenforceable, and if a court were to find either exclusive-forum provision in our bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could seriously harm our business.

Any conversions of the 2014 Notes or 2019 Notes will dilute the ownership interest of our existing stockholders and may otherwise depress the price of our common stock.

Any conversion of some or all of the 2014 Notes or 2019 Notes will dilute the ownership interests of our existing stockholders. Any sales in the public market of our common stock issuable upon such conversion could also adversely affect

prevailing market prices of our common stock. In addition, holders of the 2014 Notes or 2019 Notes may hedge their position in such Convertible Notes by entering into short positions with respect to the underlying common stock. As a result, any anticipated conversion of the 2014 Notes or 2019 Notes could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities.

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

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

Item 6. Exhibits

The documents listed in the Exhibit List, which follows below, are incorporated by reference or are filed with this quarterly report on Form 10-Q, in each case as indicated therein (numbered in accordance with Item 601 of Regulation S-K).

EXHIBIT LIST

Exhibit Number	Description	Incorporated by Reference From Form	Incorporated by Reference From Exhibit Number	Date Filed
3.1	Amended and Restated Bylaws of Fluidigm Corporation effective as of April 24, 2021.	8-K	3.1	4/29/2021
10.1*	Amendment dated May 10, 2021 to Contract by and between the National Institutes of Health and the registrant effective as of July 30, 2020, as amended September 28, 2020 and February 18, 2021.	Filed herewith		
10.2	Lease Agreement dated November 19, 2020 between Fluidigm Singapore Pte. Ltd. and HSBC Institutional Trust Services (Singapore) Limited as Trustee of Ascendas Real Estate Investment Trust.	Filed herewith		
10.3	Lease Agreement dated June 8, 2021 between Fluidigm Singapore Pte. Ltd. and HSBC Institutional Trust Services (Singapore) Limited as Trustee of Ascendas Real Estate Investment Trust.	Filed herewith		
10.4#	Repatriation Agreement with Colin McCracken dated June 16, 2021.	Filed herewith		
10.5#	Terms and Conditions of Employment for Colin McCracken, effective June 26, 2021.	Filed herewith		
10.6	Fluidigm Corporation 2011 Equity Incentive Plan, as amended effective May 25, 2021.	8-K	10.1	5/25/2021
10.7	Fourth Amendment to Loan and Security Agreement, dated as of August 2, 2021, between Fluidigm Corporation and Silicon Valley Bank.	8-K	10.1	8/5/2021
31.1	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 of Chief Executive Officer.	Filed herewith		
31.2	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 of Chief Financial Officer.	Filed herewith		
32.1 ⁽¹⁾	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 of Chief Executive Officer.	Filed herewith		
32.2 ⁽¹⁾	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 of Chief Executive Officer.	Filed herewith		
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.	Filed herewith		
101.SCH	XBRL Taxonomy Extension Schema Document	Filed herewith		
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	Filed herewith		
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	Filed herewith		
101.LAB	XBRL Taxonomy Extension Label Document	Filed herewith		
101.PRE	XBRL Taxonomy Extension Presentation Document	Filed herewith		

* Portions of this exhibit have been redacted in compliance with Regulation S-K Item 601(b)(10)(iv).

Management contracts or compensation plans or arrangements in which directors or executive officers are eligible to participate.

(1) In accordance with Item 601(b)(32)(ii) of Regulation S-K and SEC Release No. 33-8238 and 34-47986, Final Rule: Management's Reports on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, the certifications furnished in Exhibits 32.1 and 32.2 hereto are deemed to accompany this Form 10-Q and will not be deemed "filed" for purposes of Section 18 of the Exchange Act. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act or the Exchange Act, except to the extent that the registrant specifically incorporates it by reference.

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.

FLUIDIGM CORPORATION

Dated: August 6, 2021

By: /s/ Stephen Christopher Linthwaite
Stephen Christopher Linthwaite
President and Chief Executive Officer

Dated: August 6, 2021

By: /s/ Vikram Jog
Vikram Jog
Chief Financial Officer

Certain identified information marked with [***] has been excluded from this exhibit because it is not material and is of the type that the registrant treats as private and confidential.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE	PAGE OF PAGES 1 / 10
2. AMENDMENT/MODIFICATION NO. P00003	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
6. ISSUED BY CODE NHLBI National Institutes of Health National Heart, Lung, and Blood Institute Bethesda, MD 20892-7511	7. ADMINISTERED BY (If other than item 6) CODE National Institutes of Health National Institute of Biomedical Imaging and Bioengineering Bethesda, MD 20892-7511		NIBIB
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) FLUIDIGM CORPORATION:1157584 2 TOWER PLACE SUITE 2000 SOUTH SAN FRANCISCO CA 940801826		(x) 9A. AMENDMENT OF SOLICITATION NO.	9B. DATED (SEE ITEM 11)
CODE	FACILITY CODE	X 10A. MODIFICATION OF CONTRACT/ORDER NO. 75N92020C00009	10B. DATED (SEE ITEM 13) 07/30/2020

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended. is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not. is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this Modification is to amend "Article B.2 Prices" and to attach the revised Performance Work Statement and deliverable schedule with updated milestones for A2, A3 and A4.

All other terms and conditions of this contract remain the same.

Discount Terms: PROMPT PAY

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Andrew Quong, CSO		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) ROXANE S. BURKETT	
15B. CONTRACTOR/OFFEROR /s/ Andrew Quong (Signature of person authorized to sign)	Digitally signed by Andrew Quong Date: 2021.05.06 16:30:07 -07'00'	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA /s/ Roxane S. Burkett -S (Signature of Contracting Officer)
			Digitally signed by Roxane S. Burkett Date: 2021.05.10 11:06:41 -04'00'
			16C. DATE SIGNED

CONTINUATION SHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED 75N92020C00009/P00003	PAGE OF 2 / 10
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NAME OF OFFEROR OR CONTRACTOR
FLUIDIGM CORPORATION:1157584

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Payment: Approved By, NHLBI Branch A Invoice Paid By: NIH Commercial Accounts Br 2115 East Jefferson St, MSC 8500 Room 4B-432 Bethesda, MD 20892-8500 Period of Performance: [***]				
12	Change Item 12 to read as follows (amount shown is the obligated amount) : [***] Obligated Amount: [***] Delivery To: Bldg.31/RM 1C31 Product/Service Code: Q301 Product/Service Description: MEDICAL- LABORATORY TESTING				[***]
13	Change Item 13 to read as follows (amount shown is the obligated amount) : [***] Obligated Amount: [***] Delivery To: Bldg.31/RM 1C31 Product/Service Code: Q301 Product/Service Description: MEDICAL- LABORATORY TESTING				[***]
14	Change Item 14 to read as follows (amount shown is the obligated amount) : [***] Obligated Amount: [***] Delivery To: Bldg.31/RM 1C31 Product/Service Code: Q301 Product/Service Description: MEDICAL- LABORATORY TESTING				[***]

Certain identified information marked with [***] has been excluded from this exhibit because it is not material and is of the type that the registrant treats as private and confidential.

MODIFICATION OF CONTRACT CONTINUATION PAGE

Contract No. 75N92020C00009

Modification P0003

BEGINNING WITH THE EFFECTIVE DATE OF THIS MODIFICATION, THE GOVERNMENT AND THE CONTRACTOR MUTUALLY AGREE AS FOLLOWS:

ARTICLE B.2. PRICES shall be amended by updating the milestone dates for A2, A3 and A4:

ARTICLE B.2. PRICES

a. The total Firm Fixed Price (FFP) amount for this contract is \$34,016,056.

Prism Line Item	Milestone	Invoice Line Item - description	Date	Amount
9	4	Equipment Procurement, Construction, Initiation of Installation - [***]	[***]	[***]
10	5	Equipment Installation - [***]	[***]	[***]
11	6	Performance Qualification - [***]	[***]	[***]
12	A2	Design Lock - [***]	[***]	[***]
13	A3	Clinical Studies - [***]	[***]	[***]
14	A4	Submit EUA to FDA - [***]	[***]	[***]
15	A5	Clinical Samples - [***]	[***]	[***]
16	7a	Full Production Capacity on Line 2 - [***]	[***]	[***]
17	7b	Full Production Capacity on Line 3 - [***]	[***]	[***]
18	8	Final Report - [***]	[***]	[***]
			Total	\$34,016,056

Certain identified information marked with [***] has been excluded from this exhibit because it is not material and is of the type that the registrant treats as private and confidential.

MODIFICATION OF CONTRACT CONTINUATION PAGE

Contract No. 75N92020C00009

Modification P0003

ARTICLE C.1. STATEMENT OF OBJECTIVES shall be amended and read as follows:

Independently and not as an agent of the Government, the Contractor shall furnish all the necessary services, qualified personnel, material, equipment, and facilities, not otherwise provided by the Government as needed to perform the Statement of Objectives, dated July 27, 2020 and the Performance Work Statement (PWS) dated January 19, 2021, set forth in SECTION J – List of Attachments, attached hereto and made a part of this Contract. Work to be performed shall be consistent with the application and preliminary work file submitted by the Contractor and subsequent documentation submitted during the application review process and the discussions between the parties that have taken place between date of application submission through contract award.

ARTICLE C.2. REPORTING REQUIREMENTS shall be amended and read as follows:

All reports required herein shall be submitted in electronic format only. All electronic reports submitted shall be compliant with Section 508 of the Rehabilitation Act of 1973. Additional information about testing documents for Section 508 compliance, including guidance and specific checklists, by application, can be found at: <http://www.hhs.gov/web/508/index.html> under "Making Files Accessible."

The following reporting requirements shall be submitted electronically to the Contracting Officer and Contracting Officer's Representative in accordance with the due dates specified below:

Item No.	Reporting Requirements	Due Date
1	Bi-weekly Production Status Report – to include the following: <ul style="list-style-type: none">• current plant production capacity and output on a per-week basis,• a breakdown of capacity and output on a per-line/per week basis,• a description of any issues/problems encountered with plans for solution/mitigation (e.g., delays in meeting deliverables, supply chain issues, design/validation issues, etc.)• sales reporting to include the name and kind of organization, as well as the number of IFCs sold to that organization during the reporting period. Sales reports may be submitted in every other bi-weekly report (i.e. monthly).	[***]
2	Final Report - Summary of salient results of the entire contract period, including number of lines built, production capacity over time, production output over time, and a summary of the sales reports. It shall include evidence of sustained production at capacity levels or higher assuming demand has not decreased.	[***]

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MODIFICATION OF CONTRACT CONTINUATION PAGE

Contract No. 75N92020C00009

Modification P0003

ARTICLE F.1. PERIOD OF PERFORMANCE shall be amended and read as follows:

The period of performance of the contract is [***].

ARTICLE F.2. DELIVERIES shall be amended and read as follows:

Satisfactory performance shall be deemed to occur upon performance of the work described in the Statement of Objectives Article in SECTION C of this Contract and upon notice and acceptance by the Contracting Officer, or the duly authorized representative, in accordance with the stated deliverables schedule as listed in the Performance Work Statement (PWS) dated January 19, 2021 (See Attachment 2).

The deliverables or documentation shall be submitted to the Contracting Officer and designated Contracting Officer Representative (COR) by email.

SECTION J - LIST OF ATTACHMENTS shall be amended and read as follows:

1. Performance Work Statement dated January 19, 2021
Appendix 1: Cost-Price Quote

All other terms and conditions of the contract remain the same.

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RADx #6114
Fluidigm Corporation
Letter Contract number: 75N92020C00009

Performance Work Statement

PWS Title: Rapid Acceleration of Diagnostics (RADx) Program: Tech Project # 6114 Fluidigm – Advanta Dx SARS-CoV-2 RT-PCR Assay for Saliva

1.0 Background

Fluidigm has developed a diagnostic molecular test for the qualitative detection of SARS-CoV-2 in saliva specimens under FDA Emergency Use Authorization (EUA). The Advanta™ Dx SARS-CoV-2 RT-PCR Assay is a qPCR-based test that, by taking advantage of Fluidigm's proprietary microfluidics technology and Juno™ and Biomark™ HD systems, enables high throughput and scalable testing of saliva samples from patients suspected of COVID-19 (coronavirus) infection. Featuring extraction-free sample processing, a modular workflow and large batch-sample size, the Advanta Dx SARS-CoV-2 RT-PCR Assay aims to meet the RADx goal of enhance laboratory SARS-CoV-2 testing capacity.

Fluidigm's BioMark HD microfluidics platform addresses the massive demand for SARS-CoV-2PCR testing- combining speed, minimal cost, and massive throughput unparalleled in the industry. Further advantages include flexibility to rapidly integrate new mutational markers or increase panel size to include additional infectious agents. This platform works with all clinical sample types.

Our solution leverages Advanta™ Dx SARS-CoV-2 RT-PCR Assay submitted for an EUA, and two assays under development that can change the landscape for detection. This assay allows for up to 6000 samples per day on a single system. Additional assays address different needs in testing, throughput, specificity and sensitivity.

Our technology offers significant advantages overcoming many supply chain barriers and provides a robust platform for scale up of testing for SARS-CoV-2.

Fluidigm has been able to detect both N1 and N2 SARS-CoV-2 targets across all samples provided by Washington University, including the lowest dilution (10 cp/ul). Highlights from that work are the detection of:

- 10 copies in the reaction using 4 ul of saliva sample
- 1.x copies in the reaction using 1 ul of saliva sample
- Across all dilution buffer and RNase inhibitor conditions

Of the amplification chemistries tested, optimum results were obtained from the FLDM 1-Step RT-PCR Master Mix, 2.5 hour 1-step RT-PCR protocol.

2.0 Objectives

The baseline technology provided in Fluidigm's EUA filing allows for performing 6000 tests per day on each Biomark HD system and Fluidigm currently has the ability to manufacture approximately 50,000 tests per day. The rate limiting component is the Integrated Fluidic Circuit (IFC), which is the microfluidic chip that is required for running the assay. The two types of IFCs described herein are the 192.24 IFC which is used in the current Advanta™ Dx SARS-CoV-2 RT-PCR Assay under EUA, and cartridge-based solution IFC which is the basis for a simplified workflow. Each 192.24 IFC has the capacity to run 192 tests and each cartridge-based solution IFC has the capacity to run 96 tests. This project has

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RADx #6114
Fluidigm Corporation
Letter Contract number: 75N92020C00009

two major deliverables: 1) to increase manufacturing capacity of IFCs and to develop and 2) to manufacture a cartridge-based solution that will simplify the workflow and increase the likelihood of sales and deployment of the COVID tests to a broader customer base.

The cartridge-based solution incorporates two independent reactions necessary to process the sample into the same chip to simplify the overall workflow. Compared to the 192.24 IFC approach, each individual sample in the cartridge-based solution increases the number of reaction chambers in the microfluidic chip. Thus, the overall sample capacity of the chip is reduced as there is more chemistry being performed on chip. As a result, switching to the production of the cartridge will result in a simplified workflow but lower volume of tests because it has half the sample capacity of the 192.24 IFC.

The cartridge-based solution requires the redevelopment of the assay to include on IFC Reverse Transcription and a solid-phase bead-based capture of the target nucleic acid sequences. This solid-phase bead-based capture is a novel addition which is a departure from the EUA for the Advanta Dx SARS-CoV-2 assay. Therefore, the full development of the cartridge-based assay will require a new clinical study and EUA submission.

The limiting factor to Fluidigm provided testing is the manufacture of the IFCs. This is because the Fluidigm test does not require extraction, and only nano-liters of reagents are used for each PCR reaction. Scale up for IFC production will occur in Fluidigm's Singapore facility by first maximizing production in the existing manufacturing line which will increase production capacity to 12,000 IFCs per month from the current 7,000 per month. Simultaneously, Fluidigm will add two additional manufacturing lines to the Singapore facility which will ultimately provide manufacturing capacity of 36,000 IFCs per month. The investment into the capital equipment to construct additional manufacturing lines and expand the production of the IFCs can be leveraged to produce the cartridge-based solution. The cartridge-based solution requires a new process and molds but uses the existing equipment.

3.0 Scope

Fluidigm will deploy a complete testing solution using a saliva based, extraction free, viral detection assay for broad distribution. This section describes the scope of work for RADx 6114.

Currently Fluidigm has the capability to deliver testing capacity of approximately 50,000 tests/day. The cartridge-based solution will deliver testing capacity of up to 115,200 tests/day by Q3 2021.

The Contractor shall accomplish the following milestones in the stages outlined below:

- Stage 1: Test Verification
 - Deliver 1plex tests to Verification Core at Emory University
 - Provide final report from the Verification Core
- Stage 2: Scale Up
 - Increase production capacity of Line 1 with 24/7 operation
- Stage 3: Scale Up and Facility Construction
 - Increase production capacity of Line 1 to full scale
 - Begin construction of facility to build two additional production lines

Certain identified information marked with [*] has been excluded from this exhibit because it is not material and is of the type that the registrant treats as private and confidential.**

RADx #6114
Fluidigm Corporation
Letter Contract number: 75N92020C00009

- Stage 4: Quality Systems, Equipment and Performance Qualification
 - Expansion of Quality Control (QC) systems
 - Equipment procurement, delivery, and initiation of installation
- Stage 5: Achieve Full Production Capacity
 - Capital equipment installed, qualified, and validated for two additional production lines
 - Demonstrate full IFC production capacity on all three production lines
 - Full production capacity for cartridge-based solution on 1 line

The Contractor shall accomplish the following milestones which have been defined by subtasks

- Stage A1: Multi-plex design finalized
 - Determine final design for barcoding solution and the requirements for the clinical study
- Stage A2: Cartridge-based solution design finalized
 - Determine final design for the cartridge-based solution and the requirements for the clinical study
- Stage A3 - A5: Clinical/FDA studies and EUA Submission
 - Complete clinical studies required for EUA Submission
 - Submission of EUA for cartridge-based solution
 - Purchase of clinical samples if applicable

4.0 Tasks

Tasks to be completed by the Contractor are divided into three main objectives:

- 1) Maximizing throughput on the existing manufacturing line to 12k IFCs per month
- 2) Addition of two manufacturing lines in the Singapore facility
- 3) Simplifying the workflow of the current RT-PCR assay by developing the cartridge-based solution.

Progress on the tasks will be included in the project workstream tracker. Updates will be provided to the COR and RADx program personnel in the weekly meetings.

5.0 Deliverables

Deliverables for the PWS include deliverables outlined in the final Statement of Objectives, and reports which shall be paired with the agreed upon Payment Schedule.

The list of milestones and deliverables for the PWS is available in Appendix 1: Cost-Price Quote.

6.0 Quality Assurance

The Contractor shall ensure that all deliverables are reviewed and edited to ensure that documents are free of typographical, grammatical and technical errors. The Contracting Officer Representative (COR), shall have final authority over the format, style, editing and content of all deliverables. Further, the contractor will be responsible for ensuring that final documents incorporate all comments, modifications, and editing recommended by the COR.

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RADx #6114
Fluidigm Corporation
Letter Contract number: 75N92020C00009

7.0 Quality Assurance Surveillance Plan (QASP)

The QASP is attached as Appendix 2. Additional quality assurance processes are included in the attached file: Fluidigm Corporate Quality Manual.

8.0 Period of Performance

The period of performance is as follows:

Base Period	[***]
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9.0 Appendices

Appendix 1: Cost-Price Quote

Appendix 2: QASP

10.0 Additional Documents

Fluidigm Corporate Quality Manual

Certain identified information marked with [***] has been excluded from this exhibit because it is not material and is of the type that the registrant treats as private and confidential.

RADx Proposal Modifications: 1/15/2021				
Date	Milestone	Deliverable	Amount	Prism Line Item #
[***]	[***]	[***]	[***]	1
[***]	[***]	[***]	[***]	2
[***]	[***]	[***]	[***]	3
[***]	[***]	[***]	[***]	6
[***]	[***]	[***]	[***]	9
[***]	[***]	[***]	[***]	10
[***]	[***]	[***]	[***]	11
[***]	[***]	[***]	[***]	12
[***]	[***]	[***]	[***]	13
[***]	[***]	[***]	[***]	14
[***]	[***]	[***]	[***]	15
[***]	[***]	[***]	[***]	16
[***]	[***]	[***]	[***]	17
[***]	[***]	[***]	[***]	

			Total	\$34,016,056



Lease reference number: t0029436

Date: 19 NOV 2020

**HSBC INSTITUTIONAL TRUST SERVICES (SINGAPORE) LIMITED
AS TRUSTEE OF ASCENDAS REAL ESTATE INVESTMENT TRUST**

and

FLUIDIGM SINGAPORE PTE. LTD.

Lease for

**BLOCK 5008 ANG MO KIO AVENUE 5
#07-11 & #07-15 TECHPLACE II
SINGAPORE 569874**



**SCHEDULE 1
DETAILS OF LEASE**

Item 1: Landlord (we, us, our) : HSBC INSTITUTIONAL TRUST SERVICES (SINGAPORE) LIMITED
AS TRUSTEE OF ASCENDAS REAL ESTATE INVESTMENT TRUST

Item 2: Tenant (you, your) : FLUIDIGM SINGAPORE PTE. LTD.

Item 3: Premises

- (a) Unit numbers : Block 5008 #07-11 & #07-15
- (b) Building : Block 5008 Ang Mo Kio Avenue 5 TECHplace II Singapore 569874
- (c) Boundary : (for identification only) edged in red in the attached plan (or plans) marked as schedule 5

Item 4: Floor Area :

Unit numbers	Floor Area (square metre)
Block 5008 #07-11 & #07-15	460.00
Total Floor Area	460.00

Item 5: Possession Date : 01 November 2020

Item 6: Start Date : 01 December 2020

Item 7: Term : 14 months beginning from the Start Date

Item 8: Permitted Use : R&D and manufacturing of fluidic chips and microfluidic system only

Item 9: Rent :

(a) The Gross Rent, Net Rent and Service Charge are as follows.

Unit	Net Rent Rate (per square metre)	Service Charge Rate (per square metre)	Gross Rent Rate (per square metre)	Net Rent	Service Charge	Gross Rent	Period such rent or charge applies for
Block 5008 #07-11 & #07-15	\$12.45	\$2.62	\$15.07	\$5,727.00	\$1,205.20	\$6,932.20	01 December 2020 to 31 January 2022

(b) The charges shown above do not include goods and services tax (GST) and other Taxes you must pay under this Lease.

Item 10: Fitting Out Rent-free Period (if any)

Unit	Start Date	End date	Length of Fitting Out Rent-free
Block 5008 #07-11 & #07-15	01 November 2020	30 November 2020	01 month

Item 11: Term Rent-free Period : N.A.
(if any)

Item 12: Security Deposit : \$20,796.60, being 3 months' Gross Rent

Item 13: Tenant's Works Deposit : \$4,600.00 (based on the rate of \$10.00 per square metre of the Floor Area of the Premises (a minimum of \$2,000.00 applies))

Item 14: Public liability insurance amount : \$3 million

Item 15: Electricity Supply Deposit (initial) : N.A.

Item 16: Floor loading limit :

Storey	Floor Loading (kN per square metre)
1	12.5
4 to 8	7.5
Canteen	5

Item 17: Car-park passes (if any) : 2



SCHEDULE 2 SPECIAL COVENANTS

(By way of note, the Plain English Campaign's Crystal Mark will not apply to this section.)

Any commercial terms and amendments to the Standard Covenants or Tenants' Guide will be set out in this schedule.

A) SPECIAL RENTAL RATE FOR THIS LEASE

The Gross Rent Rate of \$15.07 per square metre per month as reflected in Item 9 of schedule 2 is at a special rate as you have agreed to lease the premises known as Block 5008 Ang Mo Kio Avenue 5 #08-01/19, RC Roof 1 & RC Roof 2 at the Building ("**Other Premises**") for the period from 02 June 2022 to 01 June 2027 ("**Period**"). If you do not lease the Other Premises from us for the Period, the Gross Rent Rate for this Lease will be revised to \$20.45 per square metre per month ("**Revised Gross Rent Rate**") and the Revised Gross Rent Rate will be effective and payable by you retrospectively from the Start Date for the whole of the Term. To avoid any doubt, you will pay all costs and expenses (whether legal or not and including stamp duty) for the issuance of any letters or documents due to the revision of the Gross Rent Rate.

SCHEDULE 3 BUILDING COVENANTS

(By way of note, the Plain English Campaign's Crystal Mark will not apply to this section.) Any Building Covenants specific to the Building will be set out in this schedule.

In addition to the provisions set out in the Special Covenants, both you and us must keep to and be bound by the following terms, covenants and conditions:-

A) REDEVELOPMENT

Without being affected by anything else in this Lease, if at any time during the Term we decide that:-

- (i) the Building is to be demolished for redevelopment; or
- (ii) the Building or any part of the Building is to be renovated, retrofitted, refurbished or altered, and this will affect the Premises,

we may end this Lease by giving you 06 months' notice in writing.

When this Lease ends, you must deliver vacant possession of the Premises to us in line with the terms of this Lease, and you will have no claim (including right of compensation) against us for ending this Lease.

To avoid any doubt, this will not affect any rights and remedies that we may have against you in respect of any of your failure to keep to the terms and conditions of this Lease which occurred before the ending of this Lease. We may also offer you alternative space if available which you may relocate to within such time as we notify you and on such rent, lease term and other terms and conditions as we may decide. Whether or not you accept the offer, this will not affect your obligation to deliver vacant possession of the Premises on the date set out in the notice.

B) INSTALLATION OF AIR-CONDITIONING UNITS

You may at your own cost and expense install any air-conditioning package unit to air-condition the Premises. The installation will be subject to the relevant Authorities' approval and the Tenants' Guide.

C) GREEN MARK REQUIREMENTS

Without affecting the Tenants' Guide and without being affected by the Building not being certified as a Green Mark building, you must keep to all Green Mark requirements as we may specify from time to time including for all renovations, alterations and installations (such as light fittings, air-conditioning etc) to be carried out at the Premises, whether or not such renovations, alterations and installations have been approved by us and/or other relevant Authorities.



SCHEDULE 4 STATEMENT OF ACCOUNTS

	<u>Amount</u>	<u>GST (7%)</u>
NET RENT:		
\$12.45 per square metre per month on 460.00 square metres for a period of 14 months beginning from 01 December 2020	\$5,727.00	\$400.89
SERVICE CHARGE:		
\$2.62 per square metre per month on 460.00 square metres for a period of 14 months beginning from 01 December 2020	\$1,205.20	\$84.36
GROSS RENT:	<hr/>	<hr/>
\$15.07 per square metre per month on 460.00 square metres for a period of 14 months beginning from 01 December 2020	\$6,932.20	\$485.25
LEGAL FEES	\$800.00	\$56.00
SECURITY DEPOSIT IN CASH	\$20,796.60	
TENANT'S WORK DEPOSIT	\$4,600.00	
SUBTOTAL	<hr/>	<hr/>
	\$33,128.80	\$541.25
GST	\$541.25	
TOTAL AMOUNT (INCLUDING GST) [payable to "HTSG A/C ASCENDAS REIT"]	<hr/>	
	\$33,670.05	
STAMP DUTY [payable to 'Infinitus Law Corporation']	\$526.00	

This Statement of Accounts sets out the initial total amount you must pay which includes an advance payment of the first month's Gross Rent to cover the rent period beginning from 01 December 2020. Your first payment must be made by cash or cheque as your GIRO payments may start from the first day of the following month.

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STANDARD COVENANTS

1 INTERPRETATION

1.1 Definitions

In this Lease, the following terms have the meanings as set out below.

- 1.1.1 **'Additional Property Tax'** means the increase in property tax relating to the Premises for the Rent-free Period (if any) and the Term, due to:
- (a) an increase in the annual value (as defined in the Property Tax Act (Chapter 254)) in respect of the Premises which is more than the yearly Net Rent; or
 - (b) an increase in the rate of property tax in respect of the Premises which is more than the rate of property tax that applies on the Possession Date.
- 1.1.2 **'Capitaland Business Park & Industrial Tenant Portal'** means the tenant service portal which you can access at <http://bpi-tenant.capitaland.com>_or such other website address we may give you.
- 1.1.3 **'Authorities'** means all relevant government bodies, statutory bodies and other authorities.
- 1.1.4 **'Building'** means the land and the buildings which the Premises form part of (including car-parks, service, loading and any other areas for the use and enjoyment of the building, whether or not these are within the structure of the building).
- 1.1.5 **'Building Covenants'** means any terms, covenants and conditions as set out in schedule 3 which are specific to the Building.
- 1.1.6 **'Car-park Charges'** means the charges you must pay to use the car-parks at the Building.
- 1.1.7 **'Circumstances Beyond Our Control'** means any circumstances we have no control over, and which directly or indirectly prevent or delay us from carrying out our obligations under this Lease, including natural disasters, flooding, haze, national emergency, war, insurgency, labour disputes, civil commotion or riots.
- 1.1.8 **'Common Area'** means the parts of the Building (whether or not within the structure of the Building) which (a) are for shared use by us, you, other tenants and occupiers of the Building, and anyone who is properly authorised to use those areas, and (b) would be considered as 'common areas' or 'common parts' of the Building for shared use, enjoyment or benefit if the Building had been subdivided and registered under the Land Titles (Strata) Act (Chapter 158). Common Area does not include areas which are inside the Premises or which serve the Premises only.
- 1.1.9 **'Conducting Media '** means any drains, sewers, conduits, flues, risers, gutters, gullies, channels, ducts, shafts, watercourses, pipes, cables, wires and mains in, on or under the Building, including any that are installed in the future.
- 1.1.10 **'Electricity Charges'** means the charges for electricity as used at the Premises.
- 1.1.11 **'Electricity Supply Deposit'** means the electricity-supply deposit amount, being an amount equal to 1.5 times the expected monthly Electricity Charges, which we will estimate and notify you from time to time. The initial amount of the Electricity Supply Deposit is set out in schedule 1.
- 1.1.12 **'Fire-safety Approval'** means the approval (including fire-safety certificates or notices of approval) issued by the Singapore Civil Defence Force under the Fire Safety Act (Chapter 109A) or such other authority.
- 1.1.13 **'Fitting Out Rent-free Period'** means the period where the Tenant's Works relating to the fitting out of the Premises are carried out as set out in schedule 1.
- 1.1.14 **'Floor Area'** means the floor area of the Premises set out in schedule 1.

- 1.1.15 **'Gross Rent'** means the Net Rent and the Service Charge as set out in schedule 1.
- 1.1.16 **'Gross Rent Rate'** means the Gross Rent per square metre for each month under the Term as set out in schedule 1.
- 1.1.17 **'Head Landlord'** means the landlord under the Head Lease (whether immediate or not).
- 1.1.18 **'Head Lease'** means the lease under which we hold our interest in the Building and includes any superior lease (that is, a lease under which our landlord or any other landlord above holds its interest in the Building) and all documents that apply to it.
- 1.1.19 **'Infectious Disease'** means the diseases defined in the Infectious Diseases Act (Chapter 137).
- 1.1.20 **'Interest'** means interest at the rate of 10% per year calculated on a daily basis and based on the actual number of days in the year (both before and after any judgment), or any other rate as we may notify from time to time.
- 1.1.21 **'JTC'** means the Jurong Town Corporation.
- 1.1.22 **'Law'** includes any present or future laws (including regulations, codes and guidelines) by statute, common law and/or equity.
- 1.1.23 **'Lease'** means this lease of the Premises between you and us, made up of (i) the Standard Covenants, (ii) the Tenants' Guide, and (iii) all schedules (including the Special Covenants and Building Covenants), attachments, appendices, annexes and side letters to each of such documents mentioned.
- 1.1.24 **'Losses'** means damages, compensation, losses, costs and expenses, claims, notices and proceedings, of any nature, including, where the context allows, any costs and expenses of making good any losses or damage.
- 1.1.25 **'Net Rent'** means the rent (not including Service Charge and other amounts due) for each month of the Term calculated at the monthly Net Rent Rate on the Floor Area, as set out in schedule 1.
- 1.1.26 **'Net Rent Rate'** means the Net Rent per square metre for each month of the Term as set out in schedule 1.
- 1.1.27 **'Original Condition'** means the original state and condition of the Premises on the date you first took possession of the Premises under this Lease as shown in the plans and drawings we have given or will give you, but not including the Tenant's Works or any works that previous tenants have carried out.
- 1.1.28 **'Our Authorised People'** means our employees, agents, independent consultants or contractors, people we allow to be in the Building or Park, visitors, licensees and other people under our control, or who we are responsible for or who claim rights under this Lease through, under or in trust for us.
- 1.1.29 **'Park'** means (where it applies), the science, business or industrial park or such wider area or vicinity where the Building is located.
- 1.1.30 **'Payment Date'** means the first day of a month or such relevant date as we may notify you in our invoice to make any payment as required under this Lease.
- 1.1.31 **'Permitted Use'** means the use allowed for the Premises as set out in schedule 1 and approved by the Head Landlord and the Authorities.
- 1.1.32 **'Possession Date'** means the possession date (if this applies) as set out in schedule 1 or any other date we may notify you.
- 1.1.33 **'Premises'** means the part or parts of the Building which will be leased to you as set out in schedule 1, including improvements and additions made to the Premises, and the fixtures and fittings (whether they belong to you or us) in the Premises, but not including (i) structural parts located outside the Premises, (ii) the loadbearing framework, (iii) the roof, (iv) foundations, (v) joists (that is, a long, thick piece of wood, metal, or concrete, used in buildings to support a floor or ceiling), (vi) Conducting Media which serve only spaces other than the Premises that you do not access, (vii) our machinery and plant which are in the Premises but which serve only other spaces besides the Premises that you do not access, (ix) the faces of boundary walls that are

outside the Premises; and (x) the faces of external walls outside the Premises (unless these are glass walls).

- 1.1.34 **'Reinstatement Works'** means the reinstatement works to restore the Premises to their Original Condition (except for fair wear and tear) in line with the Tenants' Guide, Law and any other requirements that we may have.
- 1.1.35 **'Rent-free Period'** means the Fitting Out Rent-free Period and the Term Rent-free Period.
- 1.1.36 **'Security Deposit'** means the security deposit amount as set out in schedule 1.
- 1.1.37 **'Service Charge'** means the charge for your share of the Total Outgoings as we may decide for each month calculated at the Service Charge Rate on the Floor Area as set out in schedule 1.
- 1.1.38 **'Service Charge Rate'** means the Service Charge per square metre for each month as set out in schedule 1.
- 1.1.39 **'Side Letters'** means further terms, covenants and conditions to this Lease made between you and us at any time to add to, amend or vary this Lease.
- 1.1.40 **'Special Covenants'** means such further terms, covenants and conditions as set out in schedule 2 as commercially agreed to vary or add to the Lease.
- 1.1.41 **'Standard Covenants'** means these standard terms, covenants and conditions.
- 1.1.42 **'Start Date'** means the date on which the Term begins as set out in schedule 1.
- 1.1.43 **'Taxes'** means any goods and services tax, duty or charge which may be imposed at any time by the Authorities.
- 1.1.44 **'Tenants' Guide'** means the further standard terms, covenants and conditions relating to safety or actions in the Building or Premises, or the use, maintenance, renovation or management of the Building or Premises.
- 1.1.45 **'Tenant's Works'** means any fitting-out work or any other renovation, alterations, additions, interior layout work, interior design, installations, internal fittings, wiring, plumbing, reinstatement or other work you carry out to the **Premises**.
- 1.1.46 **'Tenant's Works Deposit'** means the deposit you must pay for the Tenant's Works (if any) as required under this Lease, and which we may collect from you from time to time to cover any Tenant's Works. The initial amount of the Tenant's Works Deposit is set out in schedule 1.
- 1.1.47 **'Term'** means the term of this Lease as set out in schedule 1.
- 1.1.48 **'Term Rent-free Period'** means the rent-free period during the Term (if any) as set out in schedule 1.
- 1.1.49 **'Total Outgoings'** means all outgoings, costs and expenses (including capital expenditure and loss in value over time) which we have to pay for providing, controlling, managing, maintaining and replacing any services or parts of the **Building** (including fixtures and fittings).
- 1.1.50 **'Utilities'** means electricity, water, sewerage, tele-communications and, if it applies, gas, air conditioning and chilled water.
- 1.1.51 **'UtilitiesCharges'** means the charges for the Utilities as used at the Premises.
- 1.1.52 **'We', 'us', or 'our'** (whether capitalised or not) means us as the landlord as set out in schedule 1 and includes our successors (a person who takes over our rights and obligations) and assigns (a person who takes over our rights).
- 1.1.53 **'You', or 'your'** (whether capitalised or not) means you as the tenant as set out in schedule 1 and includes your successors (a person who takes over your rights and obligations) and assigns (a person who takes over your rights, only after we have approved the transfer).

1.1.54 **'Your Authorised People'** means your employees, agents, independent contractors, people you allow to be in the Premises, visitors, licensees, anyone under your control, and anyone you are responsible for or who claims rights under this Lease through, under or in trust for you.

1.2 General rules of interpretation

The following rules apply when interpreting this Lease, unless the context requires otherwise.

1.2.1 While we have made efforts to express this Lease in plain English, any wording used may not be completely sufficient to describe its meaning, and you must read all words in line with their usual legal meaning.

1.2.2 Headings are for convenience only and must not be used to limit or interpret any covenant, condition or clause.

1.2.3 Any reference to the singular includes the plural, and vice versa.

1.2.4 Any reference to a person or people includes any individual or any corporate entity.

1.2.5 Any reference to the whole includes all or any part of the same.

1.2.6 Each word or term does not limit the effect of another word or term.

1.2.7 Any reference to 'including', 'include' or 'includes' means including without limitation or affecting the generality of any description, definition, term or phrase coming before that word.

1.2.8 Any reference to 'responsible' means, where the context allows, being liable for any Losses.

1.2.9 You must, unless set out otherwise, pay all fees, charges, costs and expenses arising out of or relating to any obligations you have under this Lease, including if it applies, Interest, on any outstanding payments you owe and any fees or expenses due to the relevant Authorities. We can claim these payments as if they are rent arrears and may deduct such payments from any deposits you have paid under this Lease. You may not withhold or delay any payment, and you must pay all amounts you owe under this Lease even if this Lease has come to an end.

1.2.10 You must, at your own cost and expense, keep to (and make sure that each of Your Authorised People keep to) every obligation you have and restriction that applies under this Lease. If this Lease states that you will not have any claim against us for any Losses, Your Authorised People will also not have any claim against us for such Losses.

1.2.11 If, under this Lease, you need our permission or approval for any action, you must get this in writing from us before taking that action. We will decide if, and on what terms, to give or withhold permission or approval. Even if we give our permission or approval, you will remain responsible for these permitted or approved matters or actions. This clause 1.2.11 also applies if the Head Landlord or any of the Authorities require any permission or approval. In addition, any right given to us under this Lease is also given to the Head Landlord and any Authorities and any person authorised by us, the Head Landlord and the Authorities.

1.2.12 If we carry out any action or exercise any right or remedy under any clause in this Lease, this will not affect our other rights or remedies under that clause or the rest of this Lease.

1.2.13 Each schedule of, attachment, appendix and annexure to this Lease forms part of this Lease. If there are any inconsistencies between the different parts of this Lease, priority will be given in the following order from first to last: (1) Side Letters (if any), (2) Special Covenants, (3) Building Covenants, (4) Standard Covenants, and (5) Tenants' Guide.

2 GRANT OF LEASE

2.1 Lease

We agree to lease the Premises to you for the Term in return for you paying the Gross Rent and keeping to the terms, covenants and conditions as set out in this Lease (including the Special Covenants, Building Covenants and the Tenants' Guide).

2.2 Permitted Use

- 2.2.1 You must use the Premises only for the Permitted Use. If you want to change the Permitted Use, you must first get approval from us and the Authorities. You must also get, maintain and keep to all necessary approvals which you need by Law to carry out your business at the Premises. To avoid any doubt, you must also carry out your own checks on the Premises as we will not be responsible for making sure the Premises are suitable for the Permitted Use.
- 2.2.2 If the Premises are a property where the Urban Redevelopment Authority's 60:40 rules apply, you must make sure that at least 60% of the Floor Area is used for industrial activity, and no more than 40% of the Floor Area is used for such ancillary (that is, supporting) purposes to the Permitted Use as we, the Urban Redevelopment Authority or any other relevant Authority may approve. You must also provide us with the filled-in and signed declaration form as set out in schedule 6 upon signing this Lease. If you fail to do so, we may give you two weeks' notice to submit such form. If you have still not provided the filled-in and signed declaration form by the end of the two weeks' notice, we may immediately end this Lease and, if you have taken possession of the Premises, you must carry out the Reinstatement Works to keep to clause 4.3.1. You will forfeit (that is, give up the right to claim) any money or deposits you have paid to us under this Lease, you must pay us any costs and expenses we have to pay, and you will not have any claim against us for any Losses which you may suffer due to us ending this Lease.

2.3 Head Landlord's and Authorities' approvals

2.3.1 If the Premises are a property under the control of JTC, you must:

- (a) first get the relevant approvals (including any anchor tenant approval) from JTC and the Authorities to use the Premises before we give the lease of the Premises to you; and
- (b) give us any relevant information and documents we ask for, including the items set out in schedule 7, at least 14 days before the Possession Date or Start Date, whichever is earlier. To avoid any doubt, you must pay any costs that apply, including any subletting fees or other fees we must pay or have paid to the Head Landlord or Authorities. You must also pay any fees and other charges charged by the Head Landlord or Authorities for not meeting this condition due to your delay or failure to give us any relevant information or documents.

2.3.2 If you do not have all the approvals as required under clause 2.3.1, we may give you notice that this Lease will be considered as null and void (that is, in a state as if this Lease never existed), except that you must reinstate the Premises in line with this Lease and you must pay all Gross Rent, Utilities Charges and other charges due from the Possession Date or Start Date, whichever is earlier, until the day you return the Premises to us (both dates included). You will not have any claim against us for any losses you suffer due to this Lease being considered as null and void. Within 30 days after we have confirmed that there are no outstanding obligations under this Lease, and as long as you did not cause such failure to get such approvals, we will refund:

- (a) all deposits you have paid (without Interest and after deducting necessary amounts if you have not kept to any other terms of this Lease or for damage you have caused to the Premises or the Building); and
- (b) all legal fees and stamp duties you have paid if they have not been charged by our lawyers or the Authorities.

2.4 Compliance regulations

You must keep to, and make sure that each of Your Authorised People keep to, the relevant anti-money- laundering, anti-bribery, anti-corruption, and anti-financing of terrorism Laws and/or our policies. If you fail to do so, we may give you notice upon which this Lease will be considered as null and void (that is, as if this Lease had never existed), except that you must still (i) reinstate the Premises in line with this Lease, (ii) pay all Gross Rent, Utilities and other charges due from the Possession Date or Start Date, whichever is earlier, until the day you return the Premises to us (both dates included), and all other Losses which we may suffer arising out of or relating to you not keeping to this clause 2.4, including the loss of Gross Rent which we could have collected for the Term and the Rent-free Period (if any), and any costs and expenses of re-letting or trying to re-let the Premises. We will also not refund any deposits or money you have paid to us, and you will not have any claim against us for any Losses which you may suffer due to this Lease being considered as null and void (that is, as

if this Lease had never existed).

2.5 Rights and exceptions

2.5.1 The Premises are leased to you with:

- (a) the right to use the Common Area to pass to and from the Premises; and
- (b) the right to use the designated toilet facilities, lifts, staircases and driveways in the Common Area.

2.5.2 Under this Lease, we have:

- (a) the right to free and uninterrupted passage and running of Utilities and other services through the Conducting Media in the Premises;
- (b) the right to enter the Premises as allowed under this Lease, except that we will use reasonable efforts to minimise any disturbance to you;
- (c) the right of light, air, support, shelter, easements (that is, a right enjoyed by one person over another's land for a specific purpose such as a right of way) and all other rights belonging to or enjoyed by other parts of the Building;
- (d) the right to put up scaffolding for carrying out repairs, renovations, alterations, additions, cleaning, painting or other work to the Building, and to build on, alter, rebuild, develop or use the land next to the Building or in the Park, even if (i) access to, use or enjoyment of the Premises may be temporarily restricted, (ii) any light and air coming into the Premises is affected or (iii) any nuisance, damage, or inconvenience is caused to you or any of your occupiers, except that we will use reasonable efforts to minimise any disturbance to you; and
- (e) the right to carry out any power shutdown in the Building as may be required by us or the Authorities, by providing notice to you (except in cases of emergency), and without us having to provide any emergency power or back-up supply of electricity, except that we will use reasonable efforts to minimise any disturbance to you.

2.5.3 Any person you authorise to use or enjoy the Premises in line with this Lease will also have the rights under clause 2.5.1, and (i) we, (ii) the Head Landlord, and (iii) any person authorised by us or the Head Landlord will also have the rights under clause 2.5.2.

3 TAKING POSSESSION

3.1 You will take possession of the Premises on the Possession Date. If you delay taking possession of the Premises, we will not postpone the Fitting Out Works Rent-free Period (if any) and/or the Term.

3.2 You agree to take the Premises on an 'as is, where is' basis and not to object to the state and condition of the Premises (including the structural, mechanical and electrical specifications) on the date you first take possession of the Premises.

3.3 You agree that the Floor Area of the Premises are as set out in schedule 1. If we appoint a surveyor registered under the Land Surveyors Act (Chapter 156) to survey the Floor Area, the surveyor's findings will be final and binding (unless there is a clear and obvious mistake), and the Gross Rent, Service Charge and other payments due under this Lease (including the Security Deposit) will be adjusted as a result of any difference in floor area of more than 3%.

3.4 You must not load any part of the floors of the Building with more than the weight set out in schedule 1 or such other weight limit as we may notify.

4 YOUR OBLIGATIONS/ INVOLVEMENT

4.1 General obligations relating to payments

4.1.1 Gross Rent and other payments

4.1.1.1 Upon signing this Lease, you must pay the Gross Rent for the period of one month from the Start Date. The Gross Rent for any period less than one month will be pro-rated (based on the actual number of days in that month). You must then pay us monthly in advance on each Payment Date the:

- (a) Net Rent, calculated at the Net Rent Rate on the Floor Area; and
- (b) Service Charge, calculated at the Service Charge Rate on the Floor Area.

4.1.1.2 You must pay us all amounts due under this Lease promptly when they are due on the Payment Date (except that you must pay the amounts in the statement of accounts set out in schedule 4 upon signing this Lease), without us having to ask or remind you, and without making any withholding, deduction, set-off or counterclaim.

4.1.1.3 Other than the first initial payment as set out under schedule 4, you must make all payments by standing order automated electronic payment (GIRO) to our account or in any other way we notify you.

4.1.1.4 We may increase the Service Charge if there is any increase in the Total Outgoings. If we do so, we will notify you of the amount and effective date of increase in the Service Charge (per square metre). Such notice will be final and binding (unless there is a clear and obvious mistake) and you must pay the increased Service Charge from the date of the increase as set out in our notice until the end of the Term.

4.1.1.5 You must not use the Common Area or any space outside the Premises in connection with your Permitted Use. If we agree to your use of any part of the Common Area or any space outside the Premises in connection with your Permitted Use, we may set charges and terms for this, and may ask you to sign a separate agreement relating to that space.

4.1.2 Rent-free Period (if any)

As a show of goodwill, we will grant you the Rent-free Period (if any). During any Rent-free Period, you do not have to pay the Gross Rent but you must continue to comply with all other terms of the Lease. However, if you carry out your business during any Rent-free Period, we may collect Service Charge from you from the date your business is started. In addition, if this Lease is brought to an end early, you must pay us the Gross Rent for the entire Rent-free Period immediately when we notify you.

4.1.3 Interest

If you fail to pay the Gross Rent or any other amounts due to us under this Lease on the due date (for any reason, and whether or not we send you a formal notice), you must pay us when we notify you Interest on the amount you owe from the date the amount is due (or if we have to pay costs for any work or measures we have carried out on your behalf, from the date we pay for those costs) until the date you pay the amount that is due.

4.1.4 Utilities

You must pay us (or the relevant supplier if this applies) the Utilities Charges for the Utilities supplied to the Premises during the Rent-free Period (if any) and the Term of this Lease. The Utilities Charges will be calculated at the rate we notify you in our invoice and you must pay us such Utilities Charges on the Payment Date. The amount as set out in our invoice will be final and binding (unless there is a clear and obvious mistake).

4.1.5 Electricity supply

4.1.5.1 If we do not arrange for the supply of electricity to the Premises, you must make arrangements with a supplier or retailer, as the case may be, for supplying electricity to the Premises. You must also:

- (a) first get our approval of the supplier or retailer before you arrange for them to supply electricity to the Premises; and

(b) pay all charges directly to the supplier or retailer (including any connection charges or deposit) for supplying electricity to the Premises.

4.1.5.2 If we arrange for the supply of electricity to the Premises by bulk or block purchase or otherwise, you must pay us:

- (a) Electricity Charges for electricity supplied to the Premises each month. The Electricity Charges will be calculated at the rate we notify you in an invoice;
- (b) all other charges relating to supplying electricity to the Premises (including connection and administrative charges) as we notify you in an invoice; and
- (c) the Electricity Supply Deposit. We will notify you of the amount of the Electricity Supply Deposit that you must pay from time to time during the Term. If the Electricity Supply Deposit you have paid to us is less than the amount we have told you to pay, you must pay the difference to us. We will keep the Electricity Supply Deposit for the whole of the Term and we may use all or part of it to indemnify us (that is, to pay all our losses in full without dispute or claim that we should have minimised such losses) against you failing to keep to clauses 4.1.5.2(a) and 4.1.5.2(b) above. We will refund the Electricity Supply Deposit without interest and after making any deductions that are allowed under this Lease, within 30 days after we have confirmed that there are no outstanding obligations under this Lease, including that you have paid all amounts that you owe us. To avoid any doubt, such refund will not affect any other rights we may have if we find you still owe us money or have not kept to the terms of this Lease after we return the Electricity Supply Deposit to you.

4.1.5.3 The amount as set out in our invoices in clause 4.1.5.2 above will be final and binding (unless there is a clear and obvious mistake) and you must pay such amounts to us on the Payment Date. If there are any clear and obvious mistakes in the amounts as set out in our invoices, we will notify you and you must pay the difference on the Payment Date from the date of such notice. Any retailer or supplier we appoint to provide electricity to the Premises will also have the same rights as us under this clause 4.1.5.

4.1.5.4 If we make or intend to make a bulk or block purchase to supply electricity to the whole Building or the Park, you will be considered to have given your permission for the purchase. You must also, if we ask you to, sign an authorisation in such format as we may inform. If we decide to change the retailer or supplier during the Term, we may transfer the Electricity Supply Deposit at any time to any supplier or retailer.

4.1.6 Taxes

Without affecting our obligations under clause 5.2, you must pay us immediately when we notify you any Taxes charged on the amounts you must pay under this Lease.

4.1.7 Additional Property Tax

Once you have signed this Lease, you must pay us any Additional Property Tax that we notify you is due for the Premises, the Rent-free Period (if any) and the Term of this Lease. We will decide whether to object to or appeal against any assessment of annual value or any property tax that is charged on the Premises.

4.1.8 Security Deposit

4.1.8.1 Upon signing this Lease, you must pay and maintain with us the Security Deposit during the Term, as security for you keeping to the terms of this Lease and to indemnify us (that is, to pay all our losses in full without dispute or claim that we should have minimised such losses) against any Losses we may suffer against you or any of Your Authorised People in relation to any matter arising out of or relating to the Premises or this Lease, including any amount you owe us during any holdover period or future lease of the Premises.

4.1.8.2 If you do not keep to the terms of this Lease, we may use the Security Deposit to make good to our satisfaction any losses we have suffered, and you must pay us an amount equal to the amount of the Security Deposit we use, within seven days of us notifying you.

4.1.8.3 If the Gross Rent is increased under this Lease, the Security Deposit will also be increased and you must pay the increased amount to us on the date we notify you.

- 4.1.8.4 You must not set off (that is, treat it as payment of) any part of the Security Deposit against any Gross Rent or other amounts you owe us.
- 4.1.8.5 We will refund the Security Deposit to you, without interest and after making any deductions that are allowed under this Lease, within 30 days after we have confirmed that there are no outstanding obligations under this Lease, including that you have paid all amounts that you owe us. To avoid any doubt, such refund will not affect any other rights we may have if we find you still owe us money or have not kept to the terms of this Lease after we return the Security Deposit to you.
- 4.1.9 Car-park passes
- 4.1.9.1 As a show of goodwill, we will provide car-park passes, as set out in schedule 1, as long as:
- (a) you pay the Car-park Charges at such rates that apply from time to time and as we notify you in our invoice. Such amount as set out in the invoice will be final and binding (unless there is a clear and obvious mistake), and you must pay us such Car-park Charges on the Payment Date;
 - (b) you keep to all relevant Laws;
 - (c) our policies that apply from time to time allow for our provision of car-park passes to you; and
 - (d) we have passes available.
- 4.1.9.2 If required by Law or under our policies, we may give you notice at any time to change or cancel the number of car-park passes we allocate to you or to revise our Car-park Charges.
- 4.1.10 Insurance during the Lease
- 4.1.10.1 From the Possession Date or Start Date, whichever is earlier, until the end of the Term or any period of holding over (as described in clause 4.3.2), including while the Tenant's Works are being carried out, you must arrange and maintain the following insurance policies:
- (a) an insurance policy in your name:
 - (i) covering you against all risks of theft, physical loss or damage (including risks of fire) in respect of your property (including personal property), goods and stock-in-trade (including all plate glass and tempered glass, glass frontage and plant and machinery, if any) in the Premises;
 - (ii) up to the full replacement value of your property, goods and stock-in-trade in the Premises; and
 - (iii) which includes a waiver of subrogation clause (that is, a clause which disallows the insurer from stepping into the insured party's shoes and making a claim against us to recover any money that the insurer has had to pay).
 - (b) a public liability insurance policy in your name, with us named as an insured party:
 - (i) protecting against claims arising out of or relating to your operations or anything that you, or Your Authorised People have done in or from the Premises or assumed under this Lease, which will be extended to include any of the insured parties' legal liability for loss of or damage to the Premises (including all fixtures and fittings) and all of our property;
 - (ii) for at least the amount set out in schedule 1 or any higher amount as we may require; and
 - (iii) which includes a cross-liability clause (that is, a clause which allows an insured party from claiming against another insured party if they are both covered by the same insurance policy).
- 4.1.10.2 You must take out the insurance policies with a reputable insurance company as we may approve.
- 4.1.10.3 If we request, you must give us copies of the insurance policies and the receipt for the first premiums you have paid for the policies. We will not be considered to have approved the insurance policies just because we have

seen copies of your insurance policies and you will remain responsible for your obligations under this Lease, including having to take out the necessary insurance policies as required under this clause 4.1.10.

4.1.11 Not to affect our insurance

You must not do anything that makes any of the insurance policies void or voidable (that is, in a state as if the insurance policies never existed or potentially never existed), invalid or cancelled, or leads to an increase in the premium for the insurance policies. If you fail to keep to this clause 4.1.11, you must not claim against us for any claim which is actually covered or which would have been covered had you maintained the insurance policies. You must also make good any damage or losses we suffer, including paying any increased premium, costs and expenses for restoring or renewing the insurance policies.

4.2 General obligations during the Lease

4.2.1 Tenant's Works

4.2.1.1 You must get our approval before carrying out any Tenant's Works. If we give our approval, you must carry out and complete the Tenant's Works in line with the Lease, including the Tenants' Guide and any of our other requirements in respect of such Tenant's Works.

4.2.1.2 You must get and maintain all necessary approvals that are required by Law (including the Fire-safety Approval, if it applies) for carrying out the Tenant's Works.

4.2.2 Tenant's Works Deposit

4.2.2.1 If we ask you to, you must pay us a Tenant's Works Deposit for carrying out any Tenant's Works. You must do this by the date we notify you. You must pay to us, the initial Tenant's Works Deposit, as set out in **Schedule 1**, upon signing this Lease.

4.2.2.2 The Tenant's Works Deposit is security to make sure that you:

- (a) comply with clause 4.2.1; and
- (b) make good, to our satisfaction, any damage to the Premises, Building and Park resulting from the Tenant's Works.

4.2.2.3 If you do not comply with clause 4.2.2.2, we may carry out the necessary works and use the Tenant's Works Deposit to pay the costs and expenses of that work. If the Tenant's Works Deposit is not enough to cover the cost of the work, you must pay us immediately, when we notify you, the difference between the costs and expenses of the work and the Tenant's Works Deposit.

4.2.2.4 You must give us (i) the relevant plans, (ii) appropriate architect, engineer, qualified person or consultant certificates to confirm that the work has been carried out to the necessary standards, and (iii) the Fire Safety Approval, before you start operations at the Premises. If you fail to do this, you will forfeit (that is, give up the right to claim) the Tenant's Works Deposit. This will not affect any of our rights or remedies against you, including our right to charge you for any penalty fees imposed by the Authorities and our right to terminate this Lease for such breach.

4.2.2.5 We will refund the Tenant's Works Deposit to you, without interest, within 30 days after:

- (a) the Tenant's Works have been completed in accordance with this Lease, including that you have submitted the relevant plans, certificates and Fire Safety Approval required in accordance with clause 4.2.2.4;
- (b) you have complied with all our requirements in respect of the Tenant's Works;
- (c) you have made good any damage to the Premises, Building and Park, to our satisfaction; and (d) we have deducted any amounts owing under clause 4.2.2.3.

To avoid any doubt, such refund will not affect any other rights we may have if we find you still owe us money or have not kept to the terms of this Lease after we return the Tenant's Works Deposit to you.

4.2.3 Insurance while carrying out Tenant's Works

- 4.2.3.1 Before starting any Tenant's Works, you must take out and maintain (i) an all-risks policy and (ii) a comprehensive public liability insurance policy against claims for personal injury, death or property damage or Losses arising out of or relating to the Tenant's Works. Each insurance policy must provide coverage of at least S\$2,000,000.00 (or such higher amount we tell you) for any one occurrence and it must be effective for the entire period of the Tenant's Works.
- 4.2.3.2 You must take out and maintain such insurance policies mentioned in clause 4.2.3.1 in the joint names of us and your contractors as co-insured parties for our and their respective rights and interests. You must use a reputable insurance company, and such insurance policies must each include a cross-liability clause (that is, a clause which allows an insured party from claiming against another insured party if they are both covered by the same insurance policy).
- 4.2.3.3 You must give us copies of such insurance policies mentioned in clause 4.2.3.1 if we ask for one. However, giving us such copies will not be considered to be constructive notice of any terms of such insurance policies nor, and will not in any way reduce or affect your obligations under this Lease, including clause 4.2.3.

4.2.4 Maintain and repair

4.2.4.1 You must:

- (a) keep the Premises in a clean and tidy condition to keep to what we require under this Lease (including the Tenants' Guide);
- (b) keep the Premises (including all fixtures and fittings, mechanical and electrical equipment and Conducting Media in and serving the Premises, whether these belong to you or us) in good and tenantable repair and condition (that is, in a state and condition safe and suitable for use and in which you have carried out all necessary repairs for), except for fair wear and tear; and
- (c) immediately make good, to our satisfaction, any damage you cause to the Premises (including our fixtures and fittings in them), or to any other part of the Building or Park.

4.2.5 Permitting us to inspect the Premises and carry out repairs

You must allow us and Our Authorised People to enter the Premises with advance notice (except in cases of emergency) and at no cost to us, so that we may:

- (a) check if you are keeping to the terms of this Lease;
- (b) carry out spot checks and inspect the condition of the Premises;
- (c) take a schedule of fixtures and fittings;
- (d) investigate the cause of any interference or disturbance to other tenants and occupants;
- (e) gain access to parts of the Building, mechanical and electrical equipment and/or Conducting Media (or both) which can only be accessed through or in the Premises;
- (f) carry out any work relating to the mechanical and electrical equipment or Conducting Media and to install extra mechanical and electrical equipment or Conducting Media or to repair or replace any fixtures or fittings which belong to us;
- (g) enforce any right or to meet any obligation we have under this Lease or the Head Lease or any obligation we have to any third party who has legal rights over the Premises, the Building or Park or whose Conducting Media passes through the Premises;
- (h) build, alter, repair or maintain the Premises, the Building or Park (including cleaning the windows on the outside of the Building or anything serving the rest of the Building and Park as well as anything running through the Premises); and

(i) carry out any work which we need or want to carry out to any part of the Building or Park (including the services and facilities in it), including the right to build onto any boundary wall of the Premises.

4.2.5.1 If we find that you have not kept to all the terms of this Lease, you must carry out the necessary work promptly and within the time period as set out in the notice we give you and to our satisfaction.

4.2.5.2 If you do not carry out and complete the necessary work in time, we may enter the Premises to do the necessary work, and you must pay the costs and expenses for any such work. You must also, if we notify you to, do the following:

- (a) remove your installations, machinery, partitions or any other item so that we can carry out the work. If you fail to do this, we may remove them and you will have to pay the costs and expenses immediately when we notify you. You will not have any claim against us for any Losses you suffer due to us removing these items; and
- (b) stop your activities to the extent and during the hours as set out in the notice we give you so we can carry out the work (including any investigations relating to the work).

4.2.5.3 While we will use reasonable efforts to minimise any disturbance to your business operations at the Premises, we will not be responsible to you for any Losses you suffer or inconvenience caused while we are inspecting the Premises or carrying out such works or repairs under this clause 4.2.5.

4.3 General Obligations Relating to Moving out of the Premises

4.3.1 Moving out of the Premises

4.3.1.1 When this Lease ends, you must have completed the Reinstatement Works in line with this Lease (including the Tenants' Guide), and return the Premises and all keys (including mailbox keys) to us.

4.3.1.2 If you fail to keep to clause 4.3.1.1, we may carry out the Reinstatement Works. If we do this, you must pay us immediately:

- (a) all our costs and expenses, and
- (b) an amount equal to double the amount of Gross Rent due for the period it takes us to carry out and complete the Reinstatement Works.

4.3.1.3 If we agree that you do not need to carry out the Reinstatement Works, we may require you to pay a reinstatement amount, which we will estimate based on the costs and expenses that we may need to pay to carry out and complete the Reinstatement Works. After making this payment, you will be considered to have transferred all such fixtures and fittings to us and we may remove, dispose or deal with them as we see fit, and you may not claim for any money left over after our removing, disposing or dealing with such fixtures and fittings.

4.3.1.4 Any invoice we give you of the amounts you must pay to us under clauses 4.3.1.2 and 4.3.1.3 above is final and binding (unless there is a clear and obvious mistake) and you must pay us such amounts on the Payment Date.

4.3.2 Holding over

If you do not provide us with vacant possession of the Premises when this Lease ends or continue to occupy the Premises after this Lease ends, you will be considered to be holding over and must pay us an amount equal to double the amount of Gross Rent or the market rent for the Premises that is current at that time as we may inform you (whichever is higher) for every day of the holding-over period, within seven days of our notice to you. Such holding over will not be considered as a renewal of this Lease. This clause 4.3.2 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

4.3.3 Viewing

During the six months before the end of this Lease, you must, if we give you notice, allow us, our agents and

anyone else we authorise to view the Premises for the purpose of re-letting them.

4.4 Other terms

4.4.1 Assigning and subletting

4.4.1.1 You must not novate (that is, transfer all or some of your rights and obligations), assign (that is, transfer all or some of your rights), sublet, license, part with or share possession or occupation, mortgage or create a charge over, or grant anyone else any rights in respect of, this Lease or the Premises without our approval.

4.4.1.2 If you are a company, and there is a change in your management control or majority shareholders and you did not get our approval before making the change, this will be considered as an assignment of this Lease. For the purposes of this clause 4.4.1.2, 'majority shareholder' means a person who:

- (a) controls the structure of your board of directors;
- (b) controls more than 50% of your issued share capital; or
- (c) controls more than 50% of your voting power.

4.4.1.3 Without affecting clause 4.4.1.1, if you are a sole proprietor or a partnership made up of partners carrying out a business under a business name registered under the Business Registration Act (Chapter 32) or any other Law, and there is a change in the constitution or membership of the sole-proprietorship or partnership and you did not get our approval before making the change, this will be considered as an assignment of this Lease.

4.4.1.4 If we give any approval under this clause 4.4.1, we may set any terms, including charging fees, and section 17 of the Conveyancing and Law of Property Act (Chapter 61) will not apply.

4.4.2 No lodging of caveat, registering this Lease or subdividing the Building

4.4.2.1 You must not (i) lodge a caveat relating to this Lease, nor (ii) register this Lease at the Singapore Land Registry and you must immediately withdraw any caveats which are lodged in spite of this clause 4.4.2.1.

4.4.2.2 You must not ask us to subdivide the Building or do anything which could mean that we have to subdivide the Building.

4.4.2.3 This Lease does not operate as a Lease capable of registration under the Land Titles Act (Chapter 157) or any other Law.

4.4.3 Keeping to the Law

4.4.3.1 You must keep to the Law and all requirements of the Authorities relating to:

- (a) the Premises and using or occupying the Premises; and
- (b) your obligations under this Lease.

4.4.3.2 You must immediately notify us of:

- (a) any notice or order you receive from any Authority in relation to the Premises or this Lease;
- (b) any defect in the Premises which may cause us to have any Losses or duty; and
- (c) any damage that may happen to the Premises.

4.4.3.3 Without affecting clause 4.4.3.1, you must not allow the Premises to be used as a place where any person is employed in a way that is not allowed under section 57(1)(e) of the Immigration Act (Chapter 133), section 5 of the Employment of Foreign Manpower Act (Chapter 91a) or any other Law.

4.4.4 Head Lease

You must keep to the conditions (if any) that the Head Landlord sets when approving this Lease, including in particular, any conditions that relate to the Premises, Building and Park.

4.4.5 Tenants' Guide

You confirm that you have read and received a copy of the Tenants' Guide and you agree that you must keep to the Tenants' Guide and any other rules that we set, including paying any fees, charges, costs and expenses arising out of or relating to, or as a result of you failing to keep to your obligations under the Tenants' Guide. You must also make sure that Your Authorised People keep to the Tenants' Guide. We may add to or vary the Tenants' Guide at any time by making such revised Tenant's Guide available on the Capitaland Business Park & Industrial Tenant Portal.

4.4.6 Confidentiality of information

4.4.6.1 In order to protect and maintain the confidentiality of this Lease and any information relating to this Lease, and to prevent any unauthorised access to such information, you must not reveal to any third party (other than your professional advisors), this Lease or any information or any correspondence relating to this Lease, unless such disclosure is required under any Law or you get our approval beforehand. If you are allowed to reveal information to any third party, you must make sure that they keep to the terms of this clause 4.4.6.1 and such other terms as we may notify you.

4.4.6.2 Without affecting anything else in this Lease, if you do not keep to clause 4.4.6.1 we may withdraw any special concessions we have granted you under this Lease. This includes but is not limited to:

- (a) the Rent-free period (if any), meaning that you must pay us the Gross Rent for the entire Rent-free Period;
- (b) any special rental rates, meaning that you must pay us a revised gross rent for the entire Term based on the market rent that applies at that time; and
- (c) all other special concessions we grant to you.

4.4.6.3 This clause 4.4.6 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

4.4.7 Indemnity by you

4.4.7.1 You must indemnify us (that is, to pay all our losses in full without dispute or claim that we should have minimised such losses) against all Losses which we may suffer or have to pay arising out of or relating to death, injury, loss or damage caused, directly or indirectly, by:

- (a) anything that happens in the Premises or the use or occupation of the Premises;
- (b) you or Your Authorised People to the Premises, Building or any property in them, including if caused by using, misusing, wasting or abusing the Utilities or faulty fittings or fixtures or in respect of the condition of any part of the Premises; and
- (c) you failing to keep to the terms of this Lease.

4.4.7.2 This clause 4.4.7 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

5 OUR OBLIGATIONS/ INVOLVEMENT

5.1 Quiet enjoyment

5.2 If you pay the Gross Rent and other amounts due under this Lease and keep to the terms of this Lease, you may occupy and use the Premises during the Term without any disturbance from us, except as allowed under this Lease.

5.2 Property Tax

We will pay the property tax charges for the Premises for the Term based on the Gross Rent payable by you under this Lease and the property tax rate applicable on the date of this Lease. To avoid any doubt, this does not include any Additional Property Tax, which you must pay.

5.3 Managing the Building. We will:

- (a) keep the exterior of the Building, the Common Areas and the amenities and facilities in the Building which are for common use in good repair, and keep the mechanical and electrical services in working order and condition (except for fair wear and tear);
- (b) provide lift services during such hours as we may notify to you, electricity for lighting the Common Areas and water for the toilet facilities (if any) in the Common Areas;
- (c) keep the Common Areas adequately clean and lit; and
- (d) insure the Building (not including your fixtures and fittings) against damage by fire and any other risks as we may decide.

5.4 No claim against us

5.4.1 Without being affected by anything else in this Lease, we are not responsible to you, and you must not claim against us, for any death, injury, or Losses which you or Your Authorised People may suffer (whether caused by negligence or otherwise) in connection with the following circumstances

- (a) any interruption in any of the services mentioned in clause 5.3 due to the state and condition or any repair, maintenance, damage or destruction of any installations or equipment or any mechanical, electrical, electronic, microprocessor or software defect, malfunction or breakdown that occurs;
- (b) any act, failure to act, negligence or misconduct of:
 - (i) any of our employees or agents in relation to the Premises or the Building;
 - (ii) Our Authorised People carrying out any duty relating to the services mentioned in clause 5.3;
 - (iii) any contractor or consultant we have nominated or approved under this Lease; or
 - (iv) any other person in the Building;
- (c) any other tenants, Your Authorised People and other people in the Building not keeping to the Tenants' Guide;
- (d) any accidents, injuries, loss or damage to property or people in the Premises, Building or Park;
- (e) the use of the car-parks in the Building;
- (f) any failure, inability or defect in the supply or character of electricity, water (including chilled water) or, if it applies, gas supplied to the Premises by any service provider;
- (g) leaks or defects in the piping, wiring and sprinkler system, or defects in the structure of the Building;
- (h) any failure or delay by us to carry out measures to prevent any outbreak or spread of any Infectious Disease in the Building;
- (i) any terrorist act regardless of any other cause or event contributing to the loss (including any action taken to control, prevent or otherwise deal with any terrorist act); and
- (j) any Circumstances Beyond Our Control.

5.4.2 This clause 5.4 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

5.5 Limits to trustee's liability.

5.5.1 If we are an entity listed on the stock exchange, the following clause will apply to this Lease:

Without being affected by anything else in this Lease, you agree that we are entering into this Lease only in our capacity as trustee of Ascendas Real Estate Investment Trust (the 'REIT') and not in our personal capacity. As such, any liability or indemnity we give or will give, and any power and right we grant to any receiver, attorney, agent or delegate of the trustee of the REIT will be limited to the assets of the REIT over which, as trustee of the REIT, we have legal rights, and will not extend to any of our personal assets or any assets we hold in our capacity as trustee of any other trust. This clause still applies even if this Lease ends, is brought to an end early or is cancelled. This clause will apply, with the necessary amendments and without affecting the meaning of this clause, to any notice, certificate or other document we issue under this Lease, as if it were set out in the notice, certificate or document.

5.5.2 If we are an entity not listed on the stock exchange, the following clause will apply to this Lease:

If the Building is sold to the trustee of Ascendas Real Estate Investment Trust ('A-REIT'), you agree that the following clause (or a variation of the following clause) will be included in this Lease.

'Limits to trustee's liability

Without being affected by anything else in this Lease, you agree that we are entering into this Lease only in our capacity as trustee of A-REIT and not in our personal capacity. As such, any liability or indemnity we give or will give, and any power and right we grant to any receiver, attorney, agent or delegate of the trustee of A-REIT will be limited to the assets of A-REIT over which the trustee of A-REIT has legal rights, and will not extend to any of our personal assets or any assets that the trustee of A-REIT holds in our capacity as trustee of any other trust. This clause still applies even if this Lease ends, is brought to an end early or is cancelled. This clause will apply, with the necessary amendments and without affecting the meaning of this clause, to any notice, certificate or other document we issue under this Lease, as if it were set out in the notice, certificate or document.'

6. OUR GENERAL RIGHTS AND REMEDIES

6.1 Cost and expenses

If we give you notice, you must pay immediately our full costs and expenses (including legal fees, administrative charges and stamp duty), relating to:

- (a) preparing, negotiating and completing this Lease (including any Side Letters);
- (b) considering your request for our permission or approval (including our professional advisor's fees for advising us); and
- (c) you not keeping to the terms of this Lease.

You must pay such costs and expenses on an indemnity basis (that is, to pay for all our costs and expenses and not dispute or claim that we should have minimised such costs and expenses).

6.2 Set-off and forfeiture of deposits

Without being affected by anything else in this Lease, we may deduct any payments you owe us from any deposits you have paid under this Lease. If we have deducted money from a deposit in this way, you must pay us an amount equal to the amount we have deducted within seven days of us notifying you. When this Lease ends, you must collect any deposits you have paid under this Lease within one year from such date as we have first tried to return you such deposit. If you don't, you will forfeit (that is, give up the right to claim) these deposits.

6.3. Remedial measures

If you fail to keep to the terms of this Lease, we may take action to deal with the situation (including issuing a stop order relating to any offending activity or stepping in to do any repair or remedial works). You must pay all our costs and expenses for us taking the actions under this clause 6.3. You will not have any claim against us for any Losses or inconvenience you may suffer due to us carrying out the actions. To avoid any doubt, we do not need to exercise this right under this clause 6.3 before we exercise our other rights.

6.4. Re-entry

You will have failed to keep to the terms of this Lease if:

- (a) you fail to pay the Gross Rent or any other amounts you must pay under this Lease within 14 days after the due date;
- (b) you do not keep to, and where possible, fail to correct your actions to keep to, the terms of this Lease (other than under clause 6.4.1(a)) within 14 days of our notice or such longer period as we may notify you (except in cases of emergency);
- (c) another creditor or person enforces a writ of execution (that is, a court order which permits a transfer of assets, money or property belonging to a debtor to pay off a legal judgment) or levies distress (that is, the forcible taking of a tenant's property by a landlord to pay off any overdue or unpaid rent or other money owed under a lease) on your property; or
- (d) you become or are reasonably likely to become insolvent (that is, when you are unable or likely unable to pay any debts as and when they are due).

6.4.2 If any of the circumstances in clause 6.4.1 happens, we may re-enter and take possession of all or any part of the Premises at any time, including during the Rent-free Period, and even if we have previously chosen not to enforce our right of re-entry, and the Term and this Lease will then end on the date of such re-entry or notice. To avoid any doubt, if you return any keys to us, this does not mean that we have accepted the surrender of the Premises, unless we confirm this in writing.

6.4.3 If any of the circumstances in clause 6.4.1 happens, we may notify you to novate (that is, transfer all or some of your rights and obligations) or assign (that is, transfer all or some of your rights) your sub-leases to us, including all rent and any security deposits relating to such sub-tenancies. Upon receiving such notice, you must immediately sign such novation or will be considered to have agreed to such assignment, and must make sure all sub-tenants sign such novation or agree to such assignment, including paying all rent received from such sub-tenancies, directly to us.

6.4.4 If any of the circumstances in clause 6.4.1 happens, you must, if we give you notice, leave on the Premises any of your property that we may require as set out in such notice.

6.4.5 If we end this Lease in line with clause 6.4.2:

- (a) your interest in and the rights to the Premises will end;
- (b) you must move out of the Premises immediately, except that you must still carry out the Reinstatement Works in line with clause 4.3 unless we notify you otherwise;
- (c) you will forfeit (that is, give up the right to claim) any money or deposits you have paid to us;
- (d) you must indemnify us (that is, pay all our losses in full without dispute or claim that we should have minimised such losses) from and against all Losses we suffer as a result of re-entering the Premises, including Gross Rent for the Rent-free Period, any Gross Rent which you would have paid if the Term had been completed, and all our costs and expenses of re-letting or trying to re-let the Premises); and
- (e) you will not have any claim against us for any Losses you suffer due to us ending this Lease.

6.5 Removing your property.

- 6.5.1 If you leave any of your property at the Premises when this Lease ends, we have the right to dispose of it in whatever way we consider appropriate, and you must pay any costs involved. You will not have any claim against us for any Losses which you may suffer due to us removing any property from the Premises under this clause 6.5.
- 6.5.2 If we sell your property under clause 6.5.1 above, we may use the proceeds from the sale to pay our costs, expenses, Interest and any other money you owe us under this Lease. If there is any money left over, we will return such monies to you.
- 6.5.3 You must indemnify us (that is, pay all our losses in full without dispute or claim that we should have minimised such losses) against any Losses we have to any third party whose property we deal with or dispose of because we mistakenly believe it is yours.
- 6.5.4 This clause 6.5 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

6.6 Government takeover under the Land Acquisition Act (Chapter 152).

If any Authority compulsorily takes over the Building or any part of it, or issues any notice, order or gazette notification to take over the Building or any part of it, we may give you notice and end this Lease without compensation. To avoid any doubt, this will not affect any rights or remedies we have relating to you not keeping to the terms of this Lease.

6.7 We may transfer this Lease

We may novate (that is, transfer all or some of our rights and obligations) or assign (that is, transfer all or some of our rights) under this Lease to another party without your permission. Following such transfer, you:

- (a) will be considered as having agreed to such transfer and having accepted the new landlord;
- (b) must release us from all our obligations under this Lease (including our obligation to refund the Security Deposit and any other amounts under this Lease);
- (c) sign the novation agreement or the acknowledgement to the notice of assignment of this Lease, which we will prepare at our cost; and
- (d) get a replacement bank guarantee for the new landlord, if we request this, to replace any bank guarantee you have given us.

7 OTHER TERMS

7.1 Notices

- 7.1.1 All notices relating to this Lease must be in writing.
- 7.1.2 Any notice we give you is only valid if we post it on the Capitaland Business Park & Industrial Tenant Portal, give it by hand or send it by post to the Premises or to your registered office or business address.
- 7.1.3 Any notice you give to us is only valid if you send it by registered post to our registered office.
- 7.1.4 Any notice will be considered as served:
- (a) (for a notice given by hand) immediately on the day it is sent; and
 - (b) (for notice sent by registered post) 24 hours after it is posted as long as the sender can show that the envelope containing the notice was addressed, stamped and posted.

7.2 Process of serving documents in line with the Law

7.2.1. Any legal process will be considered as served if it is sent to:

- (a) us by registered post to our business address;
- (b) you by registered post to or by leaving it at your business address or the Premises; or
- (c) your or our solicitor by registered post to or by leaving it at their business address.

7.2.2 If you are a company that is not incorporated or registered in Singapore:

- (a) you must deliver to us, within seven days of appointing the process agent, a copy of the letter (in a form we approve) issued by the process agent to us, agreeing (in a way that cannot be changed) to act as your process agent (that is, once they have agreed to act as your process agent, you or they cannot withdraw this agreement);
- (b) serving documents on your process agent at their last known address will be considered as satisfactorily serving documents under the Law on you; and
- (c) clauses 7.2.2(a) and 7.2.2(b) will not affect our right to serve process in any other manner allowed by Law.

7.3 No waiver

7.3.1 If we give you permission not to keep to any of the terms of this Lease, or if we choose not to take action even if you are not keeping to any of the terms, this decision is only effective if we confirm it in writing. If we know about you not keeping to of the terms of this Lease, or we accept the Gross Rent or any amount due under this Lease, this does not mean that we do not require you to keep to the terms of this Lease or that we have chosen not to take action.

7.3.2 If we give written permission or confirmation as set out in clause 7.3.1 above, this does not mean that we have also given permission or agreed not to take action if you:

- (a) do not keep to the same term of this Lease again; or
- (b) do not keep to another term of this Lease.

7.4 Entire Agreement

7.4.1 This Lease forms the entire agreement between you and us for this lease of the Premises.

7.4.2 We are not bound by any statement, conduct or promises (whether written or spoken, express or implied by common law, statute, custom or in any other way) relating to the Premises, Building or Park if they are not set out in this Lease.

7.4.3 You confirm that you have not agreed to or signed this Lease as a result of relying on any statement, conduct or promise we have made (or which someone else has made on our behalf), which is not as set out in this Lease.

7.4.4 You and we each state, guarantee, confirm and agree that each has full power and authority to enter into and carry out the obligations contained within this Lease, and this Lease is valid and binding.

7.5 Severability

If any part of this Lease cannot be enforced or if all or part of any clause in this Lease is illegal or invalid or cannot be enforced by Law, this will not affect the legality, validity or enforceability of any other clause in this Lease.

7.6 Governing Law and jurisdiction

7.6.1 This Lease is governed by Singapore Law.

7.6.2 You and we agree that the appropriate legal forum for any disputes relating to this Lease will be the courts of Singapore.

7.7 Contracts (Rights of Third Parties) Act (Chapter 538)

Apart from (i) the Head Landlord, (ii) any Authorities and (iii) any people authorised by us, the Head Landlord and/or the Authorities, no person who is not a party to this Lease has any right under the Contracts (Rights of Third Parties) Act (Chapter 538) to enforce or enjoy the benefit of any term of this Lease.

7.8 Electronic Signatures

The Parties acknowledge and agree that we are authorised to rely upon and accept as an original for all purposes, this Lease, any other transaction document or other communication delivered by you or its solicitor by facsimile, telegraphic, .pdf, e-mail or other electronic transmission (each, a "Communication") which we or our solicitor in good faith believes has been signed by you, including by electronic signature, and which has been so delivered to us or our solicitor. Such Communication shall have the same force and effect as an original signature. Without limitation, "electronic signature" will include versions of an original signature on a document electronically scanned and transmitted versions (e.g., via pdf) of an original signature; it shall also include eSignatures included on documents accessed from electronic and/or mobile devices via eSignature Services such as DocuSign and AdobeSign. Notwithstanding the foregoing, we will in any instance require that an original document be submitted to us in lieu of, or in addition to, any such Communication.

Counterparts

This Lease may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute the same agreement. One or more counterparts of this Lease may be delivered by facsimile or pdf electronic transmission, with the intention that they shall have the same effect as an original counterpart.

8 SUPPRESSION OF CORRUPT PRACTICE

8.1 The group of which we form part is committed to conducting its business in an ethical manner and expects all its employees and parties with which it has a contractual relationship to conduct themselves with high ethical standards and to comply with applicable laws for the suppression of corrupt practices ("**Anti-Corruption Laws**").

8.2 You represent and warrant that, to the best of your knowledge, neither you nor any person who (by reference to all relevant circumstances) performs services or acts for or on behalf of you in any capacity (including, without limitation, employees, agents, related corporations and subcontractors) ("**Representatives**") has contravened, or procured or encouraged third parties (including, to avoid any doubt, the employees of or any person acting on our behalf) to contravene, any Anti-Corruption Laws in connection with this Lease.

8.3 You must immediately notify us if any person employed by us or acting on our behalf or any of your Representatives, has contravened or attempted to contravene any Anti-Corruption Laws in connection with this Lease, and must take adequate steps to protect the interests of both you and us. All such notices to us should be sent to the Head of Group Internal Audit of CapitaLand Limited at the following email address: Whistleblowing.ACChair@capitaland.com.

8.4 We may terminate this Lease forthwith if you or any of your Representatives has contravened or attempted to contravene any Anti-Corruption Laws, whether in connection with this Lease or otherwise. Such termination shall not affect our other rights and remedies whether under this Lease or otherwise.



**SCHEDULE 5
PLAN OF THE PREMISES**



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**BLOCK 5008
7TH STOREY PLAN**



Note: Units #07-10 & #07-11 effective 1 June 15

Disclaimer:
All plans are subject to amendments as directed and/or approved by the building authorities.
All areas are approximate measurements only and subject to final survey. The proprietor is subject to inspection by the relevant authorities to comply with the current code of practice.

APPROVED 03 MAR 2015

Please Initial →

TECHPLACE 2 – ANG MO KIO AVE 5

SCHEDULE 6 DECLARATION FORM

1. Details (see note below)

Name of company or firm (as in ACRA): FLUIDIGM SINGAPORE PTE. LTD.	
Premises: Block 5008 Ang Mo Kio Avenue 5 #07-11 & #07-15 TECHplace II Singapore 569874	
Company's mailing address:	Block 5008 Ang Mo Kio Avenue 5 #08-08 TECHplace II Singapore 569874
Phone:	Email address:
Company registration number:	Country where the company is incorporated:
Company's principal activity:	

Note: If you are a foreign firm or new company in the process of being set up, please provide a local contact address and phone number, where possible.

2. Using the Premises

R&D and manufacturing of fluidic chips and microfluidic system

2.1 Urban Redevelopment Agency's 60:40 requirements

Do your activities in the Premises meet the Urban Redevelopment Authority's (URA) 60:40 requirements (set out below) for use of space?

Yes No

Industrial

URA's 60:40 requirements: You must make sure that at least 60% of the Floor Area is used for industrial activities (that is, manufacturing, assembly, research and development, storage and warehouse). Only the other 40% of the Floor Area can be used as offices, showrooms, circulation space (for example, shared passageways or staircases) and shared facilities and other areas approved in writing by the relevant Authorities.

2.2 Application to the Central Building Plan Department of the National Environment Agency (NEA) relating to the use of the Premises

You will need to submit your application online at <https://e-services.nea.gov.sg/ias/>. You must state in the application that the Premises are used for the purposes as set out in paragraph 2 of this declaration form. You must let us have a copy of the acknowledgement that your application has been accepted. When you receive the NEA's clearance letter, please let us have a copy of the letter allowing you to use the Premises for your operations.

2.3 Applying for drinkable water or non-drinkable water

You must apply to the Authorities for drinkable or non-drinkable water if you use more than 500 cubic metres of water per month.



Declaration

I declare that all the information and details I have provided on this form are true, correct and complete, and that we will not change the activities to be carried out in the Premises without first getting your approval.

Phoa Cheng Han
Managing Director

Company stamp

Signature

Date

Please provide details of the person we can contact about handing over the Premises.

Name and job title: Herry Effendi, Senior Supply Chain Manager
Contact number and email address: 93367045, herry.effendi@fluidigm.com

Capitaland Business Park & Industrial Tenant Portal Administrator (you must fill in this section)

Please provide details of the person who will be managing your company account through our Capitaland Business Park & Industrial Tenant Portal.

Name: Phoa Cheng Han
Job title: Managing Director
Email address: Cheng-Han.Phoa@fluidigm.com
Contact number: +6563201610

E-billing (you must fill in this section)

Please provide details of the person (for example, the finance manager) who will be accessing the billing invoices through our Capitaland Business Park & Industrial Tenant Portal.

Name: Neo Seng Yu
Job title: AP Specialist
Email address: FDSG.AccountsPayable@fluidigm.com
Contact number: +6567041801



**SCHEDULE 7
JTC SUBLETTING APPLICATION DOCUMENTS**

This schedule does not apply to this Lease.



CAPITALAND BUSINESS PARK & INDUSTRIAL TENANTS' GUIDE

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1. Definitions

- 1.1. This Tenants' Guide is to be read together with the Standard Covenants and may change from time to time. The latest version of this Tenants' Guide will be uploaded onto the Capitaland Business Park & Industrial Tenant Portal.
- 1.2. Unless stated otherwise, the definitions, terms and references used in this Tenants' Guide have the same meaning as those used in the Standard Covenants, save that for leases before 1 January 2019, 'you', or 'your' (whether capitalised or not) means you as the tenant and 'we', 'us', or 'our' (whether capitalised or not) means us as the landlord.
- 1.3. If you need our permission or approval for any action, you must get it in writing (either from us or through our designated representative, Ascendas Services Pte Ltd (**'ASPL'**)) before starting that action. Even if we give our permission or approval, you will still be responsible for all works and actions that you undertake.
- 1.4. You must make sure that Your Authorised People keep to this Tenants' Guide. To avoid any doubt, any consultant or contractor we nominate or approve will not be treated as our employee or agent.
- 1.5. Any forms you need to use to apply for our approvals are available on the Capitaland Business Park & Industrial Tenant Portal. You should read such forms with this Tenants' Guide and the rest of this Lease. Even if your contractor signs such forms or makes any payments that are due, you will still be responsible for keeping to the terms of such forms, this Tenants' Guide and the rest of this Lease.
- 1.6. You must pay all fees, charges, costs and expenses arising from any obligations you have under this Tenants' Guide, including, if this applies, Interest on outstanding payments you owe, liquidated damages (that is, damages which you and we have previously agreed upon) under annex A, and any fees or expenses as required under the forms. We may deduct these payments from any deposits you have paid under this Tenants' Guide and the rest of this Lease.
- 1.7. You must make all payments by cheque to the respective building owners (for properties belonging to non-listed Capitaland entities) or 'HTSG A/C ASCENDAS REIT' (for properties belonging to Ascendas Real Estate Investment Trust (the **'REIT'**)). We do not allow cash payments.

2. General requirements

- 2.1 All Tenant's Works must be carried out in line with this Tenants' Guide.
- 2.2 You must apply for the Tenant's Works permit before starting any works at the Premises and must fill in the application for Tenant's Works permit (found on the Capitaland Business Park & Industrial Tenant Portal) and submit the application to the designated management office of the Building for approval.

3. Tenant's Works - submitting plans to our representative

3.1 Types of plans

If you need our approval for the proposed Tenant's Works, you must submit all relevant plans to **ASPL**, including (if this applies) the following:

- 3.1.1 the partitioning, false-ceiling layout and machines/equipment layout plans;
- 3.1.2 the air-conditioning and mechanical ventilation (**'ACMV'**) plans;
- 3.1.3 the plumbing and sanitary system plans;
- 3.1.4 the electrical plans; and
- 3.1.5 the fire-alarm and fire-protection plans.

3.2 Plans - contents and other requirements

You must make sure that all the plans you submit are in line with the following.

3.2.1 Partitioning, false-ceiling layout and machines and equipment layout plans

- (a) Plans must show:
 - (i) the dimensions of the Premises and the rooms in the Premises, including the height of each room;
 - (ii) the layout of the non-combustible partitions and false ceilings;
 - (iii) how you plan to use the floor space;
 - (iv) the type of materials you will use;
 - (v) the exact location, descriptions, dimensions (length, width and height) and operating weight of any machinery and equipment you will be installing;
 - (vi) details of vibration and sound insulation;
 - (vii) the dimensions and locations of storage areas, storage racks, passageways, overhead cranes, washing facilities (including water pipes), waste pipes, exhaust fans, work benches and fire escapes;
 - (viii) the location of exit lighting, exit and directional signs and whether these signs already exist in the locations shown or whether these are proposed locations; and
 - (ix) the location of fire extinguishers and whether these are proposed or actual locations of the fire extinguishers. The plans must also show the types and ratings of the fire extinguishers.
- (b) All plans must be coloured as follows:
 - (i) partitions and false ceilings - brown;
 - (ii) fire extinguishers, exit and directional signs - red;
 - (iii) partitions and ceilings to be removed - yellow dotted line;
 - (iv) machinery and plant equipment installations - blue; and
 - (v) work benches - brown.

3.2.2 ACMV plans

- (a) Plans must show:
 - (i) the layout and dimension of all ducts and equipment to be installed;
 - (ii) the sectional elevation of all ducts and equipment to be installed;
 - (iii) the mounting and suspension details of all installations;
 - (iv) the schedule of equipment outlining the cooling capacity, air flow, weight and dimensions and insulation works against condensation, where necessary (the as-built drawings must indicate the room temperature set-point of the Premises and the room temperature must be maintained between 23°C and 25°C); and
 - (v) all new and existing positions of air-conditioning ducts, air diffusers and return-air outlets.
- (b) All ACMV plans and 'as-built' drawings must indicate the room temperature set-point. If the intended or operating temperature is below 23°C you must provide us with the necessary insulation works proposal and plans, and such insulation works proposal and plans must be endorsed by a qualified person to confirm that the insulation works is adequate to prevent condensation.

- (b) You must allow Our Authorised People into the Premises at all reasonable times to make any alterations or additions to the Premises that are needed in order for the Authorities to issue the CSC.
- (c) If the CSC application is rejected or otherwise withheld or delayed as a result of any deviation from the as-built plans, alteration, addition or installation carried out or caused to be carried out by you without our permission or as a result of any act or failure on your part, we may give you written notice requiring you to put this right within 14 calendar days. If you fail to keep to the requirements set out in our notice within 14 calendar days, we and Our Authorised People may enter the Premises to make any alterations or additions to the Premises required by the Authorities. We will recover from you the costs and expenses of such alterations or additions, together with Interest from (and including) the date of the costs and expenses up until (and including) the date they are paid. (We will recover such costs and Interest as if they were rent arrears.)

3.3 Submitting plans

- 3.3.1 You must send all the necessary plans with a covering letter to the designated management office of the Building.
- 3.3.2 The covering letter must state:
 - (a) the address of the Premises where proposed Tenant's Works will be carried out;
 - (b) the number of sets of drawings you are submitting; and
 - (c) the name and contact number of the person responsible for the plans.
- 3.3.3 You must submit at least four sets of fully dimensioned plans in A1 or A2 size and one set in softcopy in CAD or PDF format. We will keep two sets of the plans for our records and return the remaining sets of the plans to you after we have approved the plans.
- 3.3.4 Each set of plans must show:
 - (a) the subject unit within the Building in relation to the particular floor where the subject unit is located; and
 - (b) the plans, sections and elevations of the proposed Tenant's Works (scale 1:50 or 1:100).
- 3.3.5 All proposed Tenant's Works must be colour coded. All existing Tenant's Works which you propose to demolish or dismantle must be shown in yellow dotted lines.
- 3.3.6 All submitted plans must clearly show your company rubber stamp and the name, designation and signature of anyone you have authorised to sign on your behalf.
- 3.3.7 All submitted plans must include the name and signature of the Qualified Person who prepared them. A 'Qualified Person' is defined under the Building Control Act (Cap. 29) as a person who has a practising certificate and is registered as an architect under the Architects Act (Cap. 12) or a professional engineer under the Professional Engineers Act (Cap. 253).

4. **Tenant's Works - structural endorsement**

If the proposed Tenant's Works involve the structural integrity of the Building, a professional engineer with a valid practising certificate issued under the Professional Engineers Act (Cap. 253) ('Professional Engineer') must endorse the plans with the following statement.

"I have inspected the building and investigated its overall structure and, in my opinion, the building is capable of resisting the forces and moments which may be increased and altered due to the repairs, alterations, or additions shown on these plans. I will also supervise the works and submit a Certification of Supervision once the works are completed."

5. Tenant's Works - approval of Authorities

- 5.1 You must get, keep in force and give us all necessary approvals from the Authorities for carrying out the proposed Tenant's Works.
- 5.2 You must get clearance forms from the Authorities and submit the forms to **ASPL** before starting the Tenant's Works. If you apply for and get approvals for the plans electronically, you must submit two sets of the plans endorsed by the Professional Engineer with the fire-safety certificate reference number shown on the plans. You must make sure that all plans you provide are approved by the Authorities before you start the Tenant's Works, including getting approval for all partition and fire-alarm plans from the Fire Safety and Shelter Department.
- 5.3 We will check that any plans you submit to **ASPL** keep to our requirements. Our approval should not be taken as approval by the Authorities.
- 5.4 You must get, keep in force and give us proof of the Fire-Safety Approval.

6. Tenant's Works - Tenant's Works Deposit

- 6.1 If we ask you to, you must pay us a Tenant's Works Deposit for carrying out any Tenant's Works. You must do this by the date we inform you. You must pay us the initial Tenant's Works Deposit as set out in schedule 1 of the Standard Covenants, when the Lease is signed.
- 6.2 The Tenant's Works Deposit is a security payment we require to make sure that you:
 - 6.2.1 carry out and complete the Tenant's Works in line with the Lease; and
 - 6.2.2 make good, to our satisfaction, any damage to the Premises, Building and Park resulting from the Tenant's Works.
- 6.3 If you do not keep to your obligations under the Lease when carrying out the Tenant's Works, we may carry out the necessary works to put the situation right or make good any damage, and use the Tenant's Works Deposit to pay the costs and expenses of that work. If the Tenant's Works Deposit is not enough to cover the cost of the work, you must pay us immediately, when we inform you, the difference between the costs and expenses of the work and the Tenant's Works Deposit. To avoid any doubt, we may use the Security Deposit to pay the costs and expenses of any work we carry out under this clause or any Losses we suffer as a result of you not keeping to this Tenants' Guide.
- 6.4 Before you start operating from the Premises and in any case, by no later than the Start Date, you must give us:
 - 6.4.1 the relevant plans;
 - 6.4.2 appropriate architect, engineer, qualified person or consultant certificates to confirm that the work has been carried out to the necessary standards; and
 - 6.4.3 the fire-safety approval.

If you fail to do this, we may require you to forfeit (that is, give up the right to claim) the Tenant's Works Deposit or impose liquidated damages (that is, damages which you and we have previously agreed upon) as set out in annex A (or both). You will also have to pay for any penalty fees imposed by the Authorities.
- 6.5 We will refund the Tenant's Works Deposit to you within one month after we are satisfied that there are no outstanding obligations under this Lease, and after:
 - 6.5.1 the Tenant's Works have been completed in line with the Lease and you have submitted the relevant plans and Fire Safety Approval required under this Tenants' Guide;
 - 6.5.2 you have met all our requirements in respect of the Tenant's Works;
 - 6.5.3 you have made good any damage to the Premises, Building and Park, to our satisfaction; and
 - 6.5.4 we have deducted any amounts owing under the Lease.

However, this will not affect any other rights we may have if we find you still owe us money or have not kept to the Lease after we return the Tenant's Works Deposit to you.

6A. Tenant's Works - insurance

- 6A.1 Before starting any Tenant's Works, you must take out and maintain an all-risks policy and a comprehensive public liability insurance policy against claims for personal injury, death, property damage or Losses arising out of the tenant's works in the joint names of us and your contractors for our and their rights and interests. Each insurance policy must provide cover of at least S\$2,000,000.00 (or any higher amount we notify you) for any one event and it must be effective for the entire period of the Tenant's Works. You must use a reputable insurance company, and each policy must include a cross-liability clause (that is, a clause which allows an insured party from claiming against another insured party if they are both covered by the same insurance policy).
- 6A.2 You must give us copies of such policies under clause 6A.1 if we ask for these. However, giving us these copies will not be considered as us knowing about any terms of such policies under clause 6A.1 and will not in any way reduce or affect your obligations under this clause.

7. Carrying out Tenant's Works

7.1 Appointing a contractor and supervisor for buildings under warranty or before the CSC is issued

- 7.1.1 For newly completed buildings which have yet to obtain the Certificate of Statutory Completion ('CSC') or buildings which are still under the defects liability period or warranties issued by the original equipment manufacturers, you must appoint our base build contractors and consultants to design and supervise the Tenant's Works to avoid the existing warranties and CSC application becoming null or void (that is, in a state as if they never existed). If you want to employ your own Qualified Person to design and supervise the Tenant's Works, the original contractors and consultants for the Building must check and approve this and you must pay all fees for this directly to these contractors and consultants. You must cover all other professional fees and charges we have to pay relating to the Tenant's Works. You must pay these to us within seven days of us or **ASPL** informing you the amount (or amounts) due.
- 7.1.2 If you want to appoint any other contractors or consultants to carry out the Tenant's Works, you must get our approval before doing this. We will be reasonable when considering whether to give our approval. Any such contractor or consultant you appoint will not be treated as our employee or agent.
- 7.1.3 Throughout the period of the Tenant's Works, you must appoint appropriate Qualified People to design the Tenant's Works, supervise the Tenant's Works and the conduct of the workmen, and take instructions from us and **ASPL** relating to the Tenant's Works.
- 7.1.4 If any of your contractors or subcontractors create a nuisance or persistently ignore our or **ASPL**'s instructions, we will not allow them to enter the Building or the Premises.
- 7.1.5 You must make sure that the contractors and subcontractors you appoint to carry out the Tenant's Works do not use the Premises in any way for any residential purposes (temporary or otherwise).

7.2 How the Tenant's Works should be carried out

7.2.1 General execution of the work

You must carry out and complete the Tenant's Works:

- (a) in line with the plans and specifications approved by us, the appropriate architect, engineer, Qualified Person or consultant and the authorities, if it applies;
- (b) in a good and workmanlike manner in line with good building practice;
- (c) so as not to obstruct or be a nuisance to the other tenants, licensees or occupiers of the Building, the Park or the surrounding areas; and

(d) in line with the Law

7.2.2 General manner

When carrying out the Tenant's Works, you must make sure that:

- (a) any rough and wet works (for example, plastering) are kept to a minimum and carried out only within the Premises;
- (b) the Tenant's Works do not create excessive dust or noise and do not produce hazardous conditions;
- (c) all painting works are carried out after office hours and with necessary equipment to help ventilation or with odourless paint (if we approve this);
- (d) the Premises and other areas affected by the Tenant's Works are kept clean and free from all pests at all times;
- (e) you do not exceed the floor loading limit (design live load) that is allowed in the Building; and
- (f) the shopfront design of the Premises is in line with any guidelines we set, if this applies.

7.2.3 What you must not do

You must not, in any case:

- (a) change the appearance (including the colour and type of all parts) of the outside of the Premises (including the doors, windows, walls and grilles) in any way;
- (b) temporarily store materials outside the Premises or in the Common Areas;
- (c) install anything (for example, your equipment, ducting, racks, installations) onto the structural members (supports) above the floor level of the Premises;
- (d) fasten your equipment onto the floor of the Premises using hold-down bolts which penetrate more than 50mm into the floor slab of the Premises; or
- (e) dispose of leftover cement, mortar or slurry in toilets, basins or floor traps in the Premises.

7.2.4 Common area

- (a) All Tenant's Works must be carried out only within the Premises, and no Tenant's Works are allowed outside the Premises or in the Common Areas. You must get our approval before starting any works outside the Premises or in the Common Areas.
- (b) If we give our approval for you to carry out Tenant's Works outside the Premises or in the Common Areas, you must adequately protect all finishes and installations (such as doors, lifts and wallpaper) in the Common Areas to prevent damage to the Common Areas caused by the Tenant's Works. The protective steps you are required to carry out include those set out in annex 8 .
- (c) Your contractors' and subcontractors' workmen must stay within the Premises and must not loiter in the Common Areas (for example, lobbies and staircases) during their break times.

7.2.5 Installations in the Common Area

If we approve any installation works in the Common Areas of the Building, you must keep to the following conditions.

- (a) You are not allowed to hack or drill into the roof slab.

- (b) All installations in the Common Areas must sit on a concrete plinth at least 150mm thick. The concrete plinth must be properly spring loaded, and buffered if necessary, to prevent any vibration from passing beyond the Premises.

- (c) All pipework must run at least 300mm above the surface of the Common Areas.
- (d) All installations must be screened from view with suitable materials to match the existing facade of the Building.
- (e) You must, if necessary, shift or relocate such installations to allow us or Our Authorised People to carry out any necessary works.
- (f) We have the right to ask you to remove any installations.

7.2.6 Disposing of debris

- (a) You must make sure that all debris created by the Tenant's Works is removed at the end of each day.
- (b) You must store debris in such places as we may inform you while waiting to dispose of it. You must not dispose of debris at our bin centre.
- (c) We may require you to bring a refuse bulk bin onto the Premises to hold such debris and you must arrange to dispose of such debris on your own.

7.2.7 Using toilets

You must make sure that cement is not mixed in the toilets (whether the toilets are in the Premises or outside the Premises) and that the toilets are kept clean.

7.2.8 Using cargo and service lifts

You must make sure that only cargo and service lifts are used to move materials and debris and that passenger lifts are not used for this purpose. You must adequately board and protect the cargo and service lifts before using them for this purpose. The protective steps you are required to carry out include those set out in annex B.

7.2.9 The Workplace Safety and Health Act

- (a) You must make sure that you and your contractors, subcontractors and consultants keep to the Workplace Safety and Health Act (Cap. 354A) (**'WSH Act'**) and the Workplace Safety and Health (Risk Management) Regulations, and that your contractors, subcontractors and consultants appointed to carry out the Tenant's Works have achieved at least a bizSAFE Level 3 certification. You may refer to the Ministry of Manpower website for more information about the WSH Act.
- (b) Without affecting clause 7.2.9(a) of this Tenants' Guide, you must make sure your contractors submit to **ASPL** the following before starting the Tenant's Works.
 - (i) A risk assessment report for the proposed Tenant's Works
 - (ii) The relevant safe-work procedures
 - (iii) The method statements
 - (iv) A list of your contractors and subcontractors
 - (v) The Professional Engineer's endorsement of the Tenant's Works
- (c) Without affecting clause 7.2.9(a) of this Tenants' Guide, we must approve such hot works (for example, welding and associated work) before they are started. The hot works must be kept to a minimum to reduce the risk of fire and to avoid activating the fire-alarm system in the Building. You must submit to us your hot works permit (found in the Capitaland Business Park & Industrial Tenant Portal) and we must approve it before you start any hot works at the Premises. You will be liable for any false or accidental activation of the fire alarm or fire-sprinkler system.
- (d) All hoisting works must be carried out in line with the Factories Act (Cap.104, repealed in 2006) (if this applies) or WSH Act (or both), all relevant regulations and Authorities' guidelines and directives. For example, you must provide safety equipment such as harnesses, safety belts, safety helmets, safety gloves, air masks and safety glasses during such hoisting works. You must submit to **ASPL** all relevant documents to certify that the hoisting works meet the necessary standards, insurance policies, risk assessment reports and method statements before starting such works.

7.2.10 The Fire Safety Act and Fire Code

- (a) You must make sure that you and your contractors and consultants keep to the Fire Safety Act (Cap. 109A), the Fire Code (**'Fire Code'**) of the Singapore Civil Defence Force (**'SCDF'**) and all other relevant regulations.
- (b) You must make sure that fire escape routes, hose reels and other fire-fighting equipment are not obstructed during the Tenant's Works.
- (c) The **Fire Code** regulates the allowable space between the suspended ceiling and the soffit of the concrete floor above. Combustible materials are not allowed within the ceiling space. Ceilings must be constructed from non-combustible materials approved by the Fire Safety and Shelter Department.
- (d) You must keep to the **Fire Code's** requirements on the position of walls and partitions in relation to sprinkler heads.
- (e) The layout of the inside of the Premises must be designed in such a manner so as not to obstruct existing exits, exit staircases, fire escape routes, fire-hose reel cabinets and other fire-fighting equipment.

7.2.11 Fire alarm and fire-protection system

- (a) The fire-alarm system in the Building is linked to **SCDF** through our monitoring station. You must get our approval before rewiring, replacing or modifying any fire-alarm fixtures and fittings or installing additional fire-alarm systems.
- (b) In order to check that the fire-protection system has been completed, after any addition or alteration works are completed you must carry out a joint testing of the fire-protection system with our approved contractor.
- (c) You must not modify, alter, add on to or interfere in any way with the automatic sprinkler system or heat-detector system or speakers for the Life-Safety Public Addressing System (all of which have been designed in line with the requirements of the **Fire Code**) without our approval.
- (d) The Premises have been installed with the required number of sprinkler heads (if this applies) in line with the **Fire Code**. You must get our approval before making any additions or alterations to the sprinkler heads. If we give our approval, the positions of new or relocated sprinkler heads must be designed and installed by a Professional Engineer appointed by you, and the installation must keep to all relevant regulations, including the **Fire Code**.
- (e) You must get our approval before carrying out works to isolate the Building's fire-protection system. If we give our approval, you must keep to the following conditions (and any other terms and conditions we set), when isolating the Building's fire-protection system.
 - (i) Isolation is necessary only for works which will *affect* the ceiling of the Premises.
 - (ii) You must provide a fire-protection plan to establish any risks involved, a fire watch (a designated person in the Premises to alert the fire service of any likelihood of fire or actual fire), temporary fire-protection equipment (such as adequate portable fire extinguishers and fire blankets of an appropriate rating) and an escalation plan (a plan to set out what action people should take if a fire breaks out, including reporting the fire to us and the relevant Authorities and taking action to contain the fire to prevent further losses).
 - (iii) Isolation must be kept to a minimum and must be carried out from Mondays to Saturdays only, and not during Sundays and public holidays.
 - (iv) All isolation must be completed within the same day and the fire-protection system must then be made to work again.
 - (v) You must give us written notice at least three business days before the isolation.
 - (vi) You must appoint a fire-protection contractor approved by us to drain and recharge the sprinkler system in the presence of ASPL.
 - (vii) In addition to the fire-protection contractor's charges, you must pay our charges of S\$400.00 (not including GST) each time the sprinkler system is drained.

7.2.12 Supply of electricity and water

- (a) You must carry out all electrical installations, including any replacements or repairs that are needed from time to time (for example, electrical meters, tap-out boxes, wiring, electric bulbs). You must submit to us, and we must approve, such electricity application before you carry out any electrical installation.
- (b) If you need an electrical design load that is higher than what is available at the Premises, you must apply to us for such a request. We may consider your application if there is additional electricity available under the Building's power supply. If we approve your request, you must keep to the terms and conditions we set.
- (c) You must pay all costs and expenses for the supply of the higher electrical design load. You will not have any claim against us for any delay in the start of your operations arising from your requirement for a higher electricity design load.
- (d) You must apply for drinkable and non-drinkable water from the **PUB**.
- (e) You must not tap (that is, take from) our emergency electrical and generator supply.
- (f) You must carry out all plumbing works for extra water supply, including installing water meters.

7.2.13 Mechanical and electrical installations

- (a) You must get our approval for all proposed mechanical and electrical (**'M&E'**) installations, before carrying out the works. When applying for our approval, you must provide detailed drawings, plans and method statements for the proposed installations, and the endorsement of a Professional Engineer.
- (b) You must pay all costs arising from M&E installations, including costs relating to installing, maintaining, calibrating, repairing and operating the M&E installations (for example, British Thermal Unit (**'BTU'**) meters, pump-sets, dehumidifiers, flow meters).
- (c) All wiring (to be colour-coded) must be concealed and housed in steel conduits in line with SP Power Grid Ltd's (**'Power Grid'**) requirements and regulations.
- (d) You must arrange access into the Building's service risers with us and you must have our approval before carrying out any works within the service risers.
- (e) All electrical works must be carried out by an Energy Market Authority registered electrician or contractor (**'LEW'**), and the **LEW** must test the installation.
- (f) You are not allowed to tap directly from our main air-conditioning duct unless you get our approval beforehand.
- (g) All pipes or ducts, if any, must be installed in the vertical service ducts provided or properly located and concealed from view to our satisfaction.
- (h) You must use properly fused electrical plugs to draw electricity from the power points located along the shared corridors. You must not insert exposed wiring terminals into the plug sockets to draw an electricity supply.

7.2.14 Hacking, drilling, demolition and noisy works

- (a) You must not carry out Tenant's Works involving hacking of the floors, walls, beams or any other structural elements of the Premises, the Building or the Park without first getting our approval. You are not allowed to hack or cut through pre-stressed concrete flooring of the Premises or the Building.
- (b) If we give our approval to any proposed hacking works:

- (i) you must inform us before carrying out any hacking, drilling, demolition or noisy works;
- (ii) if you plan to carry out Tenant's Works involving hacking, drilling or demolition works, you must install proper portable ventilation fans first; and
- (iii) if the hacking, drilling, demolition and noisy works affects other tenants', licensees' or occupiers' operations, you must not carry out the works during the other tenants', licensees' or occupiers' business hours (that is, the works must be carried out after 6pm on weekdays and after 2pm on Saturdays, Sundays and public holidays).

7.2.15 Plumbing and sanitary works

- (a) You must make sure that all plumbing and sanitary works (including works to the existing plumbing and sanitary system) are designed by a Professional Engineer and carried out and installed by a plumber licensed by the **PUB** (you must appoint both the Professional Engineer and the plumber). Such design and installation must be in line with the Authorities' regulations and requirements.
- (b) You must allow us and **ASPL** access to all floor traps, grease traps, rainwater downpipes, waste pipes, water supply pipes and toilets to carry out maintenance if there is a blockage in any common pipes.

7.2.16 Partitioning works

- (a) When carrying out partitioning works you must:
 - (i) seal up all supply and return grilles to prevent outside air from entering the main air-conditioning ducting system (infiltration);
 - (ii) install proper portable ventilation fans before starting the Tenant's Works;
 - (iii) make sure that all sideboards or cupboards along the window bays are no higher than the windowsill; and
 - (iv) make sure that all partitions next to the window frames end at the window mullion and are not deeper than the width of the mullion.
- (b) You must not puncture any part of the aluminum window frame when fixing any dry wall partitions.
- (c) All fixed partitions and all built-in cupboards ending at the window panels must not prevent hinged windows from opening fully.

7.2.17 Structural works

If we have given our approval for Tenant's Works involving the structure of the Building (for example, drilling (coring) through reinforced concrete floors), you must, where possible, appoint our original structural consultant for the Building.

7.2.18 Air-conditioning installation works

- (a) You may install air-conditioning units and equipment only in areas we designate (for example, on the rooftop of the Building) or in areas we approve.
- (b) We may ask you to install screens around the air-conditioning units or equipment (or both) to make sure that the desired look of the Building is maintained.
- (c) If we ask you to install air-conditioning meters, you must appoint contractors licensed by the Authorities to carry out air balancing within the Premises and the Building (if this applies) after the air-conditioning systems are installed.
- (d) You must make sure that the temperature of the air-conditioning units is kept between 23°C and 25°C.

- (e) You must carry out proper insulation works to make sure that using air-conditioning units does not result in condensation, both inside and outside the Premises. Such installation works are

compulsory for operating temperatures below 23°C, to prevent condensation in Common Areas and units used by other tenants.

- (f) You must provide enough return air grilles for all rooms partitioned (an appropriate Qualified Person must approve the design).
- (g) If the cooling capacity of an air-conditioning system you want to install is more than 30kW, you must get authorisation from a Professional Engineer before carrying out the works.
- (h) If you fail to keep to this clause 7.2.18 of this Tenants' Guide, you must pay all costs and expenses for any works required to make good or maintain (or both) the finishes of the fixtures and fittings (whether inside or outside the Premises) which arise as a result.

7.2.19 Chilled-water supply system (if it applies)

- (a) You must not install or connect any monitoring or control systems to our chilled-water supply or return pipes (or both).
- (b) You must not tap (take) chilled water from the chilled-water supply and return risers, air-handling units and headers without first getting our approval. If we give our approval, the following rules apply.
 - (i) You are responsible for flushing the lines, making good all faults and damage arising from tapping into the chilled-water supply and making good all faults and damage caused by installing, operating, maintaining and repairing your chilled-water fan coil units.
 - (ii) You must arrange for a chilled-water lab tester (approved by the Authorities) to carry out a water test of the relevant segment before tapping into the chilled-water supply.
 - (iii) You must carry out another test at the end of the tapping exercise and you must make sure that the test report is in line with our requirements and the chilled-water supplier's requirements. If the test report results do not keep to our and the chilled-water supplier's requirements, you must carry out any actions that are necessary to bring the tests in line with such requirements.
 - (iv) You must keep to the technical specifications of the district cooling system (if this applies) when tapping into the building's chilled-water supply. You can obtain a copy of the specifications from the designated management office of the Building.

7.2.20 Inspection of additional installations

If you have carried out installations in the Premises (including installations under clause 9 of this Tenants' Guide), you must not start operating from the Premises until after we have carried out a final inspection of your installations and have given our final approval.

8. Tenant's Works - as-built plans

When the Tenant's Works are finished, you must give us a complete set of plans showing the 'as-built and as-installed' condition and recording the exact locations of all partitions, wirings, pipes, air-conditioning systems, air-conditioning ducts, inlets and outlets, grease traps, exhaust fan systems, fire-protection devices and all other fittings and fixtures you have installed.

9. Installations and works to be carried out by you

9.1 Meters

- 9.1.1 You must appoint a qualified contractor to install and test the electricity, water and chilled-water meters (**'meters'**) relating to the Premises. You must get our approval, and where required, the relevant Authorities' approval before such installation works and testing are carried out. To avoid any doubt, the costs and expenses you must pay include, without limitation, the submissions to, endorsements by and attendance of our **LEW**. You must pay the cost of linking such meters to our building management system (**'BMS'**) if this applies.

- 9.1.2 You will be responsible for maintaining, repairing and replacing the Meters during the Term (including any Rent-Free Period) and you must not tamper with, or do anything which may affect the accuracy of the meters.
- 9.1.3 You must pay all connection and turning-on fees whether these are due to us, the Authority or any other person.
- 9.1.4 You must install a **BTU** meter(or meters) to measure how much chilled water you use. If the **BTU** meter fails for any reason, your chilled-water bill will be based on your average use over the preceding three months (or any other period we set) immediately before the meter failed. You must get the **BTU** meter from, and it must be installed by, the existing **BMS** vendor. You must regularly maintain the BTU meter serving the Premises, including arranging for the calibration of the BTU meter by the original manufacturer (**OEM**) or its authorised agent.

9.2 Thermal insulation and heat-extraction system

- 9.2.1 You must install heat-extraction systems and adequate thermal insulation to the external walls, floors and ceilings inside or outside the Premises if your activities may result in:
 - (a) condensation on the floors, ceilings or walls of the Premises, adjoining premises or Common Areas or other parts of the Building; or
 - (b) excessive heat or heat which causes or may cause undue discomfort to us, our other tenants or the occupiers of any adjoining or other premises in the Building, Park or surrounding buildings.
- 9.2.2 You must get our approval before installing thermal insulation and heat-extraction systems. We must also approve the proposed method of installation.

9.3 Fire-safety installations

- 9.3.1 You must, where necessary, install and maintain exit lights, exit signs on staircases, exit passageways and the exits of the Premises. Any fire-safety signs must be installed in line with the requirements of the **Fire Code** and any other relevant regulations.
- 9.3.2 You must carry out such modification works on the existing fire-alarm system (including wirings) or existing fire-protection system (including sprinklers and hose reels) in the Premises that are necessary to suit your operations and to keep to the **Fire Code**. This includes installing additional wiring and connecting the sprinklers and fixtures to our common fire-alarm system. You must keep to clause 7.2.11 of this Tenants' Guide when carrying out such modification works.
- 9.3.3 You must install the required fire extinguishers in the Premises with labels approved by TÜV SÜD PSB Pte Ltd or Standards, Productivity and Innovation Board Singapore in line with the **Fire Code** and any other relevant regulations.

9.4 Electrical switch and distribution boards

You must install an electrical switch board and distribution board and other similar equipment to the Premises as we may instruct you to, including overcurrent protective devices in our switch room in the Building and overcurrent and earth-leakage protective devices in the Premises.

9.5 Electrical installations

You must carry out all electrical installations (for example, private electrical meters, wirings, cable trays).

9.6 Plumbing and sanitary works

You must carry out all plumbing and sanitary works at or for the Premises.

9.7 Exhaust shaft and chimney (if this applies)

If you want to, and as long as you get our approval, you must install at the opening of the dedicated exhaust shaft or chimney to the Premises (and at such other intervals as may be necessary) your own exhaust equipment, fans,

and other necessary equipment and utility connections to properly and efficiently extract gases or steam from the dedicated exhaust shaft or chimney. You must keep to clause 7.2.5 of this Tenants' Guide when carrying out such installation works. You must pay us for any electricity you use on the rooftop at a rate we set.

9.8 Telecommunication facilities

You must do the following.

- (a) Make direct applications to a telecommunication company for installing any telephone facilities at your own cost and expense, including paying any deposits and all charges (including Taxes) relating to such telecommunication facilities direct to the relevant Authorities and the telecommunication company.
- (b) Not run the wires for any telecommunications facilities in the Premises across the floor or ceiling or along the walls of the Premises or any other part of the Building or the Common Areas unless you have our written permission to do this.
- (c) Install any connection to the nearest communication risers that is necessary for your own telephone systems and pay any related costs, as we will not be providing the Premises with any telephone trunking and conduit system. Before starting any such installation works, you must give us the layout plan of the telephone trunking and conduit system for our approval. You must apply for your own telephone lines, and pay any costs involved.
- (d) Not install extra trunking, conduits or cables other than those provided by Info-communications Media Development Authority ("IMDA") or those approved by **IMDA** and us.

9.9 Machines and apparatus

9.9.1 You must not do, or allow anyone else to do, any of the following without first getting our approval and (if this applies) the Authorities' approval.

- (a) Install any of the installations or equipment mentioned in clause 9 of this Tenants' Guide, including an air-conditioning system, ventilation system, air-exhaust system, fume hoods, electrical system, telecommunication equipment, or plant, machinery, fixtures, fittings, equipment or other installations ('Your Installations') in the Premises.
- (b) Alter, remove, add or in any way interfere or tamper with fixtures, fittings and installations, including Your Installations in the Premises, any existing fire alarm and extinguishing system, ventilation system, air-conditioning system, walls or floor finishes (including any tiles), pipes, wiring, equipment, power and light points and outlets.

9.9.2 You must inform us once installation of Your Installations is finished.

9.9.3 Without affecting clause 9.9.1 of this Tenants' Guide, you must not install any machines, installation, equipment or apparatus in the Premises which cause a heavy power surge, high-frequency voltage, high noise, fumes, current, vibrations or any harmonic, electrical, magnetic or mechanical interference or disturbance which:

- (a) can be heard, smelled or felt outside the Premises;

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(b) prevents the service or use of any computer or communication system; or

- (c) affects the operation of other equipment, installations, machinery, apparatus or plants belonging to us, other tenants or occupiers of the Premises or of adjoining or neighbouring premises of the Building, the Park or the surrounding buildings.

9.9.4 You must install a power-line conditioner, voltage regulator, any extra electric equipment or such other equipment we ask for to reduce or correct any power surge, frequency voltage, noise, fumes, current, vibration or any harmonic, electrical, magnetic or mechanical interference or disturbance.

10.2

10.3

10. Maintenance you must carry out

10.1 Maintaining the inside of the Premises and Common Area

10.1.1 You must maintain all parts of the Premises, including:

- (a) the internal light fittings and equipment or fittings;
- (b) the floor traps;
- (c) the grease traps (where these apply);
- (d) the sumps (where drainage is collected);
- (e) the exhaust shaft or chimney;
- (f) the electrical distribution boards (including fixing electrical faults);
- (g) the doors to the Premises (including all door fittings and the lock system);
- (h) the windows in the Premises;
- (i) dedicated bus-duct (sheet metal duct which conducts a substantial current of electricity) immediately after your electricity meter or meters, which serves only the Premises; and
- (j) air-conditioning units, including variable air volume boxes and the relevant air-conditioning equipment where these apply (including air-conditioning diffusers, piping, ducting, switches, controls and meters).

10.1.2 You must maintain all installations in Common Areas, including repairing any damages, making good any finishes on or beneath the affected area, or removing or replacing such installations where required.

10.1.3 You may appoint our contractor or your own contractor to maintain the Premises.

10.1.4 You must, if we ask you to, provide the maintenance and service records or reports (or both) for the above clause 10.1.1 (a) to (j) (if this applies).

10.2 Maintaining the fire alarm and fire-protection system

10.2.1 You must maintain the fire-alarm devices in the Premises and make sure that the fire-alarm system is serviced every month and maintained in good condition at all times and in line with the **Fire Code**.

10.2.2 You must maintain the fire-protection system (whether or not we provided this) in the Premises (including fire extinguishers, sprinkler system, public address speakers and fire-hose reel systems) as required by the Authorities and in line with the **Fire Code**.

10.2.3 You must pay all fees to maintain the fire-protection system in the Premises, including fees to **SCDF** for attending to any false alarms which come from the system in the Premises.

10.2.4 You must regularly maintain all fire equipment and installations and must make sure that all replacement parts are made of material of similar or better quality in line with the **Fire Code**.

10.3 Maintaining exhaust equipment (if this applies)

You will be responsible for the efficient use and proper maintenance of exhaust shafts and chimneys, installed exhaust equipment, fans and any other necessary equipment and utility connections.

10.4 Maintaining the electrical system

Whether your electricity supply is supplied direct from us, from Power Grid or bought from another retailer, you must appoint the Building's **LEW** to inspect, maintain and be responsible for the electrical installation in the Premises to make sure that the electrical installation is safe to operate.

10.5 Maintaining the air-conditioning system

If we have provided air-conditioning units for you within the Premises, you must:

10.5.1 carry out routine maintenance of the air-conditioning units we have provided at the Premises (the 'air-conditioning units') at least once every three months during the Term (to avoid any doubt, routine maintenance includes servicing and repairing the air-conditioning units);

10.5.2 make sure that the air-conditioning units are in good working order at all times during the Term;

10.5.3 maintain in good and working condition all of our piping, ducting, connections and equipment which are related to the air-conditioning system serving the Premises, whether these are located inside or outside the Premises (the 'air-conditioning system'); and

10.5.4 replace all spoilt or non-working parts of the air-conditioning units and the air-conditioning system with new parts (not second-hand or reconditioned parts).

11. Using the Premises and operations

11.1 Preventing obstruction

11.1.1 You must not cause any obstruction to the Common Areas (including common stairways, passageways and other common parts in the Building), other Premises in the Building, the Building itself, the Park, or surrounding buildings, including common driveways and ramps.

11.1.2 We have the right to remove any obstruction you cause and you must pay all our costs and expenses of doing this. You will not have any claim against us for any liability you suffer due to us removing such obstruction.

11.2 No storage of combustible substances

11.2.1 You must not place or store any toxic, dangerous, flammable or explosive or combustible substance in the Premises, in the Common Areas or anywhere in the Building without first getting approval from us and (where necessary) the Authorities.

11.2.2 You must not put or store any liquid petroleum gas cylinders in the Premises.

11.3 Toxic material

You must not carry out any processes which carry the inherent risk of spilling toxic materials, unless you have got special approval from the Authorities. If the Authorities have granted special approval, you must give us copies of the approval and material safety data sheet (**'MSDS'**) for our records. You must inform us when there are any changes to the quantity or type of chemicals or materials inside the Premises, and must give us updates every year.

11.4 Disposing of debris, water and rubbish

11.4.1 You must not discharge (release), dump, leave or burn any debris, waste or refuse ('Such Waste') including pollutants or contaminants, whether biohazardous, chemical, radioactive or otherwise, into surface or other drains, watercourses, the Building, Park or surrounding area without our and the relevant Authorities' approval. You must make sure Such Waste is promptly, safely, properly and efficiently disposed of to our satisfaction and in line with the Law.

11.4.2 Without affecting clause 11.4.1 of this Tenants' Guide, you must dispose of any such waste in line with our and the Authorities' requirements, including:

- (a) providing holding areas within the Premises for such waste before you dispose of it;
- (b) making sure your contractors follow the frequency and timing guidelines you set for disposing of such waste; and
- (c) submit to the Authorities written information and details about any waste liquid you need to dispose of for their consideration. You must get approval from us and the Authorities before you are allowed to discharge the waste liquid.

11.4.3 You must take all measures and precautions to:

- (a) capture, contain and, keeping to clauses 11.4.1 and 11.4.2 of this Tenants' Guide,

- (b) prevent such pollutants or contaminants from spreading into other areas of the Building or the surrounding areas, through the air, in a liquid or otherwise.

Where necessary, you must set up and maintain containment cabinets, rooms or devices, an exhaust ventilation system and, for hazardous areas (including animal holding areas, autopsy rooms and chemical laboratories), a negative pressure system, all to the satisfaction of us and the Authorities.

11.4.4 Without affecting clauses 11.4.1 to 11.4.3 of this Tenants' Guide, you must also keep to the following conditions (if they apply).

- (a) All Premises must have two bins that are lined with an appropriate plastic bag (one for normal domestic rubbish and one for food waste only). You must put all your domestic rubbish and food waste neatly into the appropriate plastic bags, tie the bags securely and bring them to our centralised bin centre for disposal.
- (b) You must arrange for waste which is not normal domestic rubbish or food waste to be disposed of off-site by the cleaning company you have appointed.
- (c) You must not dispose of food, food products and by-products into the floor traps in the Premises or the drains in the Building.
- (d) You must not bring any rubbish or waste from outside the Premises to our centralised bin centre for disposal.
- (e) You must not throw or empty anything out of the windows or doors of the Premises into the Common Areas.

11.4.5 If you fail to keep to clauses 11.4.1 to 11.4.3 of this Tenants' Guide, we have the right to dispose of such waste and you must pay for all our costs and expenses of doing this.

11.5 Wastewater

11.5.1 You must submit all information and details on the use of the Premises and waste-water discharge to the Sewerage Department or other Authorities for them to consider and clear in writing before you carry out such use and discharge.

11.5.2 If you are allowed to discharge any waste water into the Building's waste-pipe system, you will be responsible for carrying out regular checks and maintenance to make sure that the state, condition and quality of the system is maintained at all times.

11.5.3 If you fail to keep to clauses 11.5.1 to 11.5.2 of this Tenants' Guide, you must pay all the Authorities' penalties, costs and expenses which arise as a result.

11.6 Advertisements and signboards

11.6.1 You must not display any name, sign, notice or advertisement inside or outside the Premises (including the windows) which can be seen from outside the Premises, without first getting approval from us and (if necessary) the Authorities, unless it is in a style and manner and at a location we have already approved.

11.6.2 Without affecting clause 11.6.1 of this Tenants' Guide, you must get our approval for the location and design of any signboard before you display it.

11.7 Reducing pollution

You must take adequate measures to prevent air and other forms of pollution, and carry out measures to reduce such pollution if we or any Authorities ask you to.

You must not allow any vocal or instrumental music in the Premises which can be heard outside the Premises without first getting our approval.

11.9 Nuisance

You must not do anything in the Premises which is or may become or causes a nuisance, annoyance, disturbance or inconvenience to us or the other tenants, licensees or occupiers of the Building or Park or adjoining and neighbouring properties. or which cause or may cause damage to the Building or Park or adjoining and neighbouring properties.

11.10 Illegal purpose and no residential use You must not use the Premises for:

- (a) any dangerous, noisy or offensive business;
- (b) any illegal or immoral act; or
- (c) residential purposes.

11.11 No cooking (this does not apply if the permitted use is for food and drink). You must not cook or store food in the Premises.

11.12 No animals

11.12.1 You must not keep or allow anyone to keep any animal at the Premises without first getting approval from us and (where necessary) the Authorities.

11.12.2 If you have approval from us and (where necessary) the Authorities to keep animals in the laboratories in the Premises for experimental or research purposes, you must make sure that:

- (a) the animals are kept in areas we set aside for that purpose;
- (b) the care of such animals, including maintaining proper holding, quarantine and isolation rooms, cages, washing and shower areas, food, bedding and equipment storage and waste-disposal system, must keep to the Law and the Authorities' and our requirements; and
- (c) you take all measures to avoid or prevent the escape of such animals and the mixing of air from the holding, quarantine and isolation rooms into other areas of the Building or the Park.

11.13 No pests

11.13.1 You must keep the Premises free from pests.

11.13.2 You must enter into and keep in force during the Term a pest-control contract with companies approved by us to prevent or exterminate pests. You must make sure that the pest-control services are carried out at least once a month or as often as we may decide, and you must, if we ask you to, provide records of the monthly pest-control servicing reports.

11.14 No blockage

You must keep all pipes, drains, basins, sinks and toilets, floor traps and grease traps in the Premises clean and unblocked.

11.15 Odours

You must keep the Premises free from noxious or offensive odours.

11.16 Preventing infectious diseases

11.16.1 You must take all steps and courses of action to prevent an outbreak of any Infectious Disease (including fumigating and disinfecting the Premises) to the satisfaction of the Authorities. You must promptly keep to the Law and all requirements of the authorities to prevent any outbreak or spread of Infectious Diseases.

11.16.2 You must immediately give notice (together with any details and information as necessary) to us and the Authorities if you are aware or suspect that any person is suffering, has died from, is a carrier of, has come into contact with, or is at risk of infection from an Infectious Disease.

11.17 No overloading installations

11.17.1 You must not overload the lifts, electrical installations or Conducting Media (such as drains, sewers, conduits, flues, risers, gutters, gullies, channels, ducts, shafts, watercourses, pipes, cables, wires and mains) in the Premises, the Building, the Park and the surrounding areas.

11.17.2 You must not interfere with or impose an additional loading on any ventilation, air-conditioning or other plant (if any) serving the Building.

11.18 Curtain wall

On the cladding and curtain wall (if any) its frame structure and all related parts of the Building, you must not:

- (a) paint;
- (b) make any additions or alterations;
- (c) exert any force; or
- (d) load or place any structures or articles or materials;

which may cause strain, damage or interference with the structural parts, loadbearing framework, roof, foundations, joist, curtain wall or other related parts of the Building.

11.19 Windows

11.19.1 You must keep the windows of the Premises closed at all times when the Premises are air-conditioned.

11.19.2 You must not put any objects in the Premises where they can be seen from outside the windows of the Premises and which, we feel, are out of place, unsightly or may detract from the general appearance of the Building.

11.19.3 You must not cover the windows (other than with blinds or curtains we have approved), skylights, ventilating shafts or air inlets or outlets which reflect light or let light into the Premises or allow air to flow into or out of the Premises or any part of the Building.

11.19.4 You must not affix anything to the windows, including any kind of film, which might damage the windows.

11.20 Unauthorised source of water

You must only tap water from a source or supply we have approved.

11.21 Service and cargo lifts

11.21.1 You must use the service or cargo lifts we have designated to transport furniture, goods and other heavy equipment.

11.21.2 You must make sure that your contractors, workmen and cleaners use only the service or cargo lifts we have designated.

11.22 No advertising for business

You must not ask for business, or display or distribute advertising material in the car-parks or other parts of the Common Areas without first getting approval from us and (if this applies) the Authorities.

11.23 Auction sales

You must not hold auctions in the Premises or the Building.

11.24 Security of the Premises

You must take adequate security measures to make sure that the Premises are secure even when there is no one in them.

11.25 Specialist warranties

You must not do anything to make invalid or unenforceable any of the warranties or guarantees provided by specialist contractors to us for the Premises, the Building, the Park or any other area. If you fail to keep to this clause 11.25, you must appoint specialist contractors, nominated by us, to complete the repair works that should have been covered under the warranties. If you fail to do this, we may appoint specialist contractors to carry out such works, and you must pay all such costs and expenses involved immediately when we inform you.

11.26 Loading and unloading

11.26.1 You must carry out all loading and unloading only at the times and in the locations we inform you.

11.26.2 You must meet all statutory and safety requirements before using forklifts.

11.26.3 You agree to not cause unnecessary inconvenience to other tenants and occupiers of the Building when carrying out your activities at the loading and unloading bay. If you fail to keep to this sub-clause more than three times, we will withdraw your right to use the forklifts at the Building, and our decision will be final and binding.

11.26.4 When you are not using the forklifts, you must park the forklifts within the Premises or other areas that we have allocated for you to park the forklifts. You must not park the forklifts along or around the Common Areas (including car-park lots) at the Building or the Park.

11.27 Fire safety

11.27.1 You must at all times provide enough access passageways to all fire-fighting installations and equipment and make sure that all windows and access panels for firemen are not locked from the inside and remain unobstructed at all times.

11.27.2 You must work together with us to establish a fire-safe environment for all users of the Building. You must:

- (a) take part in all emergency and fire drills;
- (b) attend table-top exercises and emergency and fire-safety awareness talks;
- (c) make sure you know how to use the fire extinguishers; and
- (d) take part in any other activities which we consider appropriate or as directed by the Authorities .

11.27.3 You must keep the Premises (including all fixtures, fittings, installations and appliances) in a safe condition and take all necessary measures to prevent a fire. You must meet all our requirements and all the requirements of the Fire Safety and Shelter Department or the other Authorities (or both). You must appoint one or more of your employees as fire-safety officers as required under the Fire Safety Act (Chapter 109A) and the Fire Safety (Fire Safety Manager) Regulations.

11.27.4 If we ask you to, you must provide details of the number of first aiders and the number of trained and qualified people in the Company Emergency Response Team (CERT).

11.28 No leaks

11.28.1 You must take all necessary measures (including carrying out waterproofing works) to avoid water leaking to the other parts of the Building.

11.28.2 If you fail to keep to clause 11.28.1 above, we may (but are not obliged to) take any action we consider necessary to avoid water from leaking and to repair any damage caused to the Premises or any other parts of the Building as a result of a leak. You must pay all our related costs and expenses to us immediately when we inform you, together with interest from the date we must pay the cost, to the date you repay it (we have the right to recover such expenses and interest as if they were rent arrears).

11.29 Using the Common Area

You must not use the Common Areas to hold any events, store any items, or to install any fixtures or fittings without first getting our approval.

11.30 Television antennae and satellite dish

You must not install any television antenna or satellite dish on the rooftop or at the balcony or verandah or any other part of the Premises or the Building without first getting our approval. If we provide a communal television antenna system, we will not allow you to install any other television antenna.

11.31 Parking

11.31.1 You and your officers and employees are not allowed to park anywhere in the Building except in the marked parking areas.

11.31.2 You must pay our parking charges for using the car-parks in the Building. We may change our parking charges from time to time.

11.31.3 You and your officers and employees must keep to all our rules relating to managing and operating the car-parks and parking vehicles in the Building.

11.32 Outer doors of the Building

If the Building has outer doors:

- (a) the outer doors must be closed and locked during the hours we set;
- (b) if you want to enter the Premises during such hours, you must keep to our security measures;
- (c) we may change such hours at any time, and will inform you of any change; and
- (d) for security reasons, we may refuse access to the Building (including by closing the outer doors) at any time and for as long as we consider appropriate.

11.33 General conduct of business

11.33.1 You must get our written permission before using the name of the Building or any picture or likeness of the Building or the Premises in your registered or trading name or for any advertising or purpose other than as your address and place of business. However, you may incorporate references to and illustrations and sketches of the Building in any receipts, vouchers, catalogues, advertisement or sales promotion material relating to the business you carry on in the Building as long as you make sure:

- (a) no negative or derogatory statement, announcement, comment or remark relating to us, the Building or the Premises is made or caused to be made, issued or caused to be issued, or published or caused to be published; and
- (b) you refer to the Building's proper name in all media, including radio and television messages, advertising stationery, internal and external circulars, internet web pages, and the print media (for example, newspapers and magazines).

11.33.2 If your registered name or trading name includes the name or title of the Building, when the Lease Ends, you must take all steps necessary (including providing notice to the relevant Authorities) to remove such name or title from your registered or trading name immediately.

11.34 Change of name

If you change your company name, you must notify us and pay any administrative fee that we may require to change your company's name on the noticeboard directory of the Building.

12. Reinstatement works

Before vacating the Premises, you must carry out such Reinstatement Works as we may direct to restore the Premises to its Original Condition, including the following:

- (a) Remove all your fixtures, fittings, furniture and belongings, and any signs from the Premises, the Building, the Park and the surrounding areas. You must leave behind at the Premises any of your fixtures and fittings that we ask you to leave, but you can remove your trade fixtures, carpets, blinds, partitions, built-in furniture and changes to the **M&E** installations.
- (b) Redecorate the Premises with three coats of good-quality oil or emulsion paint or other suitable treatment of all internal parts of the Premises, in a good and workmanlike manner and using any suitable materials that we may reasonably ask you to use.
- (c) Re-polish all internal parts which were previously polished.
- (d) Grain and varnish all the internal parts which were previously grained and varnished.
- (e) Clean, de-grease and disinfect all floor tiles of the Premises, including replacing all floor tiles which we decide are worn or damaged and need replacing.
- (f) Remove and clear all waste, rubbish and other unwanted material from the Premises, the Building, Park and the surrounding areas.
- (g) Make good all damage to the walls, doors, windows or any part of the Premises, the Building, the Park and the surrounding areas caused by removing your belongings or reinstating or redecorating the Premises.
- (h) Clean the exhaust shaft or chimney, exhaust fans and other related exhaust equipment, floor and grease traps and sumps (if this applies).
- (i) Make sure that all our **M&E** services (including any air-conditioning variable air volume boxes and ductwork that are above the ceiling board) at the Premises are reinstated to their Original Condition and good working order and condition by a specialist contractor nominated by us and appointed by you, and under the supervision of our consultants.
- (j) Make sure that all structural and engineering works are carried out by a specialist contractor nominated by you and appointed by us, and under the supervision of our consultants.
- (k) If we ask you to, disinfect the Premises and make sure that the Premises are free from any harmful contamination by any biological organisms or chemical substances. You must dispose of any such biological organisms or chemical substances safely in line with the requirements of the Authorities (if this applies) so as not to cause any health hazards, danger or injury to any person.
- (l) If we ask you to, remove all electricity, water and air-conditioner meters in the Premises, and make good any damage caused by doing this.

13. Green Initiatives

13.1 Waste collections

We have appointed a waste-collection company to dispose of all the waste collected from the Building. The waste will be collected from the Building's bin centre and transported to an approved dumping ground for recycling or incineration at the National Environment Agency's plant.

13.2 3Rs policy - reduce, reuse and recycle

Plain English Tenants' Guide template (Revised 080620)
We have various environmentally friendly policies, including a 3Rs policy - reduce, reuse and recycle. We strongly encourage you to carry out the 3Rs policy as follows.

Reduce

Reduce

- Use fewer disposable items (for example, polystyrene and paper cups and plates).
- Bring your own cutlery and coffee mug.
- Do not ask for a plastic bag if you can carry food back to the office without one.
- Reduce the number of photocopies by sharing documents among colleagues.
- Reduce the number of printed documents by circulating written or printed memos around the workplace.
- Use email to communicate or send messages.
- Proofread documents on screen before printing.
- Print addresses straight onto envelopes instead of using address labels.
- Print on both sides of paper.
- Order just enough food and drink for meetings, seminars, conferences and events.
- Switch on lights and electronic devices only when necessary.

Reuse

- Reuse used envelopes for sending internal mail.
- Remove old documents from files and reuse files.
- Use the blank side of used paper for drafting, printing and taking notes.
- Reformat or delete old files from thumbdrives so that they can be used to store new documents.

Recycle

- Set up a recycling programme in the office.
- Take part in recycling programmes.
- Separate recyclable items for recycling.
- Put recycling bins at strategic locations within the Premises for collecting and storing recyclable waste (for example, paper, plastic and empty drink cans).

14. Green Lease Requirements

If the Building has been certified as a Green Mark building, the Building has been designed to achieve Green Mark which requires energy performance and green initiatives. To ensure that the Building's intent is maintained, you must keep to relevant Green Mark requirements that apply from time to time so that you do not affect our application for Green Mark certification or re-certification for the Building or Park. You may obtain a copy of the latest Green Mark requirements from the management office of the Building.

15. Contact information

15.1 Capitaland Business Park & Industrial Tenant Portal

If you need information such as building forms or your account information, you can find these on the Capitaland Business Park & Industrial Tenant Portal at <http://bpl-tenant.capitaland.com> or such other website as we may inform you from time to time.

If an essential common service such as a lift or the power or water supply breaks down after office hours, you can contact our 24-hour call centre on 1800 5333131.



ANNEX A

LIQUIDATED DAMAGES FOR NOT KEEPING TO THE TERMS OF THIS LEASE

You must pay liquidated damages (that is, damages which you and we have previously agreed upon) of \$500 per incident for each time or for each day you do not keep to the following terms.

Number	Description
1.	Starting works without a tenant's works permit or failing to display the tenant's works permit at the entrance of the Premises
2.	Failing to obtain valid passes (if this applies) for workers from the Fire Command Centre, Guard House or reception counter
3.	Failing to put up proper protection for Tenant's Works
4.	You or your contractors smoking in the Building
5.	Causing nuisance or disturbance in the Building, including noise, dust or foul smells
6.	Illegally dumping debris or waste materials
7.	Obstructing or encroaching on Common Areas
8.	False activation of the fire-alarm system or fire sprinklers
9.	Preparing concrete and screed in Common Areas or toilets, or discharging debris or cement into the toilet bowl or sink
10.	Unauthorised use of fire hose
11.	Unauthorised use or tapping into our electricity or water supply
12.	Unauthorised use (including storage) in Common Areas
13.	Causing unnecessary inconvenience to other tenants and occupiers of the Building when carrying out your activities at the loading and unloading bay
14.	Failing to obtain or submit any required fire-safety certificate
15.	Causing condensation inside or outside the Premises due to inadequate insulation for air-conditioning installations

We may deduct the liquidated damages (that is, damages which you and we have previously agreed upon) mentioned above from any deposits you have paid under this Lease. To avoid any doubt, this will not affect any other claims and remedies we have under this Lease, such as the right to recover the cost of making good any damage or stepping in to carry out rectification works or taking action to stop you from failing to keep to the terms of this Lease.

We and you confirm our entry into this Lease, as signed and witnessed below.

Landlord (us)

Signed
for and on behalf of us
HSBC Institutional Trust Services (Singapore) Limited
(in its capacity as trustee of Ascendas Real Estate Investment Trust), in line with the power of attorney dated
3 June 2013

/s/ Adrian Tan /s/ Ong Li Li

Name of authorised signatory: Adrian Tan Name of authorised signatory: Ong Li Li
Designation: Manager Designation: Manager
Lease Management Lease Management

Tenant (you)

Signed by
for and on behalf of you
FLUIDIGM SINGAPORE PTE. LTD.

/s/ Phoa Cheng Han

Name: Phoa Cheng Han
Title: Managing Director
Company Stamp

As witnessed in the presence of:

/s/ Herry Effendi

Witness
Name: Herry Effendi
Title: Senior Supply Chain Manager
Address: 5008, Ang Mo Kio Avenue 5
#08-08, Techplace II
Singapore 569874



Lease reference number: t0015110

Date: 08-JUN-2021



HSBC INSTITUTIONAL TRUST SERVICES (SINGAPORE) LIMITED AS TRUSTEE OF ASCENDAS REAL ESTATE INVESTMENT TRUST

and

FLUIDIGM SINGAPORE PTE. LTD.

Lease for

**BLOCK 5008 ANG MO KIO AVENUE 5
#08-01/19, RC ROOF 1 & RC ROOF 2 TECHPLACE II SINGAPORE 569874**

**SCHEDULE 1
DETAILS OF LEASE**

Item 1: Landlord (we, us, our) : HSBC INSTITUTIONAL TRUST SERVICES (SINGAPORE) LIMITED
AS TRUSTEE OF ASCENDAS REAL ESTATE INVESTMENT TRUST

Item 2: Tenant (you, your) : FLUIDIGM SINGAPORE PTE. LTD.

Item 3: Premises

- (a) Unit numbers : Block 5008 #08-01/19, RC Roof 1 & RC Roof 2
- (b) Building : Block 5008 Ang Mo Kio Avenue 5 TECHplace II Singapore 569874
- (c) Boundary : (for identification only) edged in red in the attached plan (or plans) marked as schedule 5

Item 4: Floor Area :

Unit numbers Floor Area (square metre)

Block 5008 #08-01/19 : 3,455.00

RC Roof 1 (ANA-RT11) : 115.00

RC Roof 2 (ANA-RT12) : 130.00

Total Floor Area 3,700.00

Item 5: Possession Date : N.A.

Item 6: Start Date : 02 June 2022

Item 7: Term : 60 months beginning from the Start Date

Item 8: Permitted Use : R&D and manufacturing of fluidic chips and microfluidic system only

Item 9: Rent :

(a) The Gross Rent, Net Rent and Service Charge are as follows.

Unit	Net Rent Rate (per square metre)	Service Charge Rate (per square metre)	Gross Rent Rate (per square metre)	Net Rent	Service Charge	Gross Rent	Period such rent or charge applies for
Block 5008 #08-01/19	\$15.14	\$2.62	\$17.76	\$52,308.70	\$9,052.10	\$61,360.80	02 June 2022 to 01 June 2023
Block 5008 #08-01/19	\$15.41	\$2.62	\$18.03	\$53,241.55	\$9,052.10	\$62,293.65	02 June 2023 to 01 June 2024
Block 5008 #08-01/19	\$15.68	\$2.62	\$18.30	\$54,174.40	\$9,052.10	\$63,226.50	02 June 2024 to 01 June 2025
Block 5008 #08-01/19	\$15.95	\$2.62	\$18.57	\$55,107.25	\$9,052.10	\$64,159.35	02 June 2025 to 01 June 2027

Unit	Net Rent Rate (per square metre)	Service Charge Rate (per square metre)	Gross Rent Rate (per square metre)	Net Rent	Service Charge	Gross Rent	Period such rent or charge applies for
RC Roof 1 (ANA-RT11), RC Roof 2 (ANA- RT12)	\$15.14	\$2.62	\$17.76	\$ 3,709.30	\$ 641.90	\$4,351.20	02 June 2022 to 01 June 2023
RC Roof 1 (ANA-RT11), RC Roof 2 (ANA- RT12)	\$15.41	\$2.62	\$18.03	\$ 3,775.45	\$ 641.90	\$4,417.35	02 June 2023 to 01 June 2024
RC Roof 1 (ANA-RT11), RC Roof 2 (ANA- RT12)	\$15.68	\$2.62	\$18.30	\$ 3,841.60	\$ 641.90	\$4,483.50	02 June 2024 to 01 June 2025
RC Roof 1 (ANA-RT11), RC Roof 2 (ANA- RT12)	\$15.95	\$2.62	\$18.57	\$ 3,907.75	\$ 641.90	\$4,549.65	02 June 2025 to 01 June 2027

(b) The charges shown above do not include goods and services tax (GST) and other Taxes you must pay under this Lease.

Item 10: Fitting Out Rent-free Period (if any) : N.A.

Item 11: Term Rent-free Period (if any) :

Unit	Start Date	End date	Length of Term Rent-free Period
Block 5008 #08-01/19	02 June 2022	17 August 2022	02 months & 16 days
RC Roof 1 (ANA-RT11), RC Roof 2 (ANA-RT12)	02 June 2022	17 August 2022	02 months & 16 days

Item 12: Security Deposit : (1) \$594,960.00 for the Premises; and

Item 13: Tenant's Works Deposit : (1) \$37,000.00 (based on the rate of \$10.00 per square metre of the Floor Area of the Premises (a minimum of \$2,000.00 applies); and

SCHEDULE 2 SPECIAL COVENANTS

(By way of note, the Plain English Campaign's Crystal Mark will not apply to this section.)

Any commercial terms and amendments to the Standard Covenants or Tenants' Guide will be set out in this schedule.

1. VARIATION OF COVENANTS

The following clause in Schedule 3 Building Covenants will be deleted in its entirety and replaced as follows:

A) REDEVELOPMENT

Without being affected by anything else in this Lease, if at any time during the Term we decide that:-

- (a) the Building is to be demolished for redevelopment; or
- (b) the Building or any part of the Building is to be renovated, retrofitted, refurbished or altered, and this will affect the Premises,

we may end this Lease by giving you nine (9) months' notice in writing.

When this Lease ends, you must deliver vacant possession of the Premises to us in line with the terms of this Lease, and you will have no claim (including right of compensation) against us for ending this Lease.

To avoid any doubt, this will not affect any rights and remedies that we may have against you in respect of any of your failure to keep to the terms and conditions of this Lease which occurred before the ending of this Lease. We may also offer you alternative space if available which you may relocate to within such time as we notify you and on such rent, lease term and other terms and conditions as we may decide. Whether or not you accept the offer, this will not affect your obligation to deliver vacant possession of the Premises on the date set out in the notice.

2. ADDITIONAL CLAUSES

The following clause shall also apply:

A) OPTION TO RENEW

- (a) We will grant you a further lease of the Premises for 60 months ("**Renewal Term**"), starting on the day after the last day of the Term, subject to the following terms and conditions:
 - (i) you must give us notice at least 6 months before the last day of the Term that you require a further lease of the Premises;
 - (ii) you must keep to the terms and conditions under this Lease;
 - (iii) the further lease for the Renewal Term must be for the whole of the Premises and not part of it;
 - (iv) the further lease for the Renewal Term will be at a revised gross rent and on other terms and conditions as we may decide and notify you;

- (v) you must inform us in writing whether you accept the revised rent and terms and conditions within 14 days after we have notified you;
 - (vi) you must sign the new lease document for the further lease for the Renewal Term within 14 days after we have provided you with the new lease document; and
 - (vii) all the costs and expenses for the grant of the further lease will be borne by you, including the preparation of the new lease document.
- (b) If you do not accept the revised rent or any of the other terms and conditions or if you do not sign the new lease document within 14 days, then we will assume that you are no longer interested in the further lease and we will be free to end all discussions with you for the further lease and we may lease out the Premises after the last day of the Term without informing you.
- (c) If you fail to keep to any of the terms and conditions of this Lease after the new lease document for the Renewal Term has been signed but before the Renewal Term starts, we may terminate the lease for the Renewal Term by giving you notice. This will not affect any rights and remedies we have against you (including compensation for loss of rent for the Renewal Term).

B) STAGGERED RENTAL CLAUSE

We have agreed to the staggered rent arrangement set out in this Lease at your request subject to the condition that you will perform all terms, covenants and conditions in accordance with the provisions of this Lease including fulfilling all payment obligations. If you fail to do so, we shall, without prejudice to its other rights and remedies, be entitled to adjust the rent payment schedule by issuing a written notice ("**Adjustment Notice**") to you requiring you to pay Gross Rent based on the net rent rate of \$15.63 per square metre per month ("**Original Rent Rate**") with effect from the Start Date. After the issuance of the Adjustment Notice, you shall pay Gross Rent based on the Original Rent Rate on the Payment Dates. The additional Gross Rent payable for the period of the Term prior to the issuance of the Adjustment Notice shall be paid within 07 days from the date of the Adjustment Notice. If this Lease is determined for any reason prior to the expiry of the Term, you shall, without prejudice to our other rights and remedies, pay to us a lump sum representing the difference between the Gross Rent based on the Original Rent Rate for the entire Term and the Gross Rent already paid.

C) INSTALLATION OF SIGNAGE

We have allowed you to install your company's signage ("**Signage**") at the standing pylon at the entrance of the Park so long as you, where applicable:-

- (a) at your sole costs and expense, seek approval/s from the relevant Authorities for the display of the Signage, and comply with all terms and conditions and to pay all charges (if any) imposed or to be imposed by the relevant Authorities in respect of the same; and
- (b) pay all monthly license fees and other charges imposed by us in respect of the display of the Signage; and
- (c) sign all documents required by us and/or the Authorities for the Signage and pay all fees, whether legal or not, relating to the Signage, as well as all stamp fees payable on such documents, if any; and
- (d) are solely responsible for the maintenance and upkeep of the Signage. We will not be liable to you at all or be responsible for any damage, loss, defacement etc. of the Signage.

D) RIGHT TO END THIS LEASE EARLY

We allow you to end the lease of the whole of the Premises at any time during the Term ("**the Pre- Termination**") so long as:-

- (a) an in-coming tenant acceptable to us ("**Incoming Tenant**") has been sourced by you to either takeover this Lease from the Tenant, or to take up a fresh lease of the Premises with us. If the latter, the Incoming Tenant must accept our then prevailing terms and conditions for the fresh lease of the Premises, and you cannot object to this;
- (b) all costs and expenses arising out of or in connection with the Pre-Termination as well as the Incoming Tenant either taking over this Lease or taking up a fresh lease with us, whether imposed by us and/or the Authorities, will be solely borne by you, including marketing costs, administrative costs and the like (including all GST payable thereon);
- (c) you will sign all documentation required by us arising out of or in connection with the Pre-termination, and you will bear all costs, whether legal or not, relating to this including all GST payable on such costs, as well as all stamp duties imposed on such documents (if any);
- (d) you must keep to all terms and conditions to be imposed by us and/or the Authorities in respect of the Pre-termination, and
- (e) if the gross rent payable by the Incoming Tenant is lower than the Gross Rent reflected in Item 9 of schedule 1, you will pay us the rental differential from and including the date the lease of the Premises is ended early by you until and including the expiry date of the Term. You must pay such sum to us in one lumpsum upon our demand.

E) LEASED AREA

The area outlined in red in the attached floor plan is the existing leased area. The area outlined in blue in the attached plan is the additional area and you will not be charged rental for this additional area during the Term. To avoid any doubt, you are not be required to erect the separation wall between Unit #08-01 to #08-19 and the area demarcated in blue in the floor plan attached.

F) MAINTENANCE OF TOILET

As the toilet(s) in the Premises ("**Toilet(s)**") are for your exclusive use, you will be fully responsible for the cleaning, maintenance, servicing, repair, replacement & upkeep of the Toilet(s) including all facilities, fixtures and fittings, electrical system, lighting and bulbs and piping systems in the Toilet(s).

You must keep the Toilet(s) clean and tidy and in good and tenantable condition (that is, in a state and condition safe and suitable for use and in which you have carried out all necessary repairs for) and be responsible for the rectification of all chokes, leaks and the like in respect of the sanitary fittings and water/sewerage system arising out of or in connection with your use of the Toilet(s).

You must get our prior approval before carrying out any improvement, repair and/or replacement works relating to the Toilet(s).

G) ACCESS TO THE LEASED AREA

You will grant us access throughout the Term to the riser located within the leased area outlined in blue on the floor plan attached so long as we give you 01 day's notice in advance, except in times of emergency, where you will grant us immediate access to the said riser.

SCHEDULE 3 BUILDING COVENANTS

(By way of note, the Plain English Campaign's Crystal Mark will not apply to this section.) Any Building Covenants specific to the

Building will be set out in this schedule.

In addition to the provisions set out in the Special Covenants, both you and us must keep to and be bound by the following terms, covenants and conditions:-

A) REDEVELOPMENT

Without being affected by anything else in this Lease, if at any time during the Term we decide that:-

- (c) the Building is to be demolished for redevelopment; or
- (d) the Building or any part of the Building is to be renovated, retrofitted, refurbished or altered, and this will affect the Premises,

we may end this Lease by giving you six (6) months' notice in writing.

When this Lease ends, you must deliver vacant possession of the Premises to us in line with the terms of this Lease, and you will have no claim (including right of compensation) against us for ending this Lease.

To avoid any doubt, this will not affect any rights and remedies that we may have against you in respect of any of your failure to keep to the terms and conditions of this Lease which occurred before the ending of this Lease. We may also offer you alternative space if available which you may relocate to within such time as we notify you and on such rent, lease term and other terms and conditions as we may decide. Whether or not you accept the offer, this will not affect your obligation to deliver vacant possession of the Premises on the date set out in the notice.

B) INSTALLATION OF AIR-CONDITIONING UNITS

You may at your own cost and expense install any air-conditioning package unit to air-condition the Premises. The installation will be subject to the relevant Authorities' approval and the Tenants' Guide.

C) GREEN MARK REQUIREMENTS

Without affecting the Tenants' Guide and without being affected by the Building not being certified as a Green Mark building, you must keep to all Green Mark requirements as we may specify from time to time including for all renovations, alterations and installations (such as light fittings, air-conditioning etc) to be carried out at the Premises, whether or not such renovations, alterations and installations have been approved by us and/or other relevant Authorities.

SCHEDULE 4 STATEMENT OF ACCOUNTS

	<u>AMOUNT</u>	<u>GST (7%)</u>
NET RENT: #08-01/19		
\$15.14 per square metre per month on 3,455.00 square metres for a period of 12 months beginning from 2 Jun 2022	\$52,308.70	\$3,661.61
NET RENT: RC ROOF 1 & 2 (ANA RT11 & ANA RT12)		
\$15.14 per square metre per month on 245 square metres for a period of 12 months beginning from 2 Jun 2022	\$3,709.30	\$259.65
SERVICE CHARGE: #08-01/19		
\$2.62 per square metre per month on 3,455.00 square metres for a period of 12 months beginning from 2 Jun 2022	\$9,052.10	\$633.65
SERVICE CHARGE: RC ROOF 1 & 2 (ANA RT11 & ANA RT12)		
\$2.62 per square metre per month on 245 square metres for a period of 12 months beginning from 2 Jun 2022	\$641.90	\$44.93
GROSS RENT:	\$65,712.00	\$4,599.84
LEGAL FEES	\$800.00	\$56.00
SECURITY DEPOSIT IN CASH	\$594,960.00	
SUBTOTAL	\$661,472.00	\$4,655.84
LESS:		
CASH DEPOSIT FROM CURRENT LEASE	(\$594,960.00)	
GST \$4,655.84		
TOTAL AMOUNT (INCLUDING GST) [payable to HTSG A/C ASCENDAS]	\$71,167.84	
	=====	
STAMP DUTY [payable to 'Commissioner of Stamp Duties]	\$12,961.00	
TENANT'S WORK DEPOSIT FOR PREMISES (You are required to pay renovation deposit if any renovation works are to be carried out)	\$37,000.00	

This Statement of Accounts sets out the initial total amount you must pay which includes an advance payment of the first month's Gross Rent to cover the rent period beginning from 2 Jun 2022. Your first payment must be made by cash or cheque as your GIRO payments may start from the first day of the following month.

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STANDARD COVENANTS

1 INTERPRETATION

1.1 Definitions

In this Lease, the following terms have the meanings as set out below.

- 1.1.1 **'Additional Property Tax'** means the increase in property tax relating to the Premises for the Rent-free Period (if any) and the Term, due to:
- (a) an increase in the annual value (as defined in the Property Tax Act (Chapter 254)) in respect of the Premises which is more than the yearly Net Rent;
or
- (b) an increase in the rate of property tax in respect of the Premises which is more than the rate of property tax that applies on the Possession Date.
- 1.1.2 **'Capitaland Business Park & Industrial Tenant Portal'** means the tenant service portal which you can access at <http://bpi-tenant.capitaland.com> or such other website address we may give you.
- 1.1.3 **'Authorities'** means all relevant government bodies, statutory bodies and other authorities.
- 1.1.4 **'Building'** means the land and the buildings which the Premises form part of (including car-parks, service, loading and any other areas for the use and enjoyment of the building, whether or not these are within the structure of the building).
- 1.1.5 **'Building Covenants'** means any terms, covenants and conditions as set out in schedule 3 which are specific to the Building.
- 1.1.6 **'Car-park Charges'** means the charges you must pay to use the car-parks at the Building.
- 1.1.7 **'Circumstances Beyond Our Control'** means any circumstances we have no control over, and which directly or indirectly prevent or delay us from carrying out our obligations under this Lease, including natural disasters, flooding, haze, national emergency, war, insurgency, labour disputes, civil commotion or riots.
- 1.1.8 **'Common Area'** means the parts of the Building (whether or not within the structure of the Building) which (a) are for shared use by us, you, other tenants and occupiers of the Building, and anyone who is properly authorised to use those areas, and (b) would be considered as 'common areas' or 'common parts' of the Building for shared use, enjoyment or benefit if the Building had been subdivided and registered under the Land Titles (Strata) Act (Chapter 158). Common Area does not include areas which are inside the Premises or which serve the Premises only.
- 1.1.9 **'Conducting Media'** means any drains, sewers, conduits, flues, risers, gutters, gullies, channels, ducts, shafts, watercourses, pipes, cables, wires and mains in, on or under the Building, including any that are installed in the future.
- 1.1.10 **'Electricity Charges'** means the charges for electricity as used at the Premises.
- 1.1.11 **'Electricity Supply Deposit'** means the electricity-supply deposit amount, being an amount equal to 1.5 times the expected monthly Electricity Charges, which we will estimate and notify you from time to time. The initial amount of the Electricity Supply Deposit is set out in schedule 1.
- 1.1.12 **'Fire-safety Approval'** means the approval (including fire-safety certificates or notices of approval) issued by the Singapore Civil Defence Force under the Fire Safety Act (Chapter 109A) or such other authority.
- 1.1.13 **'Fitting Out Rent-free Period'** means the period where the Tenant's Works relating to the fitting out of the Premises are carried out as set out in schedule 1.
- 1.1.14 **'Floor Area'** means the floor area of the Premises set out in schedule 1.

- 1.1.15 **'Gross Rent'** means the Net Rent and the Service Charge as set out in schedule 1.
- 1.1.16 **'Gross Rent Rate'** means the Gross Rent per square metre for each month under the Term as set out in schedule 1.
- 1.1.17 **'Head Landlord'** means the landlord under the Head Lease (whether immediate or not).
- 1.1.18 **'Head Lease'** means the lease under which we hold our interest in the Building and includes any superior lease (that is, a lease under which our landlord or any other landlord above holds its interest in the Building) and all documents that apply to it.
- 1.1.19 **'Infectious Disease'** means the diseases defined in the Infectious Diseases Act (Chapter 137).
- 1.1.20 **'Interest'** means interest at the rate of 10% per year calculated on a daily basis and based on the actual number of days in the year (both before and after any judgment), or any other rate as we may notify from time to time.
- 1.1.21 **'JTC'** means the Jurong Town Corporation.
- 1.1.22 **'Law'** includes any present or future laws (including regulations, codes and guidelines) by statute, common law and/or equity.
- 1.1.23 **'Lease'** means this lease of the Premises between you and us, made up of (i) the Standard Covenants, (ii) the Tenants' Guide, and (iii) all schedules (including the Special Covenants and Building Covenants), attachments, appendices, annexes and side letters to each of such documents mentioned.
- 1.1.24 **'Losses'** means damages, compensation, losses, costs and expenses, claims, notices and proceedings, of any nature, including, where the context allows, any costs and expenses of making good any losses or damage.
- 1.1.25 **'Net Rent'** means the rent (not including Service Charge and other amounts due) for each month of the Term calculated at the monthly Net Rent Rate on the Floor Area, as set out in schedule 1.
- 1.1.26 **'Net Rent Rate'** means the Net Rent per square metre for each month of the Term as set out in schedule 1.
- 1.1.27 **'Original Condition'** means the original state and condition of the Premises on the date you first took possession of the Premises under this Lease as shown in the plans and drawings we have given or will give you, but not including the Tenant's Works or any works that previous tenants have carried out.
- 1.1.28 **'Our Authorised People'** means our employees, agents, independent consultants or contractors, people we allow to be in the Building or Park, visitors, licensees and other people under our control, or who we are responsible for or who claim rights under this Lease through, under or in trust for us.
- 1.1.29 **'Park'** means (where it applies), the science, business or industrial park or such wider area or vicinity where the Building is located.
- 1.1.30 **'Payment Date'** means the first day of a month or such relevant date as we may notify you in our invoice to make any payment as required under this Lease.
- 1.1.31 **'Permitted Use'** means the use allowed for the Premises as set out in schedule 1 and approved by the Head Landlord and the Authorities.
- 1.1.32 **'Possession Date'** means the possession date (if this applies) as set out in schedule 1 or any other date we may notify you.
- 1.1.33 **'Premises'** means the part or parts of the Building which will be leased to you as set out in schedule 1, including improvements and additions made to the Premises, and the fixtures and fittings (whether they belong to you or us) in the Premises, but not including (i) structural parts located outside the Premises, (ii) the loadbearing framework, (iii) the roof, (iv) foundations, (v) joists (that is, a long, thick piece of wood, metal, or concrete, used in buildings to support a floor or ceiling), (vi) Conducting Media which serve only spaces other than the Premises that you do not access, (vii) our machinery and plant which are in the Premises but which serve only other spaces besides the Premises that you do not access, (ix) the faces of boundary walls that are

outside the Premises; and (x) the faces of external walls outside the Premises (unless these are glass walls).

- 1.1.34 **'Reinstatement Works'** means the reinstatement works to restore the Premises to their Original Condition (except for fair wear and tear) in line with the Tenants' Guide, Law and any other requirements that we may have.
- 1.1.35 **'Rent-free Period'** means the Fitting Out Rent-free Period and the Term Rent-free Period.
- 1.1.36 **'Security Deposit'** means the security deposit amount as set out in schedule 1.
- 1.1.37 **'Service Charge'** means the charge for your share of the Total Outgoings as we may decide for each month calculated at the Service Charge Rate on the Floor Area as set out in schedule 1.
- 1.1.38 **'Service Charge Rate'** means the Service Charge per square metre for each month as set out in schedule 1.
- 1.1.39 **'Side Letters'** means further terms, covenants and conditions to this Lease made between you and us at any time to add to, amend or vary this Lease.
- 1.1.40 **'Special Covenants'** means such further terms, covenants and conditions as set out in schedule 2 as commercially agreed to vary or add to the Lease.
- 1.1.41 **'Standard Covenants'** means these standard terms, covenants and conditions.
- 1.1.42 **'Start Date'** means the date on which the Term begins as set out in schedule 1.
- 1.1.43 **'Taxes'** means any goods and services tax, duty or charge which may be imposed at any time by the Authorities.
- 1.1.44 **'Tenants' Guide'** means the further standard terms, covenants and conditions relating to safety or actions in the Building or Premises, or the use, maintenance, renovation or management of the Building or Premises.
- 1.1.45 **'Tenant's Works'** means any fitting-out work or any other renovation, alterations, additions, interior layout work, interior design, installations, internal fittings, wiring, plumbing, reinstatement or other work you carry out to the **Premises**.
- 1.1.46 **'Tenant's Works Deposit'** means the deposit you must pay for the Tenant's Works (if any) as required under this Lease, and which we may collect from you from time to time to cover any Tenant's Works. The initial amount of the Tenant's Works Deposit is set out in schedule 1.
- 1.1.47 **'Term'** means the term of this Lease as set out in schedule 1.
- 1.1.48 **'Term Rent-free Period'** means the rent-free period during the Term (if any) as set out in schedule 1.
- 1.1.49 **'Total Outgoings'** means all outgoings, costs and expenses (including capital expenditure and loss in value over time) which we have to pay for providing, controlling, managing, maintaining and replacing any services or parts of the **Building** (including fixtures and fittings).
- 1.1.50 **'Utilities'** means electricity, water, sewerage, tele-communications and, if it applies, gas, air conditioning and chilled water.
- 1.1.51 **'Utilities Charges'** means the charges for the Utilities as used at the Premises.
- 1.1.52 **'We', 'us', or 'our'** (whether capitalised or not) means us as the landlord as set out in schedule 1 and includes our successors (a person who takes over our rights and obligations) and assigns (a person who takes over our rights).
- 1.1.53 **'You', or 'your'** (whether capitalised or not) means you as the tenant as set out in schedule 1 and includes your successors (a person who takes over your rights and obligations) and assigns (a person who takes over your rights, only after we have approved the transfer).

1.1.54 **'Your Authorised People'** means your employees, agents, independent contractors, people you allow to be in the Premises, visitors, licensees, anyone under your control, and anyone you are responsible for or who claims rights under this Lease through, under or in trust for you.

1.2 General rules of interpretation

The following rules apply when interpreting this Lease, unless the context requires otherwise.

1.2.1 While we have made efforts to express this Lease in plain English, any wording used may not be completely sufficient to describe its meaning, and you must read all words in line with their usual legal meaning.

1.2.2 Headings are for convenience only and must not be used to limit or interpret any covenant, condition or clause.

1.2.3 Any reference to the singular includes the plural, and vice versa.

1.2.4 Any reference to a person or people includes any individual or any corporate entity.

1.2.5 Any reference to the whole includes all or any part of the same.

1.2.6 Each word or term does not limit the effect of another word or term.

1.2.7 Any reference to 'including', 'include' or 'includes' means including without limitation or affecting the generality of any description, definition, term or phrase coming before that word.

1.2.8 Any reference to 'responsible' means, where the context allows, being liable for any Losses.

1.2.9 You must, unless set out otherwise, pay all fees, charges, costs and expenses arising out of or relating to any obligations you have under this Lease, including if it applies, Interest, on any outstanding payments you owe and any fees or expenses due to the relevant Authorities. We can claim these payments as if they are rent arrears and may deduct such payments from any deposits you have paid under this Lease. You may not withhold or delay any payment, and you must pay all amounts you owe under this Lease even if this Lease has come to an end.

1.2.10 You must, at your own cost and expense, keep to (and make sure that each of Your Authorised People keep to) every obligation you have and restriction that applies under this Lease. If this Lease states that you will not have any claim against us for any Losses, Your Authorised People will also not have any claim against us for such Losses.

1.2.11 If, under this Lease, you need our permission or approval for any action, you must get this in writing from us before taking that action. We will decide if, and on what terms, to give or withhold permission or approval. Even if we give our permission or approval, you will remain responsible for these permitted or approved matters or actions. This clause 1.2.11 also applies if the Head Landlord or any of the Authorities require any permission or approval. In addition, any right given to us under this Lease is also given to the Head Landlord and any Authorities and any person authorised by us, the Head Landlord and the Authorities.

1.2.12 If we carry out any action or exercise any right or remedy under any clause in this Lease, this will not affect our other rights or remedies under that clause or the rest of this Lease.

1.2.13 Each schedule of, attachment, appendix and annexure to this Lease forms part of this Lease. If there are any inconsistencies between the different parts of this Lease, priority will be given in the following order from first to last: (1) Side Letters (if any), (2) Special Covenants, (3) Building Covenants, (4) Standard Covenants, and (5) Tenants' Guide.

2 **GRANT OF LEASE**

2.1 Lease

We agree to lease the Premises to you for the Term in return for you paying the Gross Rent and keeping to the terms, covenants and conditions as set out in this Lease (including the Special Covenants, Building Covenants and the Tenants' Guide).

2.2 Permitted Use

- 2.2.1 You must use the Premises only for the Permitted Use. If you want to change the Permitted Use, you must first get approval from us and the Authorities. You must also get, maintain and keep to all necessary approvals which you need by Law to carry out your business at the Premises. To avoid any doubt, you must also carry out your own checks on the Premises as we will not be responsible for making sure the Premises are suitable for the Permitted Use.
- 2.2.2 If the Premises are a property where the Urban Redevelopment Authority's 60:40 rules apply, you must make sure that at least 60% of the Floor Area is used for industrial activity, and no more than 40% of the Floor Area is used for such ancillary (that is, supporting) purposes to the Permitted Use as we, the Urban Redevelopment Authority or any other relevant Authority may approve. You must also provide us with the filled-in and signed declaration form as set out in schedule 6 upon signing this Lease. If you fail to do so, we may give you two weeks' notice to submit such form. If you have still not provided the filled-in and signed declaration form by the end of the two weeks' notice, we may immediately end this Lease and, if you have taken possession of the Premises, you must carry out the Reinstatement Works to keep to clause 4.3.1. You will forfeit (that is, give up the right to claim) any money or deposits you have paid to us under this Lease, you must pay us any costs and expenses we have to pay, and you will not have any claim against us for any Losses which you may suffer due to us ending this Lease.

2.3 Head Landlord's and Authorities' approvals

- 2.3.1 If the Premises are a property under the control of JTC, you must:
- (a) first get the relevant approvals (including any anchor tenant approval) from JTC and the Authorities to use the Premises before we give the lease of the Premises to you; and
 - (b) give us any relevant information and documents we ask for, including the items set out in schedule 7, at least 14 days before the Possession Date or Start Date, whichever is earlier. To avoid any doubt, you must pay any costs that apply, including any subletting fees or other fees we must pay or have paid to the Head Landlord or Authorities. You must also pay any fees and other charges charged by the Head Landlord or Authorities for not meeting this condition due to your delay or failure to give us any relevant information or documents.
- 2.3.2 If you do not have all the approvals as required under clause 2.3.1, we may give you notice that this Lease will be considered as null and void (that is, in a state as if this Lease never existed), except that you must reinstate the Premises in line with this Lease and you must pay all Gross Rent, Utilities Charges and other charges due from the Possession Date or Start Date, whichever is earlier, until the day you return the Premises to us (both dates included). You will not have any claim against us for any losses you suffer due to this Lease being considered as null and void. Within 30 days after we have confirmed that there are no outstanding obligations under this Lease, and as long as you did not cause such failure to get such approvals, we will refund:
- (a) all deposits you have paid (without Interest and after deducting necessary amounts if you have not kept to any other terms of this Lease or for damage you have caused to the Premises or the Building); and
 - (b) all legal fees and stamp duties you have paid if they have not been charged by our lawyers or the Authorities.

2.4 Compliance regulations

You must keep to, and make sure that each of Your Authorised People keep to, the relevant anti-money- laundering, anti-bribery, anti-corruption, and anti-financing of terrorism Laws and/or our policies. If you fail to do so, we may give you notice upon which this Lease will be considered as null and void (that is, as if this Lease had never existed), except that you must still (i) reinstate the Premises in line with this Lease, (ii) pay all Gross Rent, Utilities and other charges due from the Possession Date or Start Date, whichever is earlier, until the day you return the Premises to us (both dates included), and all other Losses which we may suffer arising out of or relating to you not keeping to this clause 2.4, including the loss of Gross Rent which we could have collected for the Term and the Rent-free Period (if any), and any costs and expenses of re-letting or trying to re-let the Premises. We will also not refund any deposits or money you have paid to us, and you will not have any claim against us for any Losses which you may suffer due to this Lease being considered as null and void (that is, as

if this Lease had never existed).

2.5 Rights and exceptions

2.5.1 The Premises are leased to you with:

- (a) the right to use the Common Area to pass to and from the Premises; and
- (b) the right to use the designated toilet facilities, lifts, staircases and driveways in the Common Area.

2.5.2 Under this Lease, we have:

- (a) the right to free and uninterrupted passage and running of Utilities and other services through the Conducting Media in the Premises;
- (b) the right to enter the Premises as allowed under this Lease, except that we will use reasonable efforts to minimise any disturbance to you;
- (c) the right of light, air, support, shelter, easements (that is, a right enjoyed by one person over another's land for a specific purpose such as a right of way) and all other rights belonging to or enjoyed by other parts of the Building;
- (d) the right to put up scaffolding for carrying out repairs, renovations, alterations, additions, cleaning, painting or other work to the Building, and to build on, alter, rebuild, develop or use the land next to the Building or in the Park, even if (i) access to, use or enjoyment of the Premises may be temporarily restricted, (ii) any light and air coming into the Premises is affected or (iii) any nuisance, damage, or inconvenience is caused to you or any of your occupiers, except that we will use reasonable efforts to minimise any disturbance to you; and
- (e) the right to carry out any power shutdown in the Building as may be required by us or the Authorities, by providing notice to you (except in cases of emergency), and without us having to provide any emergency power or back-up supply of electricity, except that we will use reasonable efforts to minimise any disturbance to you.

2.5.3 Any person you authorise to use or enjoy the Premises in line with this Lease will also have the rights under clause 2.5.1, and (i) we, (ii) the Head Landlord, and (iii) any person authorised by us or the Head Landlord will also have the rights under clause 2.5.2.

3 **TAKING POSSESSION**

3.1 You will take possession of the Premises on the Possession Date. If you delay taking possession of the Premises, we will not postpone the Fitting Out Works Rent-free Period (if any) and/or the Term.

3.2 You agree to take the Premises on an 'as is, where is' basis and not to object to the state and condition of the Premises (including the structural, mechanical and electrical specifications) on the date you first take possession of the Premises.

3.3 You agree that the Floor Area of the Premises are as set out in schedule 1. If we appoint a surveyor registered under the Land Surveyors Act (Chapter 156) to survey the Floor Area, the surveyor's findings will be final and binding (unless there is a clear and obvious mistake), and the Gross Rent, Service Charge and other payments due under this Lease (including the Security Deposit) will be adjusted as a result of any difference in floor area of more than 3%.

3.4 You must not load any part of the floors of the Building with more than the weight set out in schedule 1 or such other weight limit as we may notify.

4 YOUR OBLIGATIONS / INVOLVEMENT

4.1 General obligations relating to payments

4.1.1 Gross Rent and other payments

4.1.1.1 Upon signing this Lease, you must pay the Gross Rent for the period of one month from the Start Date. The Gross Rent for any period less than one month will be pro-rated (based on the actual number of days in that month). You must then pay us monthly in advance on each Payment Date the:

- (a) Net Rent, calculated at the Net Rent Rate on the Floor Area; and
- (b) Service Charge, calculated at the Service Charge Rate on the Floor Area.

4.1.1.2 You must pay us all amounts due under this Lease promptly when they are due on the Payment Date (except that you must pay the amounts in the statement of accounts set out in schedule 4 upon signing this Lease), without us having to ask or remind you, and without making any withholding, deduction, set-off or counterclaim.

4.1.1.3 Other than the first initial payment as set out under schedule 4, you must make all payments by standing order automated electronic payment (GIRO) to our account or in any other way we notify you.

4.1.1.4 We may increase the Service Charge if there is any increase in the Total Outgoings. If we do so, we will notify you of the amount and effective date of increase in the Service Charge (per square metre). Such notice will be final and binding (unless there is a clear and obvious mistake) and you must pay the increased Service Charge from the date of the increase as set out in our notice until the end of the Term.

4.1.1.5 You must not use the Common Area or any space outside the Premises in connection with your Permitted Use. If we agree to your use of any part of the Common Area or any space outside the Premises in connection with your Permitted Use, we may set charges and terms for this, and may ask you to sign a separate agreement relating to that space.

4.1.2 Rent-free Period (if any)

As a show of goodwill, we will grant you the Rent-free Period (if any). During any Rent-free Period, you do not have to pay the Gross Rent but you must continue to comply with all other terms of the Lease. However, if you carry out your business during any Rent-free Period, we may collect Service Charge from you from the date your business is started. In addition, if this Lease is brought to an end early, you must pay us the Gross Rent for the entire Rent-free Period immediately when we notify you.

4.1.3 Interest

If you fail to pay the Gross Rent or any other amounts due to us under this Lease on the due date (for any reason, and whether or not we send you a formal notice), you must pay us when we notify you Interest on the amount you owe from the date the amount is due (or if we have to pay costs for any work or measures we have carried out on your behalf, from the date we pay for those costs) until the date you pay the amount that is due.

4.1.4 Utilities

You must pay us (or the relevant supplier if this applies) the Utilities Charges for the Utilities supplied to the Premises during the Rent-free Period (if any) and the Term of this Lease. The Utilities Charges will be calculated at the rate we notify you in our invoice and you must pay us such Utilities Charges on the Payment Date. The amount as set out in our invoice will be final and binding (unless there is a clear and obvious mistake).

4.1.5 Electricity supply

4.1.5.1 If we do not arrange for the supply of electricity to the Premises, you must make arrangements with a supplier or retailer, as the case may be, for supplying electricity to the Premises. You must also:

- (a) first get our approval of the supplier or retailer before you arrange for them to supply electricity to the Premises; and

(b) pay all charges directly to the supplier or retailer (including any connection charges or deposit) for supplying electricity to the Premises.

4.1.5.2 If we arrange for the supply of electricity to the Premises by bulk or block purchase or otherwise, you must pay us:

- (a) Electricity Charges for electricity supplied to the Premises each month. The Electricity Charges will be calculated at the rate we notify you in an invoice;
- (b) all other charges relating to supplying electricity to the Premises (including connection and administrative charges) as we notify you in an invoice; and
- (c) the Electricity Supply Deposit. We will notify you of the amount of the Electricity Supply Deposit that you must pay from time to time during the Term. If the Electricity Supply Deposit you have paid to us is less than the amount we have told you to pay, you must pay the difference to us. We will keep the Electricity Supply Deposit for the whole of the Term and we may use all or part of it to indemnify us (that is, to pay all our losses in full without dispute or claim that we should have minimised such losses) against you failing to keep to clauses 4.1.5.2(a) and 4.1.5.2(b) above. We will refund the Electricity Supply Deposit without interest and after making any deductions that are allowed under this Lease, within 30 days after we have confirmed that there are no outstanding obligations under this Lease, including that you have paid all amounts that you owe us. To avoid any doubt, such refund will not affect any other rights we may have if we find you still owe us money or have not kept to the terms of this Lease after we return the Electricity Supply Deposit to you.

4.1.5.3 The amount as set out in our invoices in clause 4.1.5.2 above will be final and binding (unless there is a clear and obvious mistake) and you must pay such amounts to us on the Payment Date. If there are any clear and obvious mistakes in the amounts as set out in our invoices, we will notify you and you must pay the difference on the Payment Date from the date of such notice. Any retailer or supplier we appoint to provide electricity to the Premises will also have the same rights as us under this clause 4.1.5.

4.1.5.4 If we make or intend to make a bulk or block purchase to supply electricity to the whole Building or the Park, you will be considered to have given your permission for the purchase. You must also, if we ask you to, sign an authorisation in such format as we may inform. If we decide to change the retailer or supplier during the Term, we may transfer the Electricity Supply Deposit at any time to any supplier or retailer.

4.1.6 Taxes

Without affecting our obligations under clause 5.2, you must pay us immediately when we notify you any Taxes charged on the amounts you must pay under this Lease.

4.1.7 Additional Property Tax

Once you have signed this Lease, you must pay us any Additional Property Tax that we notify you is due for the Premises, the Rent-free Period (if any) and the Term of this Lease. We will decide whether to object to or appeal against any assessment of annual value or any property tax that is charged on the Premises.

4.1.8 Security Deposit

4.1.8.1 Upon signing this Lease, you must pay and maintain with us the Security Deposit during the Term, as security for you keeping to the terms of this Lease and to indemnify us (that is, to pay all our losses in full without dispute or claim that we should have minimised such losses) against any Losses we may suffer against you or any of Your Authorised People in relation to any matter arising out of or relating to the Premises or this Lease, including any amount you owe us during any holdover period or future lease of the Premises.

4.1.8.2 If you do not keep to the terms of this Lease, we may use the Security Deposit to make good to our satisfaction any losses we have suffered, and you must pay us an amount equal to the amount of the Security Deposit we use, within seven days of us notifying you.

4.1.8.3 If the Gross Rent is increased under this Lease, the Security Deposit will also be increased and you must pay the increased amount to us on the date we notify you.

- 4.1.8.4 You must not set off (that is, treat it as payment of) any part of the Security Deposit against any Gross Rent or other amounts you owe us.
- 4.1.8.5 We will refund the Security Deposit to you, without interest and after making any deductions that are allowed under this Lease, within 30 days after we have confirmed that there are no outstanding obligations under this Lease, including that you have paid all amounts that you owe us. To avoid any doubt, such refund will not affect any other rights we may have if we find you still owe us money or have not kept to the terms of this Lease after we return the Security Deposit to you.
- 4.1.9 Car-park passes
- 4.1.9.1 As a show of goodwill, we will provide car-park passes, as set out in schedule 1, as long as:
- (a) you pay the Car-park Charges at such rates that apply from time to time and as we notify you in our invoice. Such amount as set out in the invoice will be final and binding (unless there is a clear and obvious mistake), and you must pay us such Car-park Charges on the Payment Date;
 - (b) you keep to all relevant Laws;
 - (c) our policies that apply from time to time allow for our provision of car-park passes to you; and
 - (d) we have passes available.
- 4.1.9.2 If required by Law or under our policies, we may give you notice at any time to change or cancel the number of car-park passes we allocate to you or to revise our Car-park Charges.
- 4.1.10 Insurance during the Lease
- 4.1.10.1 From the Possession Date or Start Date, whichever is earlier, until the end of the Term or any period of holding over (as described in clause 4.3.2), including while the Tenant's Works are being carried out, you must arrange and maintain the following insurance policies:
- (a) an insurance policy in your name:
 - (i) covering you against all risks of theft, physical loss or damage (including risks of fire) in respect of your property (including personal property), goods and stock-in-trade (including all plate glass and tempered glass, glass frontage and plant and machinery, if any) in the Premises;
 - (ii) up to the full replacement value of your property, goods and stock-in-trade in the Premises; and
 - (iii) which includes a waiver of subrogation clause (that is, a clause which disallows the insurer from stepping into the insured party's shoes and making a claim against us to recover any money that the insurer has had to pay).
 - (b) a public liability insurance policy in your name, with us named as an insured party:
 - (i) protecting against claims arising out of or relating to your operations or anything that you, or Your Authorised People have done in or from the Premises or assumed under this Lease, which will be extended to include any of the insured parties' legal liability for loss of or damage to the Premises (including all fixtures and fittings) and all of our property;
 - (ii) for at least the amount set out in schedule 1 or any higher amount as we may require; and
 - (iii) which includes a cross-liability clause (that is, a clause which allows an insured party from claiming against another insured party if they are both covered by the same insurance policy).
- 4.1.10.2 You must take out the insurance policies with a reputable insurance company as we may approve.
- 4.1.10.3 If we request, you must give us copies of the insurance policies and the receipt for the last premiums you have paid for the policies. We will not be considered to have approved the insurance policies just because we have

seen copies of your insurance policies and you will remain responsible for your obligations under this Lease, including having to take out the necessary insurance policies as required under this clause 4.1.10.

4.1.11 Not to affect our insurance

You must not do anything that makes any of the insurance policies void or voidable (that is, in a state as if the insurance policies never existed or potentially never existed), invalid or cancelled, or leads to an increase in the premium for the insurance policies. If you fail to keep to this clause 4.1.11, you must not claim against us for any claim which is actually covered or which would have been covered had you maintained the insurance policies. You must also make good any damage or losses we suffer, including paying any increased premium, costs and expenses for restoring or renewing the insurance policies.

4.2 General obligations during the Lease

4.2.1 Tenant's Works

4.2.1.1 You must get our approval before carrying out any Tenant's Works. If we give our approval, you must carry out and complete the Tenant's Works in line with the Lease, including the Tenants' Guide and any of our other requirements in respect of such Tenant's Works.

4.2.1.2 You must get and maintain all necessary approvals that are required by Law (including the Fire-safety Approval, if it applies) for carrying out the Tenant's Works.

4.2.2 Tenant's Works Deposit

4.2.2.1 If we ask you to, you must pay us a Tenant's Works Deposit for carrying out any Tenant's Works. You must do this by the date we notify you. You must pay to us, the initial Tenant's Works Deposit, as set out in **Schedule 1**, upon signing this Lease.

4.2.2.2 The Tenant's Works Deposit is security to make sure that you:

- (a) comply with clause 4.2.1; and
- (b) make good, to our satisfaction, any damage to the Premises, Building and Park resulting from the Tenant's Works.

4.2.2.3 If you do not comply with clause 4.2.2.2, we may carry out the necessary works and use the Tenant's Works Deposit to pay the costs and expenses of that work. If the Tenant's Works Deposit is not enough to cover the cost of the work, you must pay us immediately, when we notify you, the difference between the costs and expenses of the work and the Tenant's Works Deposit.

4.2.2.4 You must give us (i) the relevant plans, (ii) appropriate architect, engineer, qualified person or consultant certificates to confirm that the work has been carried out to the necessary standards, and (iii) the Fire Safety Approval, before you start operations at the Premises. If you fail to do this, you will forfeit (that is, give up the right to claim) the Tenant's Works Deposit. This will not affect any of our rights or remedies against you, including our right to charge you for any penalty fees imposed by the Authorities and our right to terminate this Lease for such breach.

4.2.2.5 We will refund the Tenant's Works Deposit to you, without interest, within 30 days after:

- (a) the Tenant's Works have been completed in accordance with this Lease, including that you have submitted the relevant plans, certificates and Fire Safety Approval required in accordance with clause 4.2.2.4;
- (b) you have complied with all our requirements in respect of the Tenant's Works;
- (c) you have made good any damage to the Premises, Building and Park, to our satisfaction; and
- (d) we have deducted any amounts owing under clause 4.2.2.3.

To avoid any doubt, such refund will not affect any other rights we may have if we find you still owe us money or have not kept to the terms of this Lease after we return the Tenant's Works Deposit to you.

4.2.3 Insurance while carrying out Tenant's Works

- 4.2.3.1 Before starting any Tenant's Works, you must take out and maintain (i) an all-risks policy and (ii) a comprehensive public liability insurance policy against claims for personal injury, death or property damage or Losses arising out of or relating to the Tenant's Works. Each insurance policy must provide coverage of at least S\$2,000,000.00 (or such higher amount we tell you) for any one occurrence and it must be effective for the entire period of the Tenant's Works.
- 4.2.3.2 You must take out and maintain such insurance policies mentioned in clause 4.2.3.1 in the joint names of us and your contractors as co-insured parties for our and their respective rights and interests. You must use a reputable insurance company, and such insurance policies must each include a cross-liability clause (that is, a clause which allows an insured party from claiming against another insured party if they are both covered by the same insurance policy).
- 4.2.3.3 You must give us copies of such insurance policies mentioned in clause 4.2.3.1 if we ask for one. However, giving us such copies will not be considered to be constructive notice of any terms of such insurance policies nor, and will not in any way reduce or affect your obligations under this Lease, including clause 4.2.3.

4.2.4 Maintain and repair

4.2.4.1 You must:

- (a) keep the Premises in a clean and tidy condition to keep to what we require under this Lease (including the Tenants' Guide);
- (b) keep the Premises (including all fixtures and fittings, mechanical and electrical equipment and Conducting Media in and serving the Premises, whether these belong to you or us) in good and tenable repair and condition (that is, in a state and condition safe and suitable for use and in which you have carried out all necessary repairs for), except for fair wear and tear; and
- (c) immediately make good, to our satisfaction, any damage you cause to the Premises (including our fixtures and fittings in them), or to any other part of the Building or Park.

4.2.5 Permitting us to inspect the Premises and carry out repairs

You must allow us and Our Authorised People to enter the Premises with advance notice (except in cases of emergency) and at no cost to us, so that we may:

- (a) check if you are keeping to the terms of this Lease;
- (b) carry out spot checks and inspect the condition of the Premises;
- (c) take a schedule of fixtures and fittings;
- (d) investigate the cause of any interference or disturbance to other tenants and occupants;
- (e) gain access to parts of the Building, mechanical and electrical equipment and/or Conducting Media (or both) which can only be accessed through or in the Premises;
- (f) carry out any work relating to the mechanical and electrical equipment or Conducting Media and to install extra mechanical and electrical equipment or Conducting Media or to repair or replace any fixtures or fittings which belong to us;
- (g) enforce any right or to meet any obligation we have under this Lease or the Head Lease or any obligation we have to any third party who has legal rights over the Premises, the Building or Park or whose Conducting Media passes through the Premises;
- (h) build, alter, repair or maintain the Premises, the Building or Park (including cleaning the windows on the outside of the Building or anything serving the rest of the Building and Park as well as anything running through the Premises); and

- (i) carry out any work which we need or want to carry out to any part of the Building or Park (including the services and facilities in it), including the right to build onto any boundary wall of the Premises.

4.2.5.1 If we find that you have not kept to all the terms of this Lease, you must carry out the necessary work promptly and within the time period as set out in the notice we give you and to our satisfaction.

4.2.5.2 If you do not carry out and complete the necessary work in time, we may enter the Premises to do the necessary work, and you must pay the costs and expenses for any such work. You must also, if we notify you to, do the following:

- (a) remove your installations, machinery, partitions or any other item so that we can carry out the work. If you fail to do this, we may remove them and you will have to pay the costs and expenses immediately when we notify you. You will not have any claim against us for any Losses you suffer due to us removing these items; and
- (b) stop your activities to the extent and during the hours as set out in the notice we give you so we can carry out the work (including any investigations relating to the work).

4.2.5.3 While we will use reasonable efforts to minimise any disturbance to your business operations at the Premises, we will not be responsible to you for any Losses you suffer or inconvenience caused while we are inspecting the Premises or carrying out such works or repairs under this clause 4.2.5.

4.3 General Obligations Relating to Moving out of the Premises

4.3.1 Moving out of the Premises

4.3.1.1 When this Lease ends, you must have completed the Reinstatement Works in line with this Lease (including the Tenants' Guide), and return the Premises and all keys (including mailbox keys) to us.

4.3.1.2 If you fail to keep to clause 4.3.1.1, we may carry out the Reinstatement Works. If we do this, you must pay us immediately:

- (a) all our costs and expenses, and
- (b) an amount equal to double the amount of Gross Rent due for the period it takes us to carry out and complete the Reinstatement Works.

4.3.1.3 If we agree that you do not need to carry out the Reinstatement Works, we may require you to pay a reinstatement amount, which we will estimate based on the costs and expenses that we may need to pay to carry out and complete the Reinstatement Works. After making this payment, you will be considered to have transferred all such fixtures and fittings to us and we may remove, dispose or deal with them as we see fit, and you may not claim for any money left over after our removing, disposing or dealing with such fixtures and fittings.

4.3.1.4 Any invoice we give you of the amounts you must pay to us under clauses 4.3.1.2 and 4.3.1.3 above is final and binding (unless there is a clear and obvious mistake) and you must pay us such amounts on the Payment Date.

4.3.2 Holding over

If you do not provide us with vacant possession of the Premises when this Lease ends or continue to occupy the Premises after this Lease ends, you will be considered to be holding over and must pay us an amount equal to double the amount of Gross Rent or the market rent for the Premises that is current at that time as we may inform you (whichever is higher) for every day of the holding-over period, within seven days of our notice to you. Such holding over will not be considered as a renewal of this Lease. This clause 4.3.2 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

4.3.3 Viewing

During the six months before the end of this Lease, you must, if we give you notice, allow us, our agents and anyone else we authorise to view the Premises for the purpose of re-letting them.

4.4 Other terms

4.4.1 Assigning and subletting

4.4.1.1 You must not novate (that is, transfer all or some of your rights and obligations), assign (that is, transfer all or some of your rights), sublet, license, part with or share possession or occupation, mortgage or create a charge over, or grant anyone else any rights in respect of, this Lease or the Premises without our approval.

4.4.1.2 If you are a company, and there is a change in your management control or majority shareholders and you did not get our approval before making the change, this will be considered as an assignment of this Lease. For the purposes of this clause 4.4.1.2, 'majority shareholder' means a person who:

- (a) controls the structure of your board of directors;
- (b) controls more than 50% of your issued share capital; or
- (c) controls more than 50% of your voting power.

4.4.1.3 Without affecting clause 4.4.1.1, if you are a sole proprietor or a partnership made up of partners carrying out a business under a business name registered under the Business Registration Act (Chapter 32) or any other Law, and there is a change in the constitution or membership of the sole-proprietorship or partnership and you did not get our approval before making the change, this will be considered as an assignment of this Lease.

4.4.1.4 If we give any approval under this clause 4.4.1, we may set any terms, including charging fees, and section 17 of the Conveyancing and Law of Property Act (Chapter 61) will not apply.

4.4.2 No lodging of caveat, registering this Lease or subdividing the Building

4.4.2.1 You must not (i) lodge a caveat relating to this Lease, nor (ii) register this Lease at the Singapore Land Registry and you must immediately withdraw any caveats which are lodged in spite of this clause 4.4.2.1.

4.4.2.2 You must not ask us to subdivide the Building or do anything which could mean that we have to subdivide the Building.

4.4.2.3 This Lease does not operate as a Lease capable of registration under the Land Titles Act (Chapter 157) or any other Law.

4.4.3 Keeping to the Law

4.4.3.1 You must keep to the Law and all requirements of the Authorities relating to:

- (a) the Premises and using or occupying the Premises; and
- (b) your obligations under this Lease.

4.4.3.2 You must immediately notify us of:

- (a) any notice or order you receive from any Authority in relation to the Premises or this Lease;
- (b) any defect in the Premises which may cause us to have any Losses or duty; and
- (c) any damage that may happen to the Premises.

4.4.3.3 Without affecting clause 4.4.3.1, you must not allow the Premises to be used as a place where any person is employed in a way that is not allowed under section 57(1)(e) of the Immigration Act (Chapter 133), section 5 of the Employment of Foreign Manpower Act (Chapter 91a) or any other Law.

4.4.4 Head Lease

You must keep to the conditions (if any) that the Head Landlord sets when approving this Lease, including in particular, any conditions that relate to the Premises, Building and Park.

4.4.5 Tenants' Guide

You confirm that you have read and received a copy of the Tenants' Guide and you agree that you must keep to the Tenants' Guide and any other rules that we set, including paying any fees, charges, costs and expenses arising out of or relating to, or as a result of you failing to keep to your obligations under the Tenants' Guide. You must also make sure that Your Authorised People keep to the Tenants' Guide. We may add to or vary the Tenants' Guide at any time by making such revised Tenant's Guide available on the Capitaland Business Park & Industrial Tenant Portal.

4.4.6 Confidentiality of information

4.4.6.1 In order to protect and maintain the confidentiality of this Lease and any information relating to this Lease, and to prevent any unauthorised access to such information, you must not reveal to any third party (other than your professional advisors), this Lease or any information or any correspondence relating to this Lease, unless such disclosure is required under any Law or you get our approval beforehand. If you are allowed to reveal information to any third party, you must make sure that they keep to the terms of this clause 4.4.6.1 and such other terms as we may notify you.

4.4.6.2 Without affecting anything else in this Lease, if you do not keep to clause 4.4.6.1 we may withdraw any special concessions we have granted you under this Lease. This includes but is not limited to:

- (a) the Rent-free period (if any), meaning that you must pay us the Gross Rent for the entire Rent-free Period;
- (b) any special rental rates, meaning that you must pay us a revised gross rent for the entire Term based on the market rent that applies at that time; and
- (c) all other special concessions we grant to you.

4.4.6.3 This clause 4.4.6 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

4.4.7 Indemnity by you

4.4.7.1 You must indemnify us (that is, to pay all our losses in full without dispute or claim that we should have minimised such losses) against all Losses which we may suffer or have to pay arising out of or relating to death, injury, loss or damage caused, directly or indirectly, by:

- (a) anything that happens in the Premises or the use or occupation of the Premises;
- (b) you or Your Authorised People to the Premises, Building or any property in them, including if caused by using, misusing, wasting or abusing the Utilities or faulty fittings or fixtures or in respect of the condition of any part of the Premises; and
- (c) you failing to keep to the terms of this Lease.

4.4.7.2 This clause 4.4.7 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

5 **OUR OBLIGATIONS / INVOLVEMENT**

5.1 Quiet enjoyment

If you pay the Gross Rent and other amounts due under this Lease and keep to the terms of this Lease, you may occupy and use the Premises during the Term without any disturbance from us, except as allowed under this Lease.

5.2 Property Tax

We will pay the property tax charges for the Premises for the Term based on the Gross Rent payable by you under this Lease and the property tax rate applicable on the date of this Lease. To avoid any doubt, this does not include any Additional Property Tax, which you must pay.

5.3 Managing the Building

We will:

- (a) keep the exterior of the Building, the Common Areas and the amenities and facilities in the Building which are for common use in good repair, and keep the mechanical and electrical services in working order and condition (except for fair wear and tear);
- (b) provide lift services during such hours as we may notify to you, electricity for lighting the Common Areas and water for the toilet facilities (if any) in the Common Areas;
- (c) keep the Common Areas adequately clean and lit; and
- (d) insure the Building (not including your fixtures and fittings) against damage by fire and any other risks as we may decide.

5.4 No claim against us

5.4.1 Without being affected by anything else in this Lease, we are not responsible to you, and you must not claim against us, for any death, injury, or Losses which you or Your Authorised People may suffer (whether caused by negligence or otherwise) in connection with the following circumstances:

- (a) any interruption in any of the services mentioned in clause 5.3 due to the state and condition or any repair, maintenance, damage or destruction of any installations or equipment or any mechanical, electrical, electronic, microprocessor or software defect, malfunction or breakdown that occurs;
- (b) any act, failure to act, negligence or misconduct of:
 - (i) any of our employees or agents in relation to the Premises or the Building;
 - (ii) Our Authorised People carrying out any duty relating to the services mentioned in clause 5.3;
 - (iii) any contractor or consultant we have nominated or approved under this Lease; or
 - (iv) any other person in the Building;
- (c) any other tenants, Your Authorised People and other people in the Building not keeping to the Tenants' Guide;
- (d) any accidents, injuries, loss or damage to property or people in the Premises, Building or Park;
- (e) the use of the car-parks in the Building;
- (f) any failure, inability or defect in the supply or character of electricity, water (including chilled water) or, if it applies, gas supplied to the Premises by any service provider;
- (g) leaks or defects in the piping, wiring and sprinkler system, or defects in the structure of the Building;
- (h) any failure or delay by us to carry out measures to prevent any outbreak or spread of any Infectious Disease in the Building;
- (i) any terrorist act regardless of any other cause or event contributing to the loss (including any action taken to control, prevent or otherwise deal with any terrorist act); and
- (j) any Circumstances Beyond Our Control.

5.4.2 This clause 5.4 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

5.5 Limits to trustee's liability

5.5.1 If we are an entity listed on the stock exchange, the following clause will apply to this Lease:

Without being affected by anything else in this Lease, you agree that we are entering into this Lease only in our capacity as trustee of Ascendas Real Estate Investment Trust (the 'REIT') and not in our personal capacity. As such, any liability or indemnity we give or will give, and any power and right we grant to any receiver, attorney, agent or delegate of the trustee of the REIT will be limited to the assets of the REIT over which, as trustee of the REIT, we have legal rights, and will not extend to any of our personal assets or any assets we hold in our capacity as trustee of any other trust. This clause still applies even if this Lease ends, is brought to an end early or is cancelled. This clause will apply, with the necessary amendments and without affecting the meaning of this clause, to any notice, certificate or other document we issue under this Lease, as if it were set out in the notice, certificate or document.

5.5.2 If we are an entity not listed on the stock exchange, the following clause will apply to this Lease:

If the Building is sold to the trustee of Ascendas Real Estate Investment Trust ('A-REIT'), you agree that the following clause (or a variation of the following clause) will be included in this Lease.

'Limits to trustee's liability

Without being affected by anything else in this Lease, you agree that we are entering into this Lease only in our capacity as trustee of A-REIT and not in our personal capacity. As such, any liability or indemnity we give or will give, and any power and right we grant to any receiver, attorney, agent or delegate of the trustee of A-REIT will be limited to the assets of A-REIT over which the trustee of A-REIT has legal rights, and will not extend to any of our personal assets or any assets that the trustee of A-REIT holds in our capacity as trustee of any other trust. This clause still applies even if this Lease ends, is brought to an end early or is cancelled. This clause will apply, with the necessary amendments and without affecting the meaning of this clause, to any notice, certificate or other document we issue under this Lease, as if it were set out in the notice, certificate or document.'

6 OUR GENERAL RIGHTS AND REMEDIES

6.1 Cost and expenses

If we give you notice, you must pay immediately our full costs and expenses (including legal fees, administrative charges and stamp duty), relating to:

- (a) preparing, negotiating and completing this Lease (including any Side Letters);
- (b) considering your request for our permission or approval (including our professional advisor's fees for advising us); and
- (c) you not keeping to the terms of this Lease.

You must pay such costs and expenses on an indemnity basis (that is, to pay for all our costs and expenses and not dispute or claim that we should have minimised such costs and expenses).

6.2 Set-off and forfeiture of deposits

Without being affected by anything else in this Lease, we may deduct any payments you owe us from any deposits you have paid under this Lease. If we have deducted money from a deposit in this way, you must pay us an amount equal to the amount we have deducted within seven days of us notifying you. When this Lease ends, you must collect any deposits you have paid under this Lease within one year from such date as we have first tried to return you such deposit. If you don't, you will forfeit (that is, give up the right to claim) these deposits.

6.3 Remedial measures

If you fail to keep to the terms of this Lease, we may take action to deal with the situation (including issuing a stop order relating to any offending activity or stepping in to do any repair or remedial works). You must pay all our costs and expenses for us taking the actions under this clause 6.3. You will not have any claim against us for any Losses or inconvenience you may suffer due to us carrying out the actions. To avoid any doubt, we do not need to exercise this right under this clause 6.3 before we exercise our other rights.

6.4 Re-entry

6.4.1 You will have failed to keep to the terms of this Lease if:

- (a) you fail to pay the Gross Rent or any other amounts you must pay under this Lease within 14 days after the due date;
- (b) you do not keep to, and where possible, fail to correct your actions to keep to, the terms of this Lease (other than under clause 6.4.1(a)) within 14 days of our notice or such longer period as we may notify you (except in cases of emergency);
- (c) another creditor or person enforces a writ of execution (that is, a court order which permits a transfer of assets, money or property belonging to a debtor to pay off a legal judgment) or levies distress (that is, the forcible taking of a tenant's property by a landlord to pay off any overdue or unpaid rent or other money owed under a lease) on your property; or
- (d) you become or are reasonably likely to become insolvent (that is, when you are unable or likely unable to pay any debts as and when they are due).

6.4.2 If any of the circumstances in clause 6.4.1 happens, we may re-enter and take possession of all or any part of the Premises at any time, including during the Rent-free Period, and even if we have previously chosen not to enforce our right of re-entry, and the Term and this Lease will then end on the date of such re-entry or notice. To avoid any doubt, if you return any keys to us, this does not mean that we have accepted the surrender of the Premises, unless we confirm this in writing.

6.4.3 If any of the circumstances in clause 6.4.1 happens, we may notify you to novate (that is, transfer all or some of your rights and obligations) or assign (that is, transfer all or some of your rights) your sub-leases to us, including all rent and any security deposits relating to such sub-tenancies. Upon receiving such notice, you must immediately sign such novation or will be considered to have agreed to such assignment, and must make sure all sub-tenants sign such novation or agree to such assignment, including paying all rent received from such sub-tenancies, directly to us.

6.4.4 If any of the circumstances in clause 6.4.1 happens, you must, if we give you notice, leave on the Premises any of your property that we may require as set out in such notice.

6.4.5 If we end this Lease in line with clause 6.4.2:

- (a) your interest in and the rights to the Premises will end;
- (b) you must move out of the Premises immediately, except that you must still carry out the Reinstatement Works in line with clause 4.3 unless we notify you otherwise;
- (c) you will forfeit (that is, give up the right to claim) any money or deposits you have paid to us;
- (d) you must indemnify us (that is, pay all our losses in full without dispute or claim that we should have minimised such losses) from and against all Losses we suffer as a result of re-entering the Premises, including Gross Rent for the Rent-free Period, any Gross Rent which you would have paid if the Term had been completed, and all our costs and expenses of re-letting or trying to re-let the Premises); and
- (e) you will not have any claim against us for any Losses you suffer due to us ending this Lease.

6.5 Removing your property

- 6.5.1 If you leave any of your property at the Premises when this Lease ends, we have the right to dispose of it in whatever way we consider appropriate, and you must pay any costs involved. You will not have any claim against us for any Losses which you may suffer due to us removing any property from the Premises under this clause 6.5.
- 6.5.2 If we sell your property under clause 6.5.1 above, we may use the proceeds from the sale to pay our costs, expenses, Interest and any other money you owe us under this Lease. If there is any money left over, we will return such monies to you.
- 6.5.3 You must indemnify us (that is, pay all our losses in full without dispute or claim that we should have minimised such losses) against any Losses we have to any third party whose property we deal with or dispose of because we mistakenly believe it is yours.
- 6.5.4 This clause 6.5 will not be affected by, and will survive, the Term coming to an end or this Lease being brought to an end early.

6.6 Government takeover under the Land Acquisition Act (Chapter 152)

If any Authority compulsorily takes over the Building or any part of it, or issues any notice, order or gazette notification to take over the Building or any part of it, we may give you notice and end this Lease without compensation. To avoid any doubt, this will not affect any rights or remedies we have relating to you not keeping to the terms of this Lease.

6.7 We may transfer this Lease

We may novate (that is, transfer all or some of our rights and obligations) or assign (that is, transfer all or some of our rights) under this Lease to another party without your permission. Following such transfer, you:

- (a) will be considered as having agreed to such transfer and having accepted the new landlord;
- (b) must release us from all our obligations under this Lease (including our obligation to refund the Security Deposit and any other amounts under this Lease;
- (c) sign the novation agreement or the acknowledgement to the notice of assignment of this Lease, which we will prepare at our cost; and
- (d) get a replacement bank guarantee for the new landlord, if we request this, to replace any bank guarantee you have given us.

7 OTHER TERMS

7.1 Notices

- 7.1.1 All notices relating to this Lease must be in writing.
- 7.1.2 Any notice we give you is only valid if we post it on the Capitaland Business Park & Industrial Tenant Portal, give it by hand or send it by post to the Premises or to your registered office or business address.
- 7.1.3 Any notice you give to us is only valid if you send it by registered post to our registered office.
- 7.1.4 Any notice will be considered as served:
- (a) (for a notice given by hand) immediately on the day it is sent; and
 - (b) (for notice sent by registered post) 24 hours after it is posted as long as the sender can show that the envelope containing the notice was addressed, stamped and posted.

7.2 Process of serving documents in line with the Law

7.2.1 Any legal process will be considered as served if it is sent to:

- (a) us by registered post to our business address;
- (b) you by registered post to or by leaving it at your business address or the Premises; or
- (c) your or our solicitor by registered post to or by leaving it at their business address.

7.2.2 If you are a company that is not incorporated or registered in Singapore:

- (a) you must deliver to us, within seven days of appointing the process agent, a copy of the letter (in a form we approve) issued by the process agent to us, agreeing (in a way that cannot be changed) to act as your process agent (that is, once they have agreed to act as your process agent, you or they cannot withdraw this agreement);
- (b) serving documents on your process agent at their last known address will be considered as satisfactorily serving documents under the Law on you; and
- (c) clauses 7.2.2(a) and 7.2.2(b) will not affect our right to serve process in any other manner allowed by Law.

7.3 No waiver

7.3.1 If we give you permission not to keep to any of the terms of this Lease, or if we choose not to take action even if you are not keeping to any of the terms, this decision is only effective if we confirm it in writing. If we know about you not keeping to any of the terms of this Lease, or we accept the Gross Rent or any amount due under this Lease, this does not mean that we do not require you to keep to the terms of this Lease or that we have chosen not to take action.

7.3.2 If we give written permission or confirmation as set out in clause 7.3.1 above, this does not mean that we have also given permission or agreed not to take action if you:

- (a) do not keep to the same term of this Lease again; or
- (b) do not keep to another term of this Lease.

7.4 Entire Agreement

7.4.1 This Lease forms the entire agreement between you and us for this lease of the Premises.

7.4.2 We are not bound by any statement, conduct or promises (whether written or spoken, express or implied by common law, statute, custom or in any other way) relating to the Premises, Building or Park if they are not set out in this Lease.

7.4.3 You confirm that you have not agreed to or signed this Lease as a result of relying on any statement, conduct or promise we have made (or which someone else has made on our behalf), which is not as set out in this Lease.

7.4.4 You and we each state, guarantee, confirm and agree that each has full power and authority to enter into and carry out the obligations contained within this Lease, and this Lease is valid and binding.

7.5 Severability

If any part of this Lease cannot be enforced or if all or part of any clause in this Lease is illegal or invalid or cannot be enforced by Law, this will not affect the legality, validity or enforceability of any other clause in this Lease.

7.6 Governing Law and jurisdiction

7.6.1 This Lease is governed by Singapore Law.

7.6.2 You and we agree that the appropriate legal forum for any disputes relating to this Lease will be the courts of Singapore.

7.7 Contracts (Rights of Third Parties) Act (Chapter 53B)

Apart from (i) the Head Landlord, (ii) any Authorities and (iii) any people authorised by us, the Head Landlord and/or the Authorities, no person who is not a party to this Lease has any right under the Contracts (Rights of Third Parties) Act (Chapter 53B) to enforce or enjoy the benefit of any term of this Lease.

7.8 Electronic Signatures

The Parties acknowledge and agree that we are authorised to rely upon and accept as an original for all purposes, this Lease, any other transaction document or other communication delivered by you or its solicitor by facsimile, telegraphic, .pdf, e-mail or other electronic transmission (each, a “**Communication**”) which we or our solicitor in good faith believes has been signed by you, including by electronic signature, and which has been so delivered to us or our solicitor. Such Communication shall have the same force and effect as an original signature. Without limitation, “electronic signature” will include versions of an original signature on a document electronically scanned and transmitted versions (e.g., via pdf) of an original signature; it shall also include eSignatures included on documents accessed from electronic and/or mobile devices via eSignature Services such as DocuSign and AdobeSign. Notwithstanding the foregoing, we will in any instance require that an original document be submitted to us in lieu of, or in addition to, any such Communication.

Counterparts

This Lease may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute the same agreement. One or more counterparts of this Lease may be delivered by facsimile or pdf electronic transmission, with the intention that they shall have the same effect as an original counterpart.

8 SUPPRESSION OF CORRUPT PRACTICE

8.1 The group of which we form part is committed to conducting its business in an ethical manner and expects all its employees and parties with which it has a contractual relationship to conduct themselves with high ethical standards and to comply with applicable laws for the suppression of corrupt practices (“**Anti-Corruption Laws**”).

8.2 You represent and warrant that, to the best of your knowledge, neither you nor any person who (by reference to all relevant circumstances) performs services or acts for or on behalf of you in any capacity (including, without limitation, employees, agents, related corporations and subcontractors) (“**Representatives**”) has contravened, or procured or encouraged third parties (including, to avoid any doubt, the employees of or any person acting on our behalf) to contravene, any Anti-Corruption Laws in connection with this Lease.

8.3 You must immediately notify us if any person employed by us or acting on our behalf or any of your Representatives, has contravened or attempted to contravene any Anti-Corruption Laws in connection with this Lease, and must take adequate steps to protect the interests of both you and us. All such notices to us should be sent to the Head of Group Internal Audit of CapitaLand Limited at the following email address: Whistleblowing.ACChair@capitaland.com.

8.4 We may terminate this Lease forthwith if you or any of your Representatives has contravened or attempted to contravene any Anti-Corruption Laws, whether in connection with this Lease or otherwise. Such termination shall not affect our other rights and remedies whether under this Lease or otherwise.



**SCHEDULE 5
PLAN OF THE PREMISES**

SCHEDULE 6 DECLARATION FORM

1. Details (see note below)

Name of company or firm (as in ACRA): FLUIDIGM SINGAPORE PTE. LTD.	
Premises: Block 5008 Ang Mo Kio Avenue 5 #08-01/19, RC Roof 1 & RC Roof 2 TECHplace II Singapore 569874	
Company's mailing address:	Block 5008 Ang Mo Kio Avenue 5 #08-08 TECHplace II Singapore 569874
Phone: 98522832	Email address: Cheng-Han.Phoa@fluidigm.com
Company registration number: 200311994M	Country where the company is incorporated: Singapore
Company's principal activity: Research and experimental development on Biotechnology, life and medical science.	

Manufacture and repair of engineering and scientific instruments. Manufacturing operations for Integrated Microfluidic chips.

Note: If you are a foreign firm or new company in the process of being set up, please provide a local contact address and phone number, where possible.

2. Using the Premises

R&D and manufacturing of fluidic chips and microfluidic system

2.1 Urban Redevelopment Agency's 60:40 requirements

Do your activities in the Premises meet the Urban Redevelopment Authority's (URA) 60:40 requirements (set out below) for use of space?

Yes No

Logistics and warehouse

URA's 60:40 requirements: You must make sure that at least 60% of the Floor Area is used for warehouse activities. The remaining space can be used for offices, showrooms, circulation space or shared facilities and other areas approved in writing by the relevant Authorities.

2.2 Application to the Central Building Plan Department of the National Environment Agency (NEA) relating to the use of the Premises

Do you intend to change the use of the Premises that is to be renewed? Yes No

If 'yes', you will need to submit your application online at <https://e-services.nea.gov.sg/ias/>. You must state in the application that the Premises are used for the purposes as set out in paragraph 2 of this declaration form. You must let us have a copy of the acknowledgement that your application has been accepted. When you receive the NEA's clearance letter, please let us have a copy of the letter allowing you to use the Premises for your operations.

2.3 Applying for drinkable water or non-drinkable water

You must apply to the Authorities for drinkable or non-drinkable water if you use more than 500 cubic metres of water per month.

Declaration

I declare that all the information and details I have provided on this form are true, correct and complete, and that we will not change the activities to be carried out in the Premises without first getting your approval.

Phoa Cheng Han
Managing Director

/s/ Phoa Cheng Han

Name and job title

Signature

24-May-21 | 11:03 PM PDT

Date

**SCHEDULE 7
JTC SUBLETTING APPLICATION DOCUMENTS**

This schedule does not apply to this Lease.

We and you confirm our entry into this Lease, as signed and witnessed below.

Landlord (us)

Signed
for and on behalf of us
HSBC Institutional Trust Services (Singapore) Limited
(in its capacity as trustee of Ascendas Real Estate Investment Trust), in line with the power of attorney
dated 3 June 2013

/s/ Adrian Tan /s/ Karen Tee

Name of authorised signatory: Adrian Tan Name of authorised signatory: Karen Tee
Designation: Manager Designation: Head
Lease Management Lease Management

Tenant (you)

Signed by
for and on behalf of you
FLUIDIGM SINGAPORE PTE. LTD.

/s/ Phoa Cheng Han
Name: Phoa Cheng Han
Title: Managing Director
Company Stamp

As witnessed in the presence of:

/s/ Herry Effendi
Witness Herry Effendi
Name: Senior Supply Chain Manager
Title:
Address: Blk 5008, Ang Mo Kio Ave 5
#08-08, Techplace II,
Singapore 569874



16th June 2021

Colin McCracken
3 Royal County Down Crescent
Markham, ON L6C 0K1

Dear Colin,

Repatriation Agreement

This letter is to inform you that your employment with Fluidigm Canada Inc. will be terminated as of June 25, 2021. At that time, your employment will be transferred to Fluidigm UK Limited (the "Company"), and the Company will coordinate your repatriation back to Dorgan, United Kingdom.

On your employment termination date, you will receive the following repatriation package:

1. Final move trip – Reimbursement to you for the purchase of airline tickets for premium economy seats from Canada to the United Kingdom for all members of your immediate family who had relocated in Canada with you; and one (1) night hotel and meals.
2. Shipment of household goods – The Company will pay for the reasonable shipment of required personal and household goods to the United Kingdom (up to 1,500 lbs. via air container and/or up to 5,000 lbs. via sea container).
3. Pet transportation – The Company will reimburse reasonable transportation of one (1) cat from Canada to the United Kingdom.
4. Early cancellation of car lease – The Company will reimburse the early cancellation of the car lease in the amount of CAD2,979.36.
5. Tax return preparation assistance
 - i. You will be provided (by the Company or the Company's affiliates or successor) tax return preparation assistance for three (3) years after repatriation. Any tax support that is personal in nature and unrelated to the assignment (e.g., children's tax return, tax advice related to personal income, such as investment, estate or retirement planning, etc.) are outside of the scope of the Company's tax support and will not be paid by the Company.

- ii. It is recommended that you use the tax return preparation assistance of the Company's designated tax advisor. The Company will not reimburse any fees you incur for utilizing other tax service providers.
- iii. You are solely responsible for providing all pertinent information to the tax advisor and for ensuring your taxes are completed and filed on a timely basis.

6. Tax Obligations

All income taxes, taxes payable on assets and taxes payable on advantages in kind owed or to be owed to the appropriate taxing authorities in Canada, United Kingdom, or any other tax jurisdiction, directly or indirectly connected with your compensation and benefits set out in your employment agreement concluded with the Company dated 16th June 2021 (the "Employment Agreement"), in any of your previous employment agreements concluded with the Company or Fluidigm Canada Inc., and in this Repatriation Agreement, are your sole and exclusive responsibility.

- i. You are responsible for your own personal taxes and the Company or the Company's affiliates or successor will, at all times, be entitled to withhold or off-set against your salary any personal tax or withholding tax amounts that could be owed by you to any and all tax authorities.
- ii. Equity and bonus reporting and trailing obligations – you acknowledge and understand the following (which are selected income tax considerations for your general guidance, and are not a substitute for qualified tax advice):
- iii. Equity awards – when a stock award is granted in one tax jurisdiction and vests in another tax jurisdiction, both tax jurisdictions may have the right to tax the equity awards.
- iv. Bonus – when you receive a bonus in one tax jurisdiction but contribute to services rendered in another tax jurisdiction (either partly or wholly), both tax jurisdictions may have the right to tax the bonus.
- v. Employer's reporting and withholding requirements - In accordance with local tax laws, the Company or the Company's affiliates or successor may have an obligation and be required to report equity income and bonus and/or withhold taxes in all the tax jurisdictions you have worked during the bonus period or since the stock award was granted.
- vi. Filing requirements for income tax returns - The equity income and bonus reported by the Company and related withholdings may be different from the ultimate tax liability. Withholding maybe insufficient to cover tax due or may be greater than the tax due. Often, it is recommended to file an income tax return even if it is not mandatory.



7. Gross-ups on repatriation benefits -The repatriation benefits as well as tax preparation fees mentioned in above paragraphs paid by the Company on your behalf (whether paid to you directly or on your behalf), may be considered as taxable income to you in Canada and/or the United Kingdom. The Company will provide both Canadian and UK tax assistance, also known as a “gross-up”, to reduce tax liabilities you may incur because of such benefits.

The gross-up will be based on your current income from the Company and tax bracket. Although it is the Company's intention to cover the majority of such tax liabilities, full coverage is not guaranteed.

In the event of termination of employment, should you resign as an employee of the Company or your employment with the Company (or in each case as an affiliate or successor of the Company) is terminated for Cause (as defined in the Company's 2011 Equity Incentive Plan) the Company will have no repatriation obligations under this paragraph.

Lastly, you will be expected to complete the transition of any and all legal representation duties and transfer of those duties as well as the transition of any and all other account responsibilities.

Please refer to your Employment Agreement regarding the specific terms and conditions of your employment with Fluidigm UK Limited.

Please acknowledge by signing and dating this letter, keep a copy for yourself, and return a signed copy to me.

Very truly yours,
FLUIDIGM UK LIMITED

/s/Vikram Jog
Vikram Jog (Jun 24, 2021 17:37 PDT)

Vikram Jog
Director

I hereby agree to and accept the foregoing terms and conditions.

/s/Colin McCracken
Colin McCracken (Jun 24, 2021 21:26 EDT)

Colin McCracken

7-61-8881





Colin McCracken

Colin McCracken
 Paddock View
 Pettoch Farm
 Nr Drongan
 KA6 6HD

Date: June 16, 2021

Dear Colin

TERMS AND CONDITIONS OF EMPLOYMENT

The following Terms and Conditions of Employment (the "Agreement") apply to your employment with Fluidigm UK Limited (the "Company") as at the date of issue. They are given to you pursuant to s.1 Employment Rights Act 1996.

PREAMBLE

For certainty, the terms of this Agreement shall supersede and replace any and all prior agreements or arrangements in respect of your employment with the Company and any of its Associated Companies including:

- your offer of employment letter dated November 30, 2018 with Fluidigm UK Limited,
- your offer of employment letter dated April 12, 2019 with Fluidigm Canada Inc, and
- your relocation extension letter dated May 7, 2021 issued by Fluidigm Canada Inc.,

which are all terminated.

You will receive a repatriation package, as described in the Repatriation Agreement letter dated 16th June 2021.

Your participation in Fluidigm Corporation 2020 Change of Control and Severance Plan (the "Plan") remains effective under this Agreement, subject to all of the terms and conditions of the Plan.

DATE OF COMMENCEMENT

Your employment with the Company will commence on June 26, 2021 and will continue until terminated in accordance with clause 18 below.

The Company shall recognize your prior period of service first with Fluidigm UK Limited and subsequently with Fluidigm Canada Inc, commencing on March 1, 2019, for purposes relating to your employment with the Company.

DUTIES

You are employed as a Chief Commercial Officer reporting to the Chief Executive Officer of Fluidigm Corporation, in which capacity you shall devote all your time, attention and skill to your duties of employment. You shall faithfully and diligently perform such duties and exercise such powers consistent with them as may from time to time be assigned to you by the Company. A description of your duties is set out in Schedule 1.

! You will perform all acts, duties and obligations and comply with such orders as may be designated by the Company and which are reasonably consistent with your job title. The Company may require you to undertake the duties of another position, either in addition to or instead of the above duties, it being understood that you will not be required to perform duties which are not reasonably within your capabilities.

! The Company may require you (as part of your duties of employment) to perform duties or services not only for the Company but also for any of its Associated Company where such duties or services are of a similar status to or consistent with your position with the Company. The Company may at its sole discretion assign your employment to any of its Associated Company on the same terms and conditions as set out, or referred to, in this Agreement.

! You are required to report your own wrongdoing and any wrongdoing or proposed wrongdoing of any other employee or director of the Company to Senior Human Resources Business Partner, or as indicated in the Company's Complaint Procedures for Accounting and Auditing Matters policy, immediately on becoming aware of it.

! You authorise the Company, and any agent instructed by the Company, to access any program or data held on any computer used by you in the course of performing your duties of employment (and regardless of whether the program or data is related to your duties of employment).

! You agree that during your employment with the Company, you will not improperly use, disclose, or induce the Company to use any proprietary information or trade secrets of any former employer or other person or entity with which you have an obligation to keep such items in confidence. You further agree that you have not and will not bring onto the Company's premises or transfer onto the Company's technology systems any unpublished document, proprietary information or trade secrets belonging to any such third party unless disclosure to, and use by, the Company has been consented to in writing by such third party.

! You represent and warrant that you have no other agreements, relationships, or commitments to any other person or entity that conflict with the provisions of this Agreement, your obligations to the Company under this Agreement, or your ability to become employed and perform the services for which you are being hired by the Company. You further agree that if you have signed a confidentiality agreement, non-solicitation or non-competition agreement, or any similar type of agreement and/or covenant, with any former employer or other entity, you will comply with the terms of any such agreement/covenant(s). You represent and warrant that after undertaking a careful search (including searches of your computers, cell phones, electronic devices, and documents), you have returned all property and confidential information belonging to all prior employers (and/or other third parties you have performed services for in accordance with the terms of your applicable agreement). Moreover, you agree to fully indemnify the Company, its directors, officers, agents, employees, investors, shareholders, administrators, Associated Companies, divisions, subsidiaries, predecessor and successor corporations, and assigns for all verdicts, judgments, settlements, and other losses incurred by any of them resulting from your breach of my obligations under any agreement with a third party to which you are a party or obligation by which you are bound, as well as any reasonable attorneys' fees and costs if the plaintiff is the prevailing party in such an action, except as prohibited by law.

HOURS OF WORK

Your basic hours of work are 40 per week, Monday to Friday. The Company's core office hours are 9.00 am to 5.30 pm ("Core Hours"). When working at your home address you must be available and contactable by representatives of the Company or clients during Core Hours. For the avoidance of doubt, you may be required to work irregular hours for the proper performance of your duties.



You may also be required to work additional hours by way of overtime either as and when requested to do so by the Company or when the proper performance of your work so requires. You will not be entitled to be paid extra remuneration for any such additional hours worked in excess of your basic weekly hours

PLACE OF WORK

Your place of work is your home address, which is currently Paddock View, Pattoch Farm, Nr Drongan, KA6 6HD. However, you may be required to work at any other premises which the Company currently has or may later acquire in the United Kingdom.

You will be required to travel extensively worldwide (for at least 50% of your working time), and to make regular journeys to the United States for the performance of your duties.

The Company may require you to attend its offices in the U.S. or any other of its or a client's premises, (when you might otherwise be working from your home address) at such times as the Company considers necessary for the proper performance of your duties, and in any event, to:

- (a) attend a client or company meeting;
- (b) take part in a disciplinary investigation or attend a disciplinary meeting;
- (c) attend a training session or examination;
- (d) take part in the Company's performance review process;
- (e) undertake tasks which you are not able to carry out from home; or
- (f) meet the operational needs of the Company's or its clients' businesses.

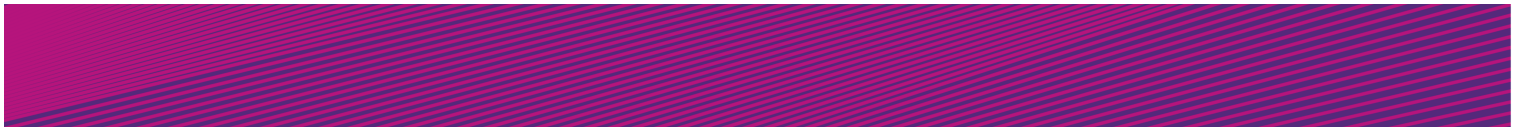
You agree that the Company's representatives, at reasonable times and on reasonable notice, may enter your home address for the purposes of:

- (a) conducting a health and safety assessment of your work station and equipment provided by the Company;
- (b) installing, inspecting, replacing, maintaining or servicing equipment that the Company provides for the purposes of working from home, and to ensure that such equipment is stored securely;
- (c) recovering Company equipment on termination of your employment; or
- (d) recovering confidential information (whether in hard copy or stored on your personal home computer system, and whether belonging to the Company or to any of its clients) on termination of your employment, (and you agree that you will provide all necessary passwords and or encryption data in order to achieve the same).

You agree to comply with any request by the Company to carry out a health and safety self-assessment in respect of your home working.

You are required to inform the HR Department as soon as possible if you plan to change your home address.

You confirm that you are not in breach of any legal obligation, covenant or agreement in working at your home.



During your employment with the Company, you shall not be required to work outside the United Kingdom for any continuous period of more than one month.

COMPANY PROPERTY

The Company may provide the following property and equipment to you for your sole business use for the purpose of carrying out work duties from your home address:

- (a) Portable Computer
- (b) Printer
- (c) iPhone or similar device

i. which shall remain the property of the Company at all times.

The Company will install and maintain such equipment, as necessary, at its own expense.

You shall be responsible for ensuring that you use the Company equipment solely for performing your duties under this Agreement. You shall be responsible for any damage to Company equipment that goes beyond ordinary wear and tear, and you are required to report to the office manager at the Company any such damage or malfunction as soon as you become aware of it.

You shall be responsible for taking out and maintaining a valid policy of insurance covering Company equipment against fire, theft, loss and damage throughout your employment. You agree not to do, cause or permit any act or omission which will invalidate the policy of insurance covering your or the Company's equipment. You shall ensure that the level of cover and other terms of insurance are acceptable to the Company and shall on request supply to the Company copies of such insurance policy and evidence that the relevant premiums have been paid. You agree not to do, cause or permit any act or omission which will invalidate the policy of insurance covering yours or the Company's equipment.

REMUNERATION, EXPENSES AND DEDUCTIONS

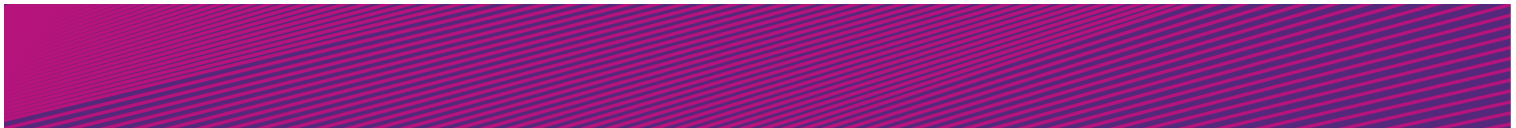
Your basic salary is £270,641.00 per annum payable by credit transfer monthly in arrears, less tax and NI contributions. Your basic salary shall accrue from day to day at a rate of 1/260th of your annual salary. As from July 1st, 2021, your basic salary will increase to £281,467.00 per annum.

Although the Company will review your basic salary annually, you have no entitlement to a salary increase in any year.

You will be paid or reimbursed for any reasonable expenses properly incurred by you while performing your duties on behalf of the Company, subject to your producing VAT receipts in respect of such expenses, when requested by the Company, and subject to your compliance with the Company's rules and policies relating to expenses.

The Company shall be entitled at any time during your employment, or in any event on termination, to deduct from your remuneration hereunder any monies due from you to the Company including but not limited to any outstanding loans, advances, the cost of repairing any damage or loss to the Company's property caused by you (and of recovering the same), any sums due from you under clause 8.2 below and any other monies owed by you to the Company.

The discretions conferred upon the Company under this clause 6 shall be unfettered and shall not be limited or restricted by any implied term or obligation including, but not limited to, the implied duty not, without reasonable and proper cause, to act in a manner calculated or likely to seriously



damage or destroy the relationship of trust and confidence with you (or any similar term implied by the courts into contracts of employment) and any implied duty to act rationally or in good faith.

CAR

You will be entitled, to a car allowance at the rate of £1030.00 per month/£12,360 per annum, subject to the Company's Car Policy that may change from time to time. Further information about the Car Policy are available from the HR Department.

If you are absent from work due to sickness or injury, you will continue to retain use of the company car or receive your car allowance (whichever is relevant) for the same period as you are entitled to receive Company sick pay (see clause 9 below).

HOLIDAYS

You are entitled to 28 working days' paid holiday in each complete calendar year (excluding public holidays normally applicable in England). The Company's holiday year is from 1 January to 31 December.

On the commencement and termination of your employment, you will be treated as having accrued holiday on a pro rata basis for each complete month of service in that holiday year calculated by reference to your first or last date at work (as appropriate). If, on the termination of your employment, you have exceeded your accrued holiday entitlement, this excess will be deducted from any sums due to you. If you have holiday entitlement still owing the Company may, at its sole discretion, require you to take all or part of your outstanding holiday during your notice period or to pay you a sum in lieu of holiday accrued but untaken in the holiday year in which your employment terminates.

If the Company has terminated or would be entitled to terminate your employment under clause 18.2 or if you have terminated your employment in breach of this Agreement any payment due under clause 6.1 shall be limited to your statutory entitlement under the Working Time Regulations 1998 (SI 1998/1833) and any paid holidays (including paid public holidays) taken shall be deemed first to have been taken in satisfaction of that statutory entitlement.

You must obtain the prior approval of your direct manager before booking holiday dates. Not more than two weeks may be taken at any one time, save at the Company's discretion.

The Company may require you to take any accrued and outstanding holiday entitlement during any period of sickness absence by giving notice at any time. For the avoidance of doubt, any period of holiday taken during sickness absence will also be regarded as a continuation of that sickness absence and will not constitute a return to work. Payment for days of holiday taken during sickness absence will be as set out in clause 9.3 below.

Holiday entitlement for one holiday year must be taken in the same holiday year. Failure to do so will result in forfeiture of any such accrued holiday not taken.

You are not entitled to any other form of paid leave not included in this clause 8, clause 9 or clause 18.

SICKNESS

Subject to clauses 9.4 to 9.7 below, if you are absent from work due to sickness or other medical incapacity, the Company will pay 100% of your basic salary for a period of 10 days in any period of 12 months ("Company sick pay"). Company sick pay is inclusive of any Statutory Sick Pay ("SSP") to which you may be entitled, and will be based on your basic salary less any State



benefits claimable by you on account of your sickness or injury, less normal deductions for tax and NI contributions etc.

After your Company sick pay is exhausted, you will continue to receive SSP when you qualify for it under the prevailing legislation. When Company sick pay and SSP are payable for the same day of sickness you will receive the higher of the two sums.

Payment for any days of holiday taken during sickness absence will be at 1/260th of your basic annual salary, less appropriate deductions and will be made via payroll in the usual way. Any payment made in respect of that holiday will discharge in full any entitlement to Company Sick Pay or permanent health / long term disability insurance payments (as appropriate) for the same period.

In all cases of absence, you must notify the Company on the first morning of your absence, giving the reason for the absence and its anticipated duration. If you are sick or otherwise medically incapacitated for more than seven consecutive days, then a medical certificate (signed by a doctor) must be produced to the Company. Thereafter medical certificates should be submitted regularly to cover the full period of absence. On each occasion a medical certificate expires and you do not anticipate you will be returning to work, you must notify the Company on the first morning following the expiry of the medical certificate.

If you are absent due to illness or an accident immediately before or during a period of pre-arranged holiday the first 5 days of that holiday will still count as holiday. If you then wish to reclaim any days of additional holiday lost due to sickness you must produce a medical certificate at your own expense (signed by a doctor) from the first day of your sickness. If you do not provide the medical certificate, you will not be permitted to reclaim any days of holiday.

You are required to complete the Company's Time-off Request Form for all absences (regardless of duration) and submit it to your direct manager and the HR department.

The Company reserves the right to require you to undergo a medical examination by a doctor or consultant nominated by it, in which event the Company will bear the cost thereof.

If, during your employment, you are absent from work on grounds of sickness or other medical incapacity you will continue to be covered by the Company's life insurance, medical insurance and long-term disability insurance schemes. However your entitlement to car allowance, the payment of the Company's pension contributions, participation in any commission or incentive scheme, and accrual of holiday entitlement will cease on the expiry of the relevant period of Company sick pay entitlement referred to in clause 9.1 above.

Your entitlement to Company sick pay and SSP are subject to the Company's right to terminate your employment in accordance with clause 18 below and the Company will not be liable for any loss arising from such termination of entitlement(s).

PENSION AND OTHER BENEFITS

The Company will make contributions of 9% of your basic salary to a personal pension scheme or stakeholder pension scheme of your choice (less any deductions for tax or NI contributions required by law). The Company shall pay such contributions in respect of the relevant year of service into your pension scheme on a monthly basis or on a schedule you specify. There is no contracting-out certificate in force in relation to the State Second Pension.

You shall be eligible to participate in the Company's long-term disability insurance, and private medical insurance schemes. You shall also be eligible to participate in the Company's life assurance scheme. In all cases participation shall be subject to the terms and conditions of such



schemes from time to time in force. Details of the schemes can be obtained from the HR Department. The Company reserves the right to terminate its participation in any of the schemes or substitute another scheme or alter the benefits available to you under any scheme(s). If a scheme(s) provider (e.g. an insurance company) refuses for any reason (whether under its own interpretation of the terms of the relevant insurance policy or otherwise) to provide the relevant benefits to you under the applicable scheme(s), the Company shall not be liable to provide, or compensate for the loss of such benefits.

- .3 Any actual or prospective loss of entitlement to long term disability or private medical insurance benefits shall not limit or prevent the Company from exercising its right to terminate your employment in accordance with clause 18 below and the Company shall not be liable to provide, or compensate for the loss of such benefits.
- .4 You are not entitled to any form of benefits other than those detailed in this Agreement.

TRAINING

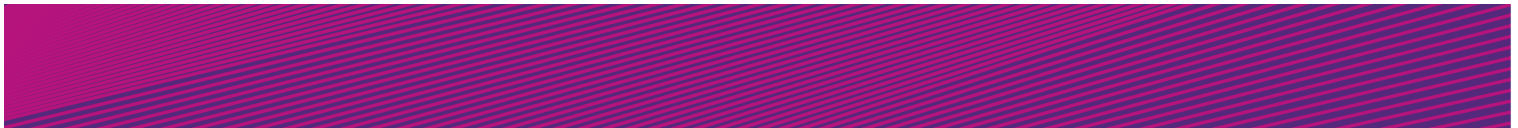
- .1 In addition to general training the Company provides during your induction and throughout your employment, the Company will specify certain mandatory training modules from time to time. These cover matters that are essential for working for the Company. The subject matter will vary from time to time and the Company will update you on the requirements

CONFIDENTIAL INFORMATION

- .1 You agree that you will not at any time during your employment (except in the proper performance of your duties) or at any time (without limit) after its termination, directly or indirectly
 - (a) use for your own purposes or those of any other person, company, business entity or other organisation whatsoever; or
 - (b) disclose to any person, company, business entity or other organisation whatsoever;any trade secrets or confidential information relating or belonging to the Company or any Associated Company including but not limited to any Confidential Information.
- .2 You further agree that in respect of any trade secrets or confidential information relating or belonging to the Company or any Associated Company including but not limited to any Confidential Information, you will
 - (a) use your best endeavours to prevent any unauthorised use or disclosure of such secrets or information; and
 - (b) sign and observe such confidentiality undertakings in favour of the Company or its Associated Companies or any other person as the Company may reasonably require.
- .3 "**Confidential Information**" includes, but is not limited to the following information, save to the extent that such information is in the public domain (other than by way of unauthorised disclosure whether by you or another person):
 - (a) client/customer lists and contact details and terms of business with clients/customers;
 - (b) supplier lists and contact details and terms of business with suppliers;
 - (c) lists of potential clients/customers and any proposed terms of business with potential clients/customers;



- (d) price lists or pricing structures including any terms of credit, discount and preferential terms;
 - (e) sales figures;
 - (f) sales and marketing strategies;
 - (g) business plans or dealings;
 - (h) lists of suppliers and terms of business with suppliers;
 - (i) lists of employees, officers or contractors and details of remuneration packages and terms of employment/engagement of employees, officers and contractors;
 - (j) object or source codes and computer software;
 - (k) financial reports, information and plans;
 - (l) any proposals relating to the acquisition or disposal of a company or business or any part thereof;
 - (m) any information not generally known to the public;
 - (n) technical information and know-how relating to the processes and operations devised, owned or used by the Company or its Associated Companies including but not limited to existing or contemplated products, services, technology, unpublished inventions, designs, formulae, algorithms, formulae, prototypes, product lines, and research activities;
 - (o) information which may affect the value of the shares in the Company or its Associated Companies and (where relevant) any unpublished price sensitive information (including details of business development projects, proposed acquisitions, sales, joint ventures or disposals involving the Company or its Associated Companies);
 - (p) any information regarding products or services related to microfluidic chips and associated apparatus, automated protein crystallization products, and PCR and other nucleic acid amplification / detection systems.
 - (q) any document marked 'Confidential' (or with a similar expression), or any information which you have been told is confidential or which you might reasonably expect the Company would regard as confidential; and
 - (r) any information which has been given to the Company or an Associated Company in confidence by customers, suppliers or other persons.
- .4 You agree that you will not at any time during your employment with the Company make any notes or memoranda relating to any matter within the scope of the Company's business, dealings or affairs otherwise than for the benefit of the Company or any Associated Company.
- .5 You are responsible for ensuring the security of your home and that Confidential Information in your home is kept secure. In particular, you undertake to:
- (a) encrypt and/or protect by password any Confidential Information held on any computer;
 - (b) lock your computer whenever it is left unattended;



(c) keep all papers in filing cabinets that are locked when not in use; and

(d) dispose of all Confidential Information securely.

.6 The obligations contained in this clause 12 will not apply to any disclosures required by law or any protected disclosure within the meaning of section 43A of the Employment Rights Act 1996, and shall cease to apply to any information or knowledge which may subsequently come into the public domain after the termination of your employment, other than by way of unauthorised disclosure.

EXCLUSIVITY OF SERVICE

.1 You are required to devote your full time, attention and abilities to your job duties during working hours, and to act in the best interests of the Company and its Associated Companies at all times.

.2 You must not, without the written consent of the Company, in any way directly or indirectly (i) be engaged or employed in, or (ii) concerned with (in any capacity whatsoever) or (iii) provide services to, any other business or organisation where this is, or is likely to be, in conflict with the interests of the Company or its Associated Companies or where this may adversely affect the efficient discharge of your duties. However, this does not preclude your holding up to 5% of any class of securities in any company which is quoted on a recognised Stock Exchange.

RECEIPT OF PAYMENTS AND BENEFITS FROM THIRD PARTIES

Subject to any written regulations issued by the Company which may be applicable, neither you nor your Immediate Relatives, nor any company or business entity in which you or they have an interest, are entitled to receive or obtain directly or indirectly any payment, discount, rebate, commission or other benefit from third parties in respect of any business transacted (whether or not by you) by or on behalf of the Company or any Associated Company and if you, your Immediate Relatives or any company or business entity in which you or they have an interest, directly or indirectly obtain any such payment, discount, rebate, commission or other benefit you will forthwith account to the Company or the relevant Associated Company for the amount received or the value of the benefit so obtained.

INTELLECTUAL PROPERTY, INVENTIONS AND PATENTS

.1 All records, documents, papers (including copies and summaries thereof), works and any other intellectual property and related rights ("Works") made or acquired by you in the course of your employment shall, together with all the worldwide right, title and interest in all the Works, be and at all times remain the absolute property of the Company. To the extent that the Works do not vest automatically in the Company, you shall assign the Works to the Company, or hold them on trust for the Company.

.2 You hereby irrevocably and unconditionally waive all rights granted by Chapter IV of Part I of the Copyright, Designs and Patents Act 1988 that vest in you (whether before, on or after the date hereof) in connection with your authorship of any of the Works in the course of your employment with the Company, wherever in the world enforceable, including without limitation the right to be identified as the author of any such works and the right not to have any such works subjected to derogatory treatment.



- .3 You and the Company acknowledge the provisions of Sections 39 to 42 of the Patents Act 1977 ("the Act") relating to the ownership of employees' inventions and the compensation of employees for certain inventions respectively. If you make any inventions that do not belong to the Company under the Act, you agree that you will forthwith license or assign (as determined by the Company) to the Company your rights in relation to such inventions and will deliver to the Company all documents and other materials relating to them. The Company will pay to you such compensation for the licence or assignment as the Company will determine in its absolute discretion, subject to Section 40 of the Act.

DISCIPLINARY AND GRIEVANCE PROCEDURES

Details of the Company's non-contractual disciplinary and grievance procedures can be obtained from the HR Department. If you are unhappy about any aspect of your employment with the Company, you should raise the matter at first instance with the HR department. If you are still unhappy you should take up the grievance with the company CEO whose decision shall be final within the Company.

COLLECTIVE AGREEMENTS

There are no collective Agreements applicable to your employment.

TERMINATION OF EMPLOYMENT

- .1 Subject to clause 18.2 below, your contract of employment is terminable by either you or the Company on giving the other three months' written notice.
- .2 The Company reserves the right to terminate your contract without notice, or pay in lieu of notice, if it has reasonable grounds to believe you are guilty of gross misconduct, gross negligence or in material breach of one of the terms of your employment. Examples of gross misconduct can be obtained from the HR Department.
- .3 You agree that the Company may at its absolute discretion make a payment or payments (which may, at the Company's absolute discretion, be paid in instalments) representing salary in lieu of any notice of termination of employment which you or the Company is required to give, subject to any reduction under clause 18.4 below. For the avoidance of doubt, such payment or payments shall be less deductions for tax and NI contributions and shall not include the value of any benefits, bonus/incentive, commission, or holiday entitlement which would have accrued to you had you been employed until the expiry of your notice entitlement under clause 18.1 above. Further, you shall have no entitlement to such payment, or payments unless and until the Company notifies you in writing of its decision to make such payment(s) to you.

Your Duty To Mitigate

- .4 Where the Company decides to exercise its power under clause 18.5 to make any such payment(s) to you, then you undertake to take all reasonable and necessary steps to find alternative employment to commence within a period equivalent to the notice period (or where notice has been served, the unexpired period of notice) referred to in clause 18.1 commencing on the Termination Date. You will take all reasonable steps to find alternative paid work as soon as possible during this period and will promptly provide the Company with details of any steps taken, any work obtained and the pay or other benefits which you will receive in respect of any such work. The Company may, in its absolute discretion, reduce the amount or amounts of any such payment(s) by such an amount as it shall determine to reflect your actual mitigation, or prospective, or potential to mitigate. For the avoidance of doubt, such reduction may result in the cessation of instalment payments, or you being entitled to no payment.



- .5 The Company reserves the right to require you (i) not to attend at work; (ii) not to undertake all or any of your duties hereunder (iii) not to communicate with suppliers, customers or employees of the Company, (iv) not to enter into a contract or arrangement which would bind the Company, and/or (v) not to access the Company's electronic communications systems or documents systems (whether electronic or otherwise) or property or premises (and the Company may restrict or limit your access accordingly) during all or any part of any period of notice (whether given by you or the Company), provided always that the Company shall continue to pay your base salary and contractual benefits.
- .6 On termination of your employment, you must immediately return to the Company in accordance with its instructions all equipment, correspondence, records, specifications, software, disks, models, notes, reports and other documents and any copies thereof and any other property belonging to the Company or its Associated Companies (including but not limited to the Company car, keys, credit cards, equipment and passes) which are in your possession or under your control. You must, if so required by the Company, confirm in writing that you have complied with your obligations under this clause 18.6.
- .7 The Company shall have the right to suspend you on full pay and benefits pending any investigation into potential dishonesty, gross misconduct or other circumstances which (if proved) would entitle the Company to dismiss you summarily.

RESTRICTIONS ON TERMINATION OF EMPLOYMENT

You agree to be bound by the restrictions contained at Schedule 2 to this Agreement.

WARRANTY AND UNDERTAKING

You represent and warrant that you are not subject to any agreement, arrangement, contract, understanding, Court Order or otherwise, which in any way directly or indirectly restricts or prohibits you from fully performing the duties of your employment, or any of them, in accordance with the terms and conditions of this Agreement.

DEFINITIONS

- .1 An "Associated Company" or "Associated Companies" means any firm, company, corporation or other organisation:
 - (a) which is directly or indirectly controlled by the Company; or
 - (b) which directly or indirectly controls the Company; or
 - (c) which is directly or indirectly controlled by a third party who also directly or indirectly controls the Company; or
 - (d) of which the Company or any other Associated Company owns or has a beneficial interest in 20% or more of the issued share capital or 20% or more of its capital assets; or
 - (e) which is the successor in title or assign of the firms, companies, corporations or other organisations referred to above.
- .2 "Company" shall include the successors in title and assigns of the Company.
- .3 "Control" shall have the meaning set out in sections 450 to 451 of the Corporation Tax Act 2010 (as amended).



.4 "Immediate Relatives" shall include husband, wife, registered civil partner, common law spouse, children, brothers, sisters, cousins, aunts, uncles, parents, grandparents, and the aforesaid relatives by marriage or registered civil partnership.

MISCELLANEOUS

- .1 This Agreement cancels and is in substitution for all previous letters of engagement, agreements and arrangements whether oral or in writing relating to the subject matter hereof between the Company and yourself all of which shall be deemed to have been terminated by mutual consent. The remaining contractual terms applicable to your employment with the Company are contained in the opt-out agreement should you decide to sign it.
- .2 The various provisions and sub-provisions of this Agreement are severable and if any provision or sub-provision or identifiable part thereof is held to be invalid or unenforceable by any court of competent jurisdiction then such invalidity or unenforceability will not affect the validity or enforceability of the remaining provisions or sub-provisions or identifiable parts thereof in this Agreement.
- .3 The construction, validity and performance of this Agreement and all non-contractual obligations (if any) arising from or connected with this Agreement shall be governed by the laws of England.
- .4 Both you and the Company irrevocably agree to submit to the exclusive jurisdiction of the courts of England over any claim or matter (including any non-contractual claim) arising under or in connection with this Agreement.
- .5 Clause headings are inserted for convenience only and will not affect the construction of this Agreement.

Yours sincerely

/s/Vikram Jog

Vikram Jog (Jun 24, 2021 17:37 PDT)

Vikram Jog
Director

For and on behalf of **FLUIDIGM UK, Limited**

I agree with the Terms and Conditions of my Employment as set out or referred to above.

/s/Colin McCracken

Colin McCracken (Jun 24, 2021 21:26 EDT) JUN 24, 2021

Signed _____ Date _____

Colin McCracken



SCHEDULE 1

JOB DESCRIPTION

This position description is not an exhaustive list of the duties or functions to be performed in this role. You will be required to perform all acts, duties and obligations and comply with such orders as may be designated by the Company and which are reasonably consistent with the role, including as it evolves.

Title: Senior Vice President, Chief Commercial Officer

Date: 14 June 2021

Grade: 13

Reports to: Chris Linthwaite


Summary:

The Chief Commercial Officer will be responsible for revenue growth within the organization, reporting to the CEO. The CCO will advocate and understand the voice of the customer and take a global perspective on market opportunities while continuing to build a commercialization infrastructure and organization to drive market adoption of Fluidigm products.

The CCO will lead in the assessment and prioritization of geographic as well as clinical market segments. This is a highly strategic role, requiring a senior commercial leader who is insightful, intelligent, creative and motivated to be part of the future of translational and clinical research.

The successful CCO will possess high energy, team-building skills and outstanding business acumen. This is an extraordinary opportunity to join an exceptional team with an exciting mission.

KEY ACCOUNTABILITIES & RESPONSIBILITIES

- **Leadership:** Define Fluidigm's commercial path to growth and profitability and establish an effective growth process and infrastructure. Develop collaborative working relationships within the organization in pursuit of the company's overall business goals.
 - **Marketing:** Lead development and oversight of the company's marketing strategy, with an emphasis on developing and executing on global product marketing strategy for all product lines. This includes strategy development, product roadmap design, investment strategy, product and pricing strategy, competitive positioning/differentiation and competitor tracking, and management of on-market product/s.
 - **Sales:** Develop and execute on the company's sales strategy across key market segments to ensure that the company identifies and optimizes a clear path to aggressive growth. Responsible for leading the development and implementation of the strategic plan for worldwide field service, service operations, service logistics and sales operations.
 - **Business Development:** Collaborate with Business Development and provide leadership for enterprise-wide business development opportunities. Originate and manage business development opportunities that are consistent with the company's strategy for revenue growth.
 - **Global Service and Support:** Ensure that Fluidigm provides industry-leading technology and tools to enable customers through best-in-class service plans and a broad menu of options. This includes embracing innovation to deliver exceptional installation, repair and other services that contribute to a superior customer experience.
- 

This role requires a senior commercial leader who is intelligent, creative and motivated to contribute significantly to Fluidigm's success.

EXPERIENCE & EXPERTISE

- 10+ years of commercial leadership experience
- Strong leadership skills
- Demonstrated experience in developing AND executing successful commercialization strategies for life science tools companies
- Strong and demonstrated strategic thinking skills
- Ability to think creatively and develop non-traditional solutions to complex business challenges
- Outstanding sales management skill
- Strong negotiation and analytical skills
- Ability to be hands-on and strategic
- In-depth knowledge of the biopharmaceutical industry and the immuno-oncology market
- In-depth understanding of the clinical market, including FDA and CMS regulations
- Demonstrated track record of strategic collaborations with biopharma
- Excellent verbal and written communication skills; a demonstrated executive presence
- Ability to be independent, resourceful and self-directed

In terms of the performance and personal competencies required for the position, we would highlight the following:

Commercial Acumen

Understands the customer needs and how to serve them; exceptional relationship-building skills; works effectively with the sales organization to drive revenue and fundamental marketing metrics such as Product definition, Pricing, Promotion and Placement (4Ps). Experienced in managing various channels, avoiding channel conflict, setting incentive plans for sell-through models and co-marketing agreements. Is good at learning new industry, company and product trends. Stays abreast of constant shifts and changes of the business and competition. Adheres to the highest professional standards to earn the client's trust and respect while consistently applying honesty, fairness and candor.

Strategic Marketing

Sees ahead clearly; can anticipate future consequences and trends accurately; has broad knowledge and perspective; is future-oriented; can articulately paint credible pictures and visions of possibilities and likelihoods; can create competitive and breakthrough strategies and plans. Ability to develop effective, actionable growth strategies and adapt to market situation and competitive landscape.

Life Science Expertise

Domain Knowledge: Ability to understand markets and technology. Relevant Experience: Has led a multifunction business (R&D, product management, market development), at scale, with multiple segments; global experience with reagents and instruments.

Global Mindset

Recognizes and addresses issues that are outside national perspective. Issues are viewed without biases or limitations. Possesses a mindset informed by global experience; considers problems and opportunities from a global perspective. Is culturally aware and can conduct business in local terms.



Authentic Leader in Developing People and Teams

Able to move the needle on employee engagement. Experienced manager of people, programs and ideas. Proactive and results-oriented in a highly matrixed environment. Can attract, hire and retain great talent; develops strong teams; builds trust, loyalty and inspiration. Has ability to navigate ambiguity and to make tough calls when needed. Leads by example; self-aware of own strengths and opportunities.

Setting Strategy

- An entrepreneurial and creative approach to developing new, innovative ideas that will stretch the organization and push the boundaries within the industry.
- The ability to effectively balance the desire/need for broad change with an understanding of how much change the organization is capable of handling, to create realistic goals and implementation plans that are achievable and successful.
- The inclination to seek and analyze data from a variety of sources to support decisions and to align others with the organization's overall strategy.

Executing for Results

- The ability to set clear and challenging goals while committing the organization to improved performance; tenacious and accountable in driving results.
- A risk-taker who seeks data and input from others to foresee possible threats or unintended circumstances from decisions; someone who takes smart risks.
- A leader who is viewed by others as having a high degree of integrity and forethought in his/her approach to making decisions; has ability to act in a transparent and consistent manner while always taking into account what is best for the organization.

Relationships and Influence

- Naturally connects and builds strong relationships with others, demonstrating strong emotional intelligence and an ability to communicate clearly and persuasively.
- An ability to inspire trust and followership in others through compelling influence, powerful charisma, passion in his/her beliefs and active drive.

Creates a sense of purpose/meaning for the team that generates followership beyond his/her own personality and engages others to the greater purpose for the organization.



SCHEDULE 2
RESTRICTIVE COVENANTS

THE RESTRICTIONS

No involvement with a competing business

You agree that during the six months following the Termination Date you will not, in any Capacity, without the prior written consent of the Company, in competition with the Company or any Associated Company:

- (a) provide services in respect of a Competing Business which is being carried out or to be carried out in a Restricted Territory; or
- (b) set up, carry on, be concerned with, or have any other interest in a Competing Business which is being carried out or to be carried out in a Restricted Territory.

No solicitation of Customers and Prospective Customers

You agree that during the six months following the Termination Date you will not, in any Capacity, without the prior written consent of the Company, in competition with the Company or any Associated Company:

- (a) (i) solicit; (ii) assist in soliciting; (iii) interfere with, or (iv) exert any influence over, the custom or business of any Customer or Prospective Customer (including excluding the Company or any Associated Company from a new business opportunity); or
- (b) reduce the amount of business which a Customer or Prospective Customer conducts or intends to conduct with the Company or any Associated Company, or adversely affects the terms on which the Company or any Associated Company conducts its business with a Customer or Prospective Customer.

No dealing with Customers and Prospective Customers

You agree that during the six months following the Termination Date you will not, in any Capacity, without the prior written consent of the Company, in competition with the Company or any Associated Company, develop or provide products or services for, or otherwise deal with, or accept or facilitate the acceptance of the custom of, any Customer or Prospective Customer.

No solicitation of Key Employees

You agree that during the six months following the Termination Date you will not, in any Capacity, without the prior written consent of the Company:

- (a) (i) solicit; or (ii) assist in soliciting; or (iii) entice away; or (iv) try to entice away from the Company or any Associated Company any Key Employee;
- (b) be personally involved to a material extent in (i) accepting into employment, (ii) recruiting, (iii) engaging, or (iv) otherwise using the services of, any Key Employee;
- (c) do any act which may encourage a Key Employee to terminate their employment or engagement with the Company or any Associated Company;
- (d) interfere with the relationship between the Company or any Associated Company and a Key Employee.



); **Team Moves**

You agree that during the six months following the Termination Date you will not, in any Capacity, without the prior written consent of the Company (i) be involved in the recruitment of, or (ii) solicit; or (iii) assist in soliciting; or (iv) entice away; or (v) try to entice away from, the Company or any Associated Company, any Team Member where the proposed recruitment of that Team Member is part of a Team Recruitment Exercise.

); **No interference with Suppliers**

You agree that during the six months following the Termination Date you will not, in any Capacity, in relation to any contract or arrangement which the Company or any Associated Company has with any Supplier for the supply of goods or services to the Company and/or to any Associated Company:

- (a) interfere with the supply of goods or services to the Company or any Associated Company from any Supplier (including, but not limited to, doing anything which would cause the Supplier adversely to vary the terms on which it conducts business with the Company or any Associated Company); or
- (b) induce any Supplier of goods or services to the Company or any Associated Company to cease or decline to supply such goods or services in the future.

); **No connection after termination**

Following the Termination Date you will not in any Capacity:

- (a) represent yourself, or permit yourself to be represented, as being employed by or otherwise connected with the Company or any of its any Associated Company (except where agreed by such a company);
- (b) represent, promote, advertise or refer to your previous connection with the Company or any Associated Company in a way which seeks to utilise the goodwill of such a company;
- (c) knowingly do anything that might reasonably be expected to damage the goodwill or reputation of the Company or any Associated Company;
- (d) carry on, or cause or permit to be carried on, any business using any name or branding which is or has been used by the Company or any Associated Company or which is in the reasonable opinion of the Company calculated or likely to cause confusion with such a name or branding in the minds of members of the public or imply a connection with the Company or any Associated Company.

); **General terms applicable to the Restrictions**

- (a) The duration of the restrictions set out in this Schedule 2 will be reduced pro rata by any period of garden leave;
- (b) You agree that the obligations contained in this Schedule 2 are reasonable and necessary to protect the legitimate business interests of the Company and any Associated Company. You confirm that you have had the opportunity to take independent legal advice on the terms of this Agreement;
- (c) None of the obligations contained in this Schedule 2 are intended to prevent you from holding shares, debentures or stock of any company listed on a recognised stock exchange provided that no aggregate holding confers more than 5 per cent of the votes at a general meeting of the company concerned;



(d) Each restriction in this Schedule 2 is intended to apply after the Termination Date, regardless of whether your termination is lawful. The restrictions will apply even if termination results from a breach of a provision of this Agreement.

You agree that if your employment is transferred to any other person, firm, company or other entity, pursuant to the Transfer of Undertakings (Protection of Employment) Regulations 2006 you will, if required, enter into an agreement with such other person, firm, company or other entity, that will contain provisions that provide protection to the new employer similar to that provided to the Company and any Associated Company in this Schedule 2.

OFFERS OF EMPLOYMENT AND TEAM RECRUITMENT

You agree that if you receive an offer of employment from, or offer to provide services to, any person, firm, company or other entity (an "Offeror") (whether you accept it or not) either during your employment with the Company or during the six months following the Termination Date, you will:

- (a) provide to the Offeror details of the substance of the restrictions contained in this Schedule,
- (b) notify the Company of the offer and the identity of the Offeror and provide such other details as the Company may reasonably request.

The obligation in this paragraph 2.1 is without prejudice to your obligations of confidentiality and general obligation to immediately disclose any conflict of interest to the Company.

You agree that you will notify the Company as soon as possible if you become aware that any person, firm, company or other entity is undertaking or proposing to undertake a Team Recruitment Exercise (whether or not you are involved in such exercise) or become aware of any employee being recruited as part of a Team Recruitment Exercise and you will provide such further details as the Company may reasonably request.

INTERPRETING THE RESTRICTIONS

In this Schedule 2:

- "Confidential Information" has the meaning set out at clause 12.3.
- "Termination Date" means the date your employment ends, howsoever arising.
- "Associated Company" and "Company" have the same meaning given to them in clause 21 of the Agreement.
- "Capacity" means whether you are acting (i) directly or indirectly (through any other person, firm or company), (ii) alone or jointly with others, (iii) as principal, agent, consultant, officer, director, partner, shareholder, independent contractor, worker, employee or in any other capacity, and/or (iv) for your own benefit or that of others.
- "Competing Business" means any business which competes with or is preparing to compete with any business carried on, or to be carried on, by the Company or any Associated Company and in respect of which you
 - (a) were involved to a material extent, or
 - (b) obtained Relevant Confidential Information, and



(c) which includes but is not limited to the following : Affymetrix, Inc., Agena Bioscience, Inc., Agilent Technologies, Inc., Becton, Dickinson and Company, Bio-Rad Laboratories, Inc., Danaher Corporation, Illumina, Inc., Life Technologies Corporation (now part of Thermo Fisher Scientific Inc.), LGC Limited, Luminex Corporation, Millipore Corporation, NanoString Technologies, Inc., PerkinElmer, Inc. (through its acquisition of Caliper Life Sciences, Inc.), RainDance Technologies, Inc., Roche Diagnostics Corporation, Sony Corporation, Thermo Fisher Scientific Inc., and WaferGen Bio-systems, Inc.

in each case in the course of your employment at any time in the six months immediately preceding the Termination Date, or the Garden Leave Date, whichever is the earlier.

6 "Customer" means any customer or client of the Company or an Associated Company:

- (a) with whom you, or anyone working under your direct supervision or control, has been responsible in a management capacity;
- (b) with whom you have had material dealings;
- (c) in respect of whom you have obtained material Confidential Information; or
- (d) in respect of whom or whose business you have been materially involved in the development, implementation, or delivery of products, services, solutions, offerings or tenders,

in each case at any time during the six months immediately preceding the Termination Date, or the Garden Leave Date, whichever is the earlier

7 "Garden Leave Date" means the date on which you commence a period of garden leave under clause 18.5 of the Agreement.

8 "Key Employee" means any employee of the Company or an Associated Company who is employed at senior management level or above (or any equivalent career level); and

- (a) with whom you have had material dealings; or
- (b) with whom you have had direct or indirect managerial responsibility (whether on a specific project or engagement or otherwise); or
- (c) in respect of whom you have obtained Confidential Information about their skills, roles, responsibilities, expertise, or other Confidential Information relevant to their potential recruitment or engagement; or
- (d) whom you have supervised on a client engagement,

in each case at any time during the six months immediately preceding the Termination Date, or the Garden Leave Date, whichever is the earlier.

9 "Prospective Customer" means any person, firm, company or other entity with whom the Company or any Associated Company has had any negotiations or material discussions regarding the possible supply of products or services by the Company or any Associated Company and:

- (a) with whom you, or anyone working under your direct supervision or control, has been responsible in a management capacity;
- (b) with whom you have had material dealings;
- (c) in respect of whom you have obtained material Confidential Information; or



(d) in respect of whom or whose business you have been materially involved in the development of products, services, solutions, offerings or tenders,

in each case at any time during the six months immediately preceding the Termination Date, or the Garden Leave Date, whichever is the earlier.

.0 "Relevant Confidential Information" means Confidential Information which could be of use or interest to any business which competes or is preparing to compete with the Company or an Associated Company, that would enable it to:

- (a) review, amend, change or introduce new products, services, systems, processes, proposals, forecasts, or strategies; and/or
- (b) gain a competitive advantage.

.1 "Restricted Territory" means: (i) the United Kingdom; and (ii) any other country where the Company or an Associated Company carries out business and in relation to which you have had material responsibilities (including but not limited to supervisory or management responsibilities), carried out material duties or acquired material Confidential Information, in each case at any time during the six months immediately preceding the Termination Date.

.2 "Supplier" means any person, firm, company, or other entity who:

- (a) has supplied goods or services to the Company or any Associated Company during any part of then six months immediately preceding the Termination Date; or
- (b) has agreed prior to the Termination Date to supply goods or services to the Company or any Associated Company to commence at any time in the six months following the Termination Date; or
- (c) as at the Termination Date, supplies goods or services to the Company or any Associated Company under a contract or arrangement between that Supplier and the Company or the relevant Associated Company.

.3 "Team Member" means any employee of the Company or any Associated Company:

- (a) with whom you have had material dealings;
- (b) in respect of whom you obtained confidential information which is relevant to their proposed recruitment;
- (c) in respect of whom you had supervisory or managerial responsibilities;
- (d) who had material dealings with any employee referred to in (a), (b) or (c) above; or
- (e) in respect of whom an employee referred to in (a), (b) or (c) above obtained confidential information which is relevant to their proposed recruitment,

in each case in the six months immediately preceding the Termination Date, or the Garden Leave Date, whichever is the earlier.

.4 "Team Recruitment Exercise" means an attempt by you, your new employer or any other person, firm, company or other organisation to recruit a team of 2 or more employees of the Company or an Associated Company from the Company or a Associated Company in circumstances where those employees will together be involved in a business in competition with the Company or a Associated Company.



ASSOCIATED COMPANIES

The Company contracts as trustee and agent for the benefit of each Associated Company referred to in this Schedule 2. You agree that, if required to do so by the Company, you will enter into covenants in the same terms as those set out in paragraphs 1 and 2 directly with all or any of such Associated Companies. If you fail within 7 days of receiving such a request from a Company to sign the necessary documents to give effect to the foregoing, the Company will be entitled, and is hereby irrevocably and unconditionally authorised by you as your attorney, to execute all such documents as are required to give effect to the foregoing on your behalf.

You acknowledge that the provisions of this Schedule 2 constitute severable undertakings given for the benefit of the Company and all other Associated Companies and may be enforced by the Company on its own behalf or on behalf of any Associated Company.

The benefit of each agreement and obligation imposed upon you under this Schedule 2 may be assigned to and enforced by all successors and assigns for the time being of the Company and its Associated Companies and such agreements and obligations will operate and remain binding notwithstanding the termination of this Agreement.

REMEDY

You acknowledge and agree that monetary damages would not be adequate remedy for a breach of any of the obligations contained in this Schedule 2, and that for any breach of such obligations, the Company and its Associated Companies will, in addition to other remedies as may be available to it, or as provided for in this Agreement, be entitled to an injunction, restraining order, or other equitable relief, restraining you from committing or continuing to commit any breach of the covenants. You agree that proof will not be required that monetary damages for breach of the provisions of this Agreement would be difficult to calculate and that remedies at law would be inadequate.

SEVERABILITY

The restrictions in paragraph 1 are considered by the parties to be fair and reasonable in all the circumstances. Each of the restrictions contained in paragraph 1 constitutes an entirely separate, severable and independent covenant. If any covenant is found to be invalid this will not affect the validity or enforceability of any of the other covenants.

It is agreed that if any such restrictions by themselves, or taken together, are for any reason unenforceable, but would be enforceable if part or parts of the wording were deleted, the relevant restriction or restrictions shall apply with such deletion(s) as may be necessary to make it or them valid and enforceable.



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

I, Stephen Christopher Linthwaite, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Fluidigm Corporation;
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: August 6, 2021

By: /s/ Stephen Christopher Linthwaite
Stephen Christopher Linthwaite
President and Chief Executive Officer

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

I, Vikram Jog, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Fluidigm Corporation;
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: August 6, 2021

By: /s/ Vikram Jog
Vikram Jog
Chief Financial Officer

**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**

I, Stephen Christopher Linthwaite, the chief executive officer of Fluidigm Corporation (the “Company”), certify for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

1. the Company’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 (the “Report”), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; 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: August 6, 2021

By: /s/ Stephen Christopher Linthwaite
Stephen Christopher Linthwaite
President and Chief Executive Officer

**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**

I, Vikram Jog, the chief financial officer of Fluidigm Corporation (the “Company”), certify for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

1. the Company’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 (the “Report”), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; 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: August 6, 2021

By: /s/ Vikram Jog
Vikram Jog
Chief Financial Officer