

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

FORM 10-Q

☒ **Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the Quarterly Period Ended July 3, 2022

☐ **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 001-35406



Illumina, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

33-0804655

(I.R.S. Employer Identification No.)

5200 Illumina Way, San Diego, CA 92122

(Address of principal executive offices) (Zip code)

(858) 202-4500

(Registrant's telephone number, including area code)

N/A

(Former name, former address and former fiscal year, if changed since last report)

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, \$0.01 par value	ILMN	The Nasdaq Stock Market LLC

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

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

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13a 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 August 5, 2022, there were 157.3 million shares of the registrant's common stock outstanding.

ILLUMINA, INC.
FORM 10-Q
FOR THE FISCAL QUARTER ENDED JULY 3, 2022
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Consideration Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains, and our officers and representatives may from time to time make, “forward-looking statements” within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as: “anticipate,” “intend,” “plan,” “goal,” “seek,” “believe,” “continue,” “project,” “estimate,” “expect,” “strategy,” “future,” “likely,” “may,” “potential,” “predict,” “should,” “will,” or similar words or phrases, or the negatives of these words, may identify forward-looking statements, but the absence of these words does not necessarily mean that a statement is not forward looking. Examples of forward-looking statements include, among others, statements we make regarding:

- our expectations as to our future financial performance, results of operations, or other operational results or metrics;
- our expectations regarding the launch of new products or services;
- the benefits that we expect will result from our business activities and certain transactions we have completed, such as product introductions, increased revenue, decreased expenses, and avoided expenses and expenditures;
- our expectations of the effect on our financial condition of claims, litigation, contingent liabilities, and governmental investigations, proceedings, and regulations;
- our strategies or expectations for product development, market position, financial results, and reserves;
- our expectations regarding the outcome of the legal and regulatory proceedings related to our acquisition of GRAIL, Inc. (GRAIL) and other actions that may be taken or pursued by the European Commission, the Federal Trade Commission and/or other governmental or regulatory authorities in connection with such acquisition;
- the interim measures order imposed by the European Commission, its duration and impact on Illumina and GRAIL, and the appointment of a monitoring trustee to monitor our compliance with such order;
- our expectations regarding the integration of any acquired technologies with our existing technology; and
- other expectations, beliefs, plans, strategies, anticipated developments, and other matters that are not historical facts.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations, and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy, and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks, and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results and financial condition may differ materially from those indicated in the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others, the following:

- the impact to our business and operating results caused by the COVID-19 pandemic;
- our expectations and beliefs regarding prospects and growth for our business and the markets in which we operate;
- the timing and mix of customer orders among our products and services;
- challenges inherent in developing, manufacturing, and launching new products and services, including expanding manufacturing operations and reliance on third-party suppliers for critical components;
- the impact of recently launched or pre-announced products and services on existing products and services;

- our ability to develop and commercialize our instruments and consumables, to deploy new products, services, and applications, and to expand the markets for our technology platforms;
- our ability to manufacture robust instrumentation and consumables;
- our ability to identify and acquire technologies and integrate them into our products or businesses successfully;
- risks and uncertainties regarding the legal and regulatory proceedings relating to our acquisition of GRAIL and our ability to achieve the expected benefits of such acquisition and other actions that may be taken or pursued by the European Commission, the Federal Trade Commission and/or other governmental or regulatory authorities in connection with such acquisition;
- the interim measures order imposed by the European Commission, and its duration and impact on Illumina and GRAIL, which impact may include material and adverse effects on synergies and other benefits we expect to achieve as a result of the acquisition of GRAIL, additional costs or liabilities, loss of revenue and other adverse effects on our business, financial condition and results of operations;
- our compliance with the terms of the interim measures order, which is monitored by an appointed monitoring trustee, and which is burdensome to implement and administer, and the risk that the European Commission could impose or seek to impose fines and other penalties for alleged noncompliance with such terms;
- the assumptions underlying our critical accounting policies and estimates;
- our assessments and estimates that determine our effective tax rate;
- our assessments and beliefs regarding the outcome of pending legal proceedings and any liability that we may incur as a result of those proceedings;
- uncertainty, or adverse economic and business conditions, including as a result of slowing or uncertain economic growth in the United States or worldwide; and
- other factors detailed in our filings with the Securities and Exchange Commission (SEC), including the risks, uncertainties, and assumptions described in “Risk Factors” within the Business & Market Information section of our Annual Report on Form [10-K](#) for the fiscal year ended January 2, 2022, the “Other Key Information” section of our Quarterly Report on Form [10-Q](#) for the period ended April 3, 2022, the Risk Factors section below or in information disclosed in public conference calls, the date and time of which are released beforehand.

Any forward-looking statement made by us in this Quarterly Report on Form 10-Q is based only on information currently available to us and speaks only as of the date on which it is made. We undertake no obligation, and do not intend, to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, or to review or confirm analysts’ expectations, or to provide interim reports or updates on the progress of any current financial quarter, in each case whether as a result of new information, future developments, or otherwise.

CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

ILLUMINA, INC. CONDENSED CONSOLIDATED BALANCE SHEETS (In millions)

	July 3, 2022 (Unaudited)	January 2, 2022
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 1,289	\$ 1,232
Short-term investments	38	107
Accounts receivable, net	642	648
Inventory, net	518	431
Prepaid expenses and other current assets	404	295
Total current assets	2,891	2,713
Property and equipment, net	1,055	1,024
Operating lease right-of-use assets	693	672
Goodwill	7,158	7,113
Intangible assets, net	3,202	3,250
Other assets	449	445
Total assets	\$ 15,448	\$ 15,217
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 282	\$ 332
Accrued liabilities	1,354	761
Term notes, current portion	499	—
Convertible senior notes, current portion	746	—
Total current liabilities	2,881	1,093
Operating lease liabilities	775	774
Term notes	495	993
Convertible senior notes	—	702
Other long-term liabilities	853	915
Stockholders' equity:		
Common stock	2	2
Additional paid-in capital	9,033	8,938
Accumulated other comprehensive income	30	17
Retained earnings	5,097	5,485
Treasury stock, at cost	(3,718)	(3,702)
Total stockholders' equity	10,444	10,740
Total liabilities and stockholders' equity	\$ 15,448	\$ 15,217

See accompanying notes to condensed consolidated financial statements.

ILLUMINA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)
(In millions, except per share amounts)

	Three Months Ended		Six Months Ended	
	July 3, 2022	July 4, 2021	July 3, 2022	July 4, 2021
Revenue:				
Product revenue	\$ 1,006	\$ 972	\$ 2,076	\$ 1,925
Service and other revenue	156	154	310	294
Total revenue	1,162	1,126	2,386	2,219
Cost of revenue:				
Cost of product revenue	286	254	586	519
Cost of service and other revenue	69	63	138	121
Amortization of acquired intangible assets	40	7	79	13
Total cost of revenue	395	324	803	653
Gross profit	767	802	1,583	1,566
Operating expense:				
Research and development	327	202	650	398
Selling, general and administrative	410	413	719	787
Legal contingencies	609	—	609	—
Total operating expense	1,346	615	1,978	1,185
(Loss) income from operations	(579)	187	(395)	381
Other income (expense):				
Interest income	1	—	1	—
Interest expense	(6)	(16)	(12)	(34)
Other (expense) income, net	(53)	36	(91)	31
Total other (expense) income, net	(58)	20	(102)	(3)
(Loss) income before income taxes	(637)	207	(497)	378
(Benefit) provision for income taxes	(102)	22	(48)	45
Net (loss) income	\$ (535)	\$ 185	\$ (449)	\$ 333
(Loss) earnings per share:				
Basic	\$ (3.40)	\$ 1.27	\$ (2.85)	\$ 2.28
Diluted	\$ (3.40)	\$ 1.26	\$ (2.85)	\$ 2.26
Shares used in computing (loss) earnings per share:				
Basic	157	146	157	146
Diluted	157	147	157	147

See accompanying notes to condensed consolidated financial statements.

ILLUMINA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited)
(In millions)

	Three Months Ended		Six Months Ended	
	July 3, 2022	July 4, 2021	July 3, 2022	July 4, 2021
Net (loss) income	\$ (535)	\$ 185	\$ (449)	\$ 333
Unrealized loss on available-for-sale debt securities, net of deferred tax	—	—	—	(1)
Unrealized gain on cash flow hedges, net of deferred tax	12	—	13	7
Total comprehensive (loss) income	<u>\$ (523)</u>	<u>\$ 185</u>	<u>\$ (436)</u>	<u>\$ 339</u>

See accompanying notes to condensed consolidated financial statements.

ILLUMINA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)
(In millions)

	Common Stock		Additional	Accumulated	Retained	Treasury Stock		Total
	Shares	Amount	Paid-In	Other	Earnings	Shares	Amount	Stockholders'
			Capital	Comprehensive				Equity
				Income				
Balance as of January 3, 2021	195	\$ 2	\$ 3,815	\$ 2	\$ 4,723	(49)	\$ (3,848)	\$ 4,694
Net income	—	—	—	—	147	—	—	147
Unrealized loss on available-for-sale debt securities, net of deferred tax	—	—	—	(1)	—	—	—	(1)
Unrealized gain on cash flow hedges, net of deferred tax	—	—	—	7	—	—	—	7
Issuance of common stock, net of repurchases	—	—	31	—	—	—	(24)	7
Share-based compensation	—	—	68	—	—	—	—	68
Balance as of April 4, 2021	195	2	3,914	8	4,870	(49)	(3,872)	4,922
Net income	—	—	—	—	185	—	—	185
Issuance of common stock, net of repurchases	1	—	—	—	—	—	(6)	(6)
Share-based compensation	—	—	79	—	—	—	—	79
Balance as of July 4, 2021	196	2	3,993	8	5,055	(49)	(3,878)	5,180
Net income	—	—	—	—	317	—	—	317
Unrealized gain on cash flow hedges, net of deferred tax	—	—	—	5	—	—	—	5
Issuance of common stock, net of repurchases	—	—	28	—	—	—	(2)	26
GRAIL acquisition	—	—	4,749	—	—	10	237	4,986
Share-based compensation	—	—	79	—	—	—	—	79
Balance as of October 3, 2021	196	2	8,849	13	5,372	(39)	(3,643)	10,593
Net income	—	—	—	—	113	—	—	113
Unrealized gain on cash flow hedges, net of deferred tax	—	—	—	4	—	—	—	4
Issuance of common stock, net of repurchases	1	—	1	—	—	(1)	(59)	(58)
Exchange of GRAIL contingent value rights	—	—	2	—	—	—	—	2
Share-based compensation	—	—	86	—	—	—	—	86
Balance as of January 2, 2022	197	\$ 2	\$ 8,938	\$ 17	\$ 5,485	(40)	\$ (3,702)	\$ 10,740

See accompanying notes to condensed consolidated financial statements.

ILLUMINA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)
(In millions)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income	Retained Earnings	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance as of January 2, 2022	197	\$ 2	\$ 8,938	\$ 17	\$ 5,485	(40)	\$ (3,702)	\$ 10,740
Net income	—	—	—	—	86	—	—	86
Unrealized gain on cash flow hedges, net of deferred tax	—	—	—	1	—	—	—	1
Issuance of common stock, net of repurchases	—	—	33	—	—	—	(12)	21
Share-based compensation	—	—	79	—	—	—	—	79
Cumulative-effect adjustment from adoption of ASU 2020-06, net of deferred tax	—	—	(93)	—	61	—	—	(32)
Balance as of April 3, 2022	197	2	8,957	18	5,632	(40)	(3,714)	10,895
Net loss	—	—	—	—	(535)	—	—	(535)
Unrealized gain on cash flow hedges, net of deferred tax	—	—	—	12	—	—	—	12
Issuance of common stock, net of repurchases	—	—	—	—	—	—	(4)	(4)
Share-based compensation	—	—	76	—	—	—	—	76
Balance as of July 3, 2022	197	\$ 2	\$ 9,033	\$ 30	\$ 5,097	(40)	\$ (3,718)	\$ 10,444

See accompanying notes to condensed consolidated financial statements.

ILLUMINA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)
(In millions)

	Six Months Ended	
	July 3, 2022	July 4, 2021
Cash flows from operating activities:		
Net (loss) income	\$ (449)	\$ 333
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Depreciation expense	102	82
Amortization of intangible assets	83	15
Share-based compensation expense	183	147
Accretion of debt discount on convertible senior notes	1	19
Deferred income taxes	(34)	(156)
Net losses on strategic investments	76	17
Loss (gain) on Helix contingent value right	3	(18)
Gain on derivative assets related to terminated acquisition	—	(26)
Change in fair value of contingent consideration liabilities	(11)	—
Other	3	28
Changes in operating assets and liabilities:		
Accounts receivable	1	(61)
Inventory	(86)	(9)
Prepaid expenses and other current assets	4	6
Operating lease right-of-use assets and liabilities, net	(7)	(5)
Other assets	13	(7)
Accounts payable	(52)	12
Accrued liabilities	470	162
Other long-term liabilities	(3)	(4)
Net cash provided by operating activities	297	535
Cash flows from investing activities:		
Maturities of available-for-sale securities	—	331
Purchases of available-for-sale securities	—	(77)
Sales of available-for-sale securities	—	1,031
Cash received for derivative assets related to terminated acquisition	—	52
Purchases of property and equipment	(132)	(86)
Purchases of strategic investments	(22)	(12)
Sales of strategic investments	—	220
Net cash paid for acquisitions	(85)	(80)
Net cash (used in) provided by investing activities	(239)	1,379
Cash flows from financing activities:		
Net proceeds from issuance of debt	—	988
Payments on convertible senior notes	—	(517)
Taxes paid related to net share settlement of equity awards	(17)	(30)
Proceeds from issuance of common stock	33	31
Net cash provided by financing activities	16	472
Effect of exchange rate changes on cash and cash equivalents	(17)	—
Net increase in cash and cash equivalents	57	2,386
Cash and cash equivalents at beginning of period	1,232	1,810
Cash and cash equivalents at end of period	\$ 1,289	\$ 4,196

See accompanying notes to condensed consolidated financial statements.

ILLUMINA, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

Unless the context requires otherwise, references in this report to “Illumina,” “we,” “us,” the “Company,” and “our” refer to Illumina, Inc. and its consolidated subsidiaries.

1. ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES

Business Overview

We are a provider of sequencing- and array-based solutions, serving customers in the research, clinical and applied markets. Our products are used for applications in the life sciences, oncology, reproductive health, agriculture and other emerging segments. Our customers include leading genomic research centers, academic institutions, government laboratories, and hospitals, as well as pharmaceutical, biotechnology, commercial molecular diagnostic laboratories, and consumer genomics companies.

On August 18, 2021, we acquired GRAIL, a healthcare company focused on early detection of multiple cancers. GRAIL's Galleri blood test detects various types of cancers before they are symptomatic. The acquisition is subject to ongoing legal proceedings and GRAIL is currently being held and operated as a separate company, with oversight provided by an appointed, independent monitoring trustee during the European Commission's ongoing merger review. Refer to note [“7. Legal Proceedings”](#) for additional details. We have included the financial results of GRAIL in our condensed consolidated financial statements from the date of acquisition. There have been no adjustments to the purchase price allocation from those disclosed in our Annual Report on Form [10-K](#) for the fiscal year ended January 2, 2022. We are still finalizing the allocation of the purchase price as additional information is received to complete our analysis and certain tax returns are finalized. In addition, GRAIL is a separate reportable segment. Refer to note [“9. Segment Information”](#) for additional details.

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (GAAP) for interim financial information and the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. Interim financial results are not necessarily indicative of results anticipated for the full year. These unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and footnotes included in the Annual Report on Form [10-K](#) for the fiscal year ended January 2, 2022, from which the prior year balance sheet information herein was derived. The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, and expense, and related disclosure of contingent assets and liabilities. Though the impact of the COVID-19 pandemic to our business and operating results presents additional uncertainty, we continue to use the best information available to form our critical accounting estimates. Actual results could differ from those estimates.

The unaudited condensed consolidated financial statements include our accounts, our wholly-owned subsidiaries, and majority-owned or controlled companies. All intercompany transactions and balances have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the current period presentation. In management's opinion, the accompanying unaudited condensed consolidated financial statements reflect all adjustments, consisting of normal recurring adjustments, considered necessary for a fair presentation of the results for the interim periods presented.

Fiscal Year

Our fiscal year is the 52 or 53 weeks ending the Sunday closest to December 31, with quarters of 13 or 14 weeks ending the Sunday closest to March 31, June 30, September 30, and December 31. References to Q2 2022 and Q2 2021 refer to the three months ended July 3, 2022 and July 4, 2021, respectively, which were both 13 weeks, and references to year-to-date (YTD) 2022 and 2021 refer to the six months ended July 3, 2022 and July 4, 2021, respectively, which were both 26 weeks.

Significant Accounting Policies

During YTD 2022, there were no changes to our significant accounting policies as described in our Annual Report on Form [10-K](#) for the fiscal year ended January 2, 2022, except as described in Recently Adopted Accounting Pronouncements below.

Recently Adopted 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)*. The new standard reduces the number of accounting models for convertible debt instruments, amends the accounting for certain contracts in an entity's own equity, and modifies how certain convertible instruments and contracts that may be settled in cash or shares impact the calculation of diluted earnings per share. Specifically, the guidance removes certain accounting models that separate the embedded conversion features from the host contract for convertible instruments and requires the use of the if-converted method to calculate diluted earnings per share. We adopted the standard on its effective date in the first quarter of 2022 using a modified retrospective approach by recognizing a cumulative-effect adjustment to retained earnings on January 3, 2022. We did not restate prior periods. As a result of the adoption, we increased our convertible senior notes and retained earnings, on January 3, 2022, by \$43 million and \$61 million, respectively, and decreased our deferred tax liabilities, included in other long-term liabilities on the condensed consolidated balance sheets, and additional paid-in capital by \$11 million and \$93 million, respectively. Interest expense recognized in future periods will be reduced as a result of accounting for our convertible senior notes as a single liability measured at amortized cost. See note "[4. Debt](#)" for additional details on the adoption of ASU 2020-06.

Earnings (Loss) per Share

Basic earnings (loss) per share is computed based on the weighted average number of common shares outstanding during the period. Diluted earnings (loss) per share is computed based on the sum of the weighted average number of common shares and potentially dilutive common shares outstanding during the period.

Potentially dilutive common shares consist of shares issuable under convertible senior notes and equity awards. On January 3, 2022, we adopted ASU 2020-06. As a result, beginning in Q1 2022, we utilize the if-converted method to calculate the impact of convertible senior notes on diluted earnings (loss) per share. Prior to the adoption of ASU 2020-06, we applied the treasury stock method when calculating the potential dilutive effect, if any, of convertible senior notes which we intended to settle or have settled in cash the principal outstanding. Under the treasury stock method, convertible senior notes would have a dilutive impact when the average market price of our common stock exceeded the applicable conversion price of the respective notes. Potentially dilutive common shares from equity awards are determined using the average share price for each period under the treasury stock method. In addition, proceeds from exercise of equity awards and the average amount of unrecognized compensation expense for equity awards are assumed to be used to repurchase shares. For the periods presented, we did not have any potentially dilutive common shares from equity awards. In loss periods, basic loss per share and diluted loss per share are identical since the effect of dilutive potential common shares is anti-dilutive and therefore excluded.

The following table presents the calculation of weighted average shares used to calculate basic and diluted earnings (loss) per share:

<i>In millions</i>	Q2 2022	Q2 2021	YTD 2022	YTD 2021
Weighted average shares outstanding	157	146	157	146
Effect of potentially dilutive common shares from:				
Convertible senior notes	—	1	—	1
Weighted average shares used in calculating diluted earnings (loss) per share	157	147	157	147
Anti-dilutive shares:				
Convertible senior notes	2	—	2	—
Equity awards	2	—	2	—
Potentially dilutive shares excluded from calculation due to anti-dilutive effect	4	—	4	—

2. REVENUE

Our revenue is generated primarily from the sale of products and services. Product revenue primarily consists of sales of instruments and consumables used in genetic analysis. Service and other revenue primarily consists of revenue generated from genotyping and sequencing services, instrument service contracts, development and licensing agreements, and cancer detection testing services related to the GRAIL business.

Revenue by Source

<i>In millions</i>	Q2 2022			Q2 2021		
	Sequencing	Microarray	Total	Sequencing	Microarray	Total
Consumables	\$ 739	\$ 74	\$ 813	\$ 704	\$ 74	\$ 778
Instruments	190	3	193	189	5	194
Total product revenue	929	77	1,006	893	79	972
Service and other revenue	136	20	156	128	26	154
Total revenue	\$ 1,065	\$ 97	\$ 1,162	\$ 1,021	\$ 105	\$ 1,126

<i>In millions</i>	YTD 2022			YTD 2021		
	Sequencing	Microarray	Total	Sequencing	Microarray	Total
Consumables	\$ 1,516	\$ 149	\$ 1,665	\$ 1,399	\$ 153	\$ 1,552
Instruments	401	10	411	365	8	373
Total product revenue	1,917	159	2,076	1,764	161	1,925
Service and other revenue	257	53	310	236	58	294
Total revenue	\$ 2,174	\$ 212	\$ 2,386	\$ 2,000	\$ 219	\$ 2,219

Revenue by Geographic Area

<i>Based on region of destination (in millions)</i>	Q2 2022	Q2 2021	YTD 2022	YTD 2021
Americas	\$ 639	\$ 589	\$ 1,288	\$ 1,151
Europe, Middle East, and Africa	308	320	624	625
Greater China ⁽¹⁾	118	132	245	259
Asia-Pacific	97	85	229	184
Total revenue	\$ 1,162	\$ 1,126	\$ 2,386	\$ 2,219

⁽¹⁾ Region includes revenue from China, Taiwan, and Hong Kong.

Performance Obligations

We regularly enter into contracts with multiple performance obligations. Most performance obligations are generally satisfied within a short time frame, approximately three to six months, after the contract execution date. As of July 3, 2022, the aggregate amount of the transaction price allocated to remaining performance obligations was \$1,132 million, of which approximately 90% is expected to be converted to revenue in the next twelve months, approximately 7% in the following twelve months, and the remainder thereafter.

Contract Assets and Liabilities

Contract assets, which consist of revenue recognized and performance obligations satisfied or partially satisfied in advance of customer billing, were \$18 million and \$16 million as of July 3, 2022 and January 2, 2022, respectively, and were recorded in prepaid expenses and other current assets.

Contract liabilities, which consist of deferred revenue and customer deposits, as of July 3, 2022 and January 2, 2022 were \$291 million and \$297 million, respectively, of which the short-term portions of \$226 million and \$234 million, respectively, were recorded in accrued liabilities and the remaining long-term portions were recorded in other long-term liabilities. Revenue recorded in Q2 2022 and YTD 2022 included \$59 million and \$164 million, respectively, of previously deferred revenue that was included in contract liabilities as of January 2, 2022.

3. INVESTMENTS AND FAIR VALUE MEASUREMENTS

Strategic Investments

Marketable Equity Securities

Our short-term investments consist of marketable equity securities. As of July 3, 2022 and January 2, 2022, the fair value of our marketable equity securities totaled \$38 million and \$107 million, respectively.

Net (losses) gains recognized in other (expense) income, net on our marketable equity securities were as follows:

<i>In millions</i>	Q2 2022	Q2 2021	YTD 2022	YTD 2021
Net (losses) gains recognized during the period on marketable equity securities	\$ (27)	\$ 4	\$ (69)	\$ (68)
Less: Net gains (losses) recognized during the period on marketable equity securities sold during the period	—	7	—	(7)
Net unrealized losses recognized during the period on marketable equity securities still held at the reporting date	\$ (27)	\$ (3)	\$ (69)	\$ (61)

Non-Marketable Equity Securities

As of July 3, 2022 and January 2, 2022, the aggregate carrying amounts of our non-marketable equity securities without readily determinable fair values, included in other assets, were \$42 million and \$40 million, respectively.

Revenue recognized from transactions with our strategic investees was \$25 million and \$55 million for Q2 2022 and YTD 2022, respectively, and \$22 million and \$35 million for Q2 2021 and YTD 2021, respectively.

Venture Funds

We invest in two venture capital investment funds (the Funds) with capital commitments of \$100 million, callable through April 2026, and up to \$150 million, callable through July 2029, respectively, of which \$14 million and up to \$101 million, respectively, remained callable as of July 3, 2022. Our investments in the Funds are accounted for as equity-method investments. The aggregate carrying amounts of the Funds, included in other assets, were \$187 million and \$173 million as of July 3, 2022 and January 2, 2022, respectively. We recorded unrealized losses of \$4 million and \$6 million in Q2 2022 and YTD 2022, respectively, an unrealized net loss of \$2 million in Q2 2021, and an unrealized net gain of \$31 million in YTD 2021, in other (expense) income, net.

Helix Contingent Value Right

In conjunction with the deconsolidation of Helix Holdings I, LLC (Helix) in April 2019, we received a contingent value right with a 7-year term that entitles us to consideration dependent upon the outcome of Helix's future financing and/or liquidity events. Changes in the fair value of the contingent value right resulted in unrealized losses of \$8 million and \$3 million in Q2 2022 and YTD 2022, respectively, and unrealized gains of \$8 million and \$18 million in Q2 2021 and YTD 2021, respectively, which were included in other (expense) income, net.

Derivative Assets Related to Terminated Acquisition

Pursuant to the Agreement and Plan of Merger (the PacBio [Merger Agreement](#)) to acquire Pacific Biosciences of California, Inc. (PacBio) entered into in November 2018 and amended in September 2019 ([Amendment No. 1 to the PacBio Merger Agreement](#)) and the subsequent agreement to terminate the PacBio Merger Agreement (the [Termination Agreement](#)) entered into in January 2020, we made cash payments to PacBio of \$18 million in Q4 2019 and \$34 million in Q1 2020, respectively, collectively referred to as the Continuation Advances. Up to the \$52 million of Continuation Advances was repayable, without interest, if, within two years of March 31, 2020, PacBio entered into a Change of Control Transaction or raised at least \$100 million in equity or debt financing in a single transaction (with the amount repayable dependent on the amount raised by PacBio). In February 2021, PacBio entered into an investment agreement with SB Northstar LP for the issuance and sale of \$900 million in aggregate principal amount of PacBio's convertible notes. Pursuant to the PacBio Merger Agreement, PacBio repaid to us the \$52 million of Continuation Advances and we recorded a gain of \$26 million in Q1 2021, which was included in other (expense) income, net.

Fair Value Measurements

The following table presents the hierarchy for assets and liabilities measured at fair value on a recurring basis:

In millions	July 3, 2022				January 2, 2022			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Money market funds (cash equivalents)	\$ 581	\$ —	\$ —	\$ 581	\$ 688	\$ —	\$ —	\$ 688
Marketable equity securities	38	—	—	38	107	—	—	107
Helix contingent value right	—	—	62	62	—	—	65	65
Deferred compensation plan assets	—	51	—	51	—	60	—	60
Total assets measured at fair value	<u>\$ 619</u>	<u>\$ 51</u>	<u>\$ 62</u>	<u>\$ 732</u>	<u>\$ 795</u>	<u>\$ 60</u>	<u>\$ 65</u>	<u>\$ 920</u>
Liabilities:								
Contingent consideration liabilities	\$ —	\$ —	\$ 606	\$ 606	\$ —	\$ —	\$ 615	\$ 615
Deferred compensation plan liability	—	48	—	48	—	56	—	56
Total liabilities measured at fair value	<u>\$ —</u>	<u>\$ 48</u>	<u>\$ 606</u>	<u>\$ 654</u>	<u>\$ —</u>	<u>\$ 56</u>	<u>\$ 615</u>	<u>\$ 671</u>

Our marketable equity securities are measured at fair value based on quoted trade prices in active markets. Our deferred compensation plan assets consist primarily of investments in life insurance contracts carried at cash surrender value, which reflects the net asset value of the underlying publicly traded mutual funds. We perform control procedures to corroborate the fair value of our holdings, including comparing valuations obtained from our investment service provider to valuations reported by our asset custodians, validating pricing sources and models, and reviewing key model inputs, if necessary.

We elected the fair value option to measure the contingent value right received from Helix. The fair value of such contingent value right, included in other assets, is derived using a Monte Carlo simulation. Estimates and assumptions used in the Monte Carlo simulation include probabilities related to the timing and outcome of future financing and/or liquidity events, assumptions regarding collectibility and volatility, and an estimated equity value of Helix. These unobservable inputs represent a Level 3 measurement because they are supported by little or no market activity and reflect our own assumptions in measuring fair value.

We reassess the fair value of contingent consideration related to acquisitions on a quarterly basis. The contingent value rights issued as part of the GRAIL acquisition entitle the holders to receive future cash payments on a quarterly basis (Covered Revenue Payments) representing a pro rata portion of certain GRAIL-related revenues (Covered Revenues) each year for a 12-year period. As defined in the [Contingent Value Rights Agreement](#), this will reflect a 2.5% payment right to the first \$1 billion of revenue each year for 12 years. Revenue above \$1 billion each year will be subject to a 9% contingent payment right during this same period. Covered Revenues for Q4 2021 and Q1 2022 were \$20 million in aggregate, driven primarily by sales of GRAIL's Galleri test. Corresponding Covered Revenue Payments in YTD 2022 were approximately \$187,000; however, pursuant to the Contingent Value Rights Agreement, a portion of the Covered Revenue Payments were applied to reimburse us for certain expenses. We use a Monte Carlo simulation to estimate the fair value of contingent consideration related to the GRAIL acquisition. Estimates and assumptions used in the Monte Carlo simulation include forecasted revenues for GRAIL, a revenue risk premium, a revenue volatility, an operational leverage ratio and a counterparty credit spread. These unobservable inputs represent a Level 3 measurement because they are supported by little or no market activity and reflect our own assumptions in measuring fair value. Changes in the fair value of contingent consideration subsequent to the acquisition date are recognized in selling, general and administrative expense in our condensed consolidated statements of operations. As of July 3, 2022, the fair value of our contingent consideration liability related to the GRAIL acquisition was \$605 million, with \$604 million included in other long-term liabilities and the remaining balance included in accrued liabilities.

Changes in the estimated fair value of our contingent consideration liabilities during YTD 2022 were as follows:

<i>In millions</i>	
Balance as of January 2, 2022	\$ 615
Acquisition in current period	2
Change in estimated fair value	(11)
Balance as of July 3, 2022	<u>\$ 606</u>

4. DEBT

Summary of Term Debt Obligations

<i>In millions</i>	July 3, 2022	January 2, 2022
Principal amount of 2031 Term Notes outstanding	\$ 500	\$ 500
Principal amount of 2023 Term Notes outstanding	500	500
Unamortized discounts and debt issuance costs	(6)	(7)
Net carrying amount of term notes	994	993
Less: current portion	(499)	—
Term notes, non-current	\$ 495	\$ 993
Fair value of term notes outstanding (Level 2)	<u>\$ 904</u>	<u>\$ 996</u>

0.550% Term Notes due 2023 (2023 Term Notes) and 2.550% Term Notes due 2031 (2031 Term Notes)

On March 23, 2021, we issued \$500 million aggregate principal amount of term notes due 2023 (2023 Term Notes) and \$500 million aggregate principal amount of term notes due 2031 (2031 Term Notes, together the Term Notes). We received net proceeds from the issuance of \$992 million, after deducting discounts and debt issuance costs.

The 2023 and 2031 Term Notes accrue interest at a rate of 0.550% and 2.550% per annum, respectively, payable semi-annually. Interest is payable on March 23 and September 23 of each year, beginning on September 23, 2021. The 2023 Term Notes mature on March 23, 2023, and the 2031 Term Notes mature on March 23, 2031.

We may redeem for cash all or any portion of the Term Notes, at our option, at any time prior to maturity. The 2023 Term Notes and, prior to December 23, 2030, the 2031 Term Notes are redeemable at make-whole premium redemption prices as defined in the applicable forms of note. After December 23, 2030, the 2031 Term Notes are redeemable at a redemption price equal to 100% of the principal amount of the notes to be redeemed, plus any accrued and unpaid interest up to, but excluding, the redemption date.

Interest expense recognized on the Term Notes, which included amortization of debt discounts and issuance costs, was \$4 million and \$9 million in Q2 2022 and YTD 2022, respectively, and \$4 million and \$5 million in Q2 2021 and YTD 2021, respectively.

0% Convertible Senior Notes due 2023 (2023 Convertible Notes)

<i>In millions</i>	July 3, 2022	January 2, 2022
Principal amount outstanding	\$ 750	\$ 750
Unamortized debt discount and issuance costs	(4)	(48)
Net carrying amount of liability component	\$ 746	\$ 702
Less: current portion	(746)	—
Convertible senior notes, non-current	\$ —	\$ 702
Carrying value of equity component, net of debt issuance costs	\$ —	\$ 126
Fair value of convertible senior notes outstanding (Level 2)	\$ 717	\$ 854

In August 2018, we issued \$750 million aggregate principal amount of convertible senior notes due 2023 (2023 Convertible Notes). The 2023 Convertible Notes carry no coupon interest and mature on August 15, 2023.

The 2023 Convertible Notes will be convertible into cash, shares of our common stock or a combination of cash and shares of our common stock, at our election, based on an initial conversion rate, subject to adjustment, of 2.1845 shares of common stock per \$1,000 principal amount of notes (which represents an initial conversion price of approximately \$457.77 per share of common stock), only in the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on September 30, 2018 (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price in effect on each applicable trading day; (2) during the five business day period after any 10 consecutive trading day period (the "measurement period") in which the trading price per \$1,000 principal amount of 2023 Convertible Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day; (3) if we call any or all of the notes for redemption, at any time prior to the close of business on the scheduled trading day immediately preceding the redemption date; or (4) upon the occurrence of specified corporate events described in the indenture. Regardless of the foregoing circumstances, the holders may convert their notes on or after May 15, 2023 until August 11, 2023. As such, the 2023 Convertible Notes were reclassified to short-term as of July 3, 2022. The 2023 Convertible Notes were not convertible as of July 3, 2022.

We may redeem for cash all or any portion of the 2023 Convertible Notes, at our option, on or after August 20, 2021 if the last reported sale price of our common stock has been at least 130% of the conversion price then in effect (currently \$595.10) for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide notice of redemption at a redemption price equal to 100% of the principal amount of the notes to be redeemed, plus any accrued and unpaid special interest to, but excluding, the redemption date.

At the time of issuance, the embedded conversion feature of the 2023 Convertible Notes was required to be bifurcated from the notes and accounted for as an equity instrument classified within stockholders' equity. As a result, we recognized \$126 million in additional paid-in capital in 2018, which was recorded as a debt discount and subsequently amortized to interest expense at an estimated effective rate, assuming no conversion option, of 3.7%. As of January 3, 2022, we adopted ASU 2020-06, which removed the requirement to separate the embedded conversion feature from the notes and requires the notes to be accounted for as a single liability measured at amortized cost. Accordingly, we reclassified the unamortized debt discount from additional paid-in capital to convertible senior notes in the condensed consolidated balance sheets on January 3, 2022. This resulted in an increase to our convertible senior notes and retained earnings of \$43 million and \$61 million, respectively, and a decrease to our deferred tax liabilities, included in other long-term liabilities, and additional paid-in capital of \$11 million and \$93 million, respectively.

Interest expense recognized on the 2023 Convertible Notes, which included amortization of debt issuance costs, was \$1 million and \$2 million in Q2 2022 and YTD 2022, respectively. Interest expense recognized on the 2023 Convertible Notes in Q2 2021 and YTD 2021 was \$7 million and \$14 million, respectively, which included amortization of the original debt discount and debt issuance costs.

0.5% Convertible Senior Notes due 2021 (2021 Convertible Notes)

In June 2014, we issued \$517 million aggregate principal amount of convertible senior notes due 2021 (2021 Convertible Notes). The 2021 Convertible Notes matured on June 15, 2021, by which time the principal had been converted and was repaid in cash. The excess of the conversion value over the principal amount was paid in 0.7 million shares of common stock and we recorded a loss on extinguishment of debt of \$1 million in Q2 2021. Interest expense recognized on the 2021 Convertible Notes, which included amortization of debt discount and issuance costs, was \$3 million and \$7 million in Q2 2021 and YTD 2021, respectively. Our adoption of ASU 2020-06 on January 3, 2022 did not impact the accounting for the 2021 Convertible Notes since they were converted and repaid prior to the date of adoption.

Credit Agreement

On March 8, 2021, we entered into a credit agreement (the Credit Agreement), which provides us with a \$750 million senior unsecured five-year revolving credit facility, including a \$40 million sublimit for swingline borrowings and a \$50 million sublimit for letters of credit (the Credit Facility). The proceeds of the loans under the Credit Facility may be used to finance working capital needs and for general corporate purposes.

Any loans under the Credit Facility will have a variable interest rate based on either the eurocurrency rate or the alternate base rate, plus an applicable spread that varies with the Company's debt rating. The Credit Agreement includes an option for us to elect to increase the commitments under the Credit Facility or to enter into one or more tranches of term loans in the aggregate principal amount of up to \$250 million, subject to the consent of the lenders providing the additional commitments or term loans, as applicable, and certain other conditions.

The Credit Agreement contains financial and operating covenants. Pursuant to the Credit Agreement, we are required to maintain a ratio of total debt to annual earnings before interest, taxes, depreciation and amortization (EBITDA), calculated based on the four consecutive fiscal quarters ending with the most recent fiscal quarter, of not greater than 3.50 to 1.00 as of the end of each fiscal quarter. Upon the consummation of any Qualified Acquisition (as defined in the Credit Agreement) and us providing notice to the Administrative Agent, the ratio increases to 4.00 to 1.00 for the fiscal quarter in which the acquisition is consummated and the three consecutive fiscal quarters thereafter. The operating covenants include, among other things, limitations on (i) the incurrence of indebtedness by our subsidiaries, (ii) liens on our and our subsidiaries assets, and (iii) certain fundamental changes and the disposition of assets by us and our subsidiaries. The Credit Agreement contains other customary covenants, representations and warranties, and events of default.

The Credit Facility matures, and all amounts outstanding thereunder become due and payable in full, on March 8, 2026, subject to two one-year extensions at our option, the consent of the extending lenders and certain other conditions. We may prepay amounts borrowed and terminate commitments under the Credit Facility at any time without premium or penalty.

As of July 3, 2022, there were no borrowings outstanding under the Credit Facility, and we were in compliance with all financial and operating covenants.

5. STOCKHOLDERS' EQUITY

As of July 3, 2022, approximately 1.9 million shares remained available for future grants under the 2015 Stock and Incentive Compensation Plan.

Restricted Stock

Restricted stock activity was as follows:

Units in thousands	Restricted Stock Units (RSU)	Performance Stock Units (PSU) ⁽¹⁾	Weighted-Average Grant Date Fair Value per Share	
			RSU	PSU
Outstanding at January 2, 2022	1,130	328	\$ 345.66	\$ 466.42
Awarded	1,075	16	\$ 326.85	\$ 360.42
Vested	(85)	—	\$ 376.44	\$ —
Cancelled	(106)	(8)	\$ 345.84	\$ 437.46
Outstanding at July 3, 2022	2,014	336	\$ 334.26	\$ 427.53

⁽¹⁾ The number of units reflect the estimated number of shares to be issued at the end of the performance period. Awarded units are presented net of performance adjustments.

Stock Options

Stock option activity was as follows:

Units in thousands	Options	Weighted-Average Exercise Price	Performance Stock Options ⁽¹⁾	Weighted-Average Exercise Price
Outstanding at January 2, 2022	8	\$ 66.42	17	\$ 85.54
Granted	180	\$ 330.25	—	\$ —
Outstanding at July 3, 2022	188	\$ 319.27	17	\$ 85.54
Exercisable at July 3, 2022	8	\$ 68.92	—	\$ —

⁽¹⁾ The number of units reflect awards that have been granted and for which it is assumed to be probable that the underlying performance goals will be achieved.

Liability-Classified Awards

We grant cash-based equity incentive awards to GRAIL employees. The cash to be awarded may subsequently increase or decrease in direct correlation to changes in the enterprise fair value of GRAIL, as defined under the Cash-Based Equity Appreciation Award Plan.

Cash-based equity incentive award activity was as follows:

In millions

Outstanding at January 2, 2022	\$	184
Granted		106
Cancelled		(23)
Outstanding at July 3, 2022	\$	267
Estimated liability as of July 3, 2022 (included in accrued liabilities)	\$	40

We recognized share-based compensation expense of \$16 million and \$29 million in Q2 2022 and YTD 2022, respectively. As of July 3, 2022, approximately \$227 million of total unrecognized compensation cost related to awards issued to date was expected to be recognized over a weighted-average period of approximately 3.4 years.

In connection with the acquisition of GRAIL, we assumed a performance-based award for which vesting is based on GRAIL's future revenues. The award has an aggregate potential value of up to \$78 million and expires, to the extent unvested, in August 2030. As of July 3, 2022, it was not probable that the performance conditions associated with the award will be achieved and, therefore, no share-based compensation expense, or corresponding liability, has been recognized in the condensed consolidated financial statements to-date.

Employee Stock Purchase Plan

The price at which common stock is purchased under the Employee Stock Purchase Plan (ESPP) is equal to 85% of the fair market value of the common stock on the first day of the offering period or purchase date, whichever is lower. During YTD 2022, approximately 0.1 million shares were issued under the ESPP. As of July 3, 2022, there were approximately 13.0 million shares available for issuance under the ESPP.

Share Repurchases

We did not repurchase any shares during YTD 2022. As of July 3, 2022, authorizations to repurchase approximately \$15 million of our common stock remained available under the \$750 million share repurchase program authorized by our Board of Directors on February 5, 2020. The repurchases may be completed under a 10b5-1 plan or at management's discretion.

Share-Based Compensation

Share-based compensation expense, which includes expense for both equity and liability-classified awards, reported in our condensed consolidated statements of operations was as follows:

<i>In millions</i>	Q2 2022	Q2 2021	YTD 2022	YTD 2021
Cost of product revenue	\$ 7	\$ 8	\$ 13	\$ 15
Cost of service and other revenue	1	1	2	2
Research and development	39	26	75	50
Selling, general and administrative	44	45	93	80
Share-based compensation expense before taxes	91	80	183	147
Related income tax benefits	(20)	(15)	(41)	(28)
Share-based compensation expense, net of taxes	\$ 71	\$ 65	\$ 142	\$ 119

In February 2021, we modified the metrics and reduced the maximum potential payouts for our performance stock units granted in 2019 and 2020. The PSU granted in 2019 vested on January 2, 2022 and the PSU granted in 2020 vests at the end of the three-year period ending on January 1, 2023. The modifications affected 52 employees with units granted in 2019, which resulted in total incremental share-based compensation expense of approximately \$41 million, and 72 employees with units granted in 2020, which resulted in total incremental share-based compensation expense of approximately \$65 million.

The assumptions used and the resulting estimate of weighted-average fair value per share for stock purchased under the ESPP during YTD 2022 were as follows:

	Employee Stock Purchase Rights
Risk-free interest rate	0.06% - 0.78%
Expected volatility	37% - 47%
Expected term	0.5 - 1.0 year
Expected dividends	0 %
Weighted-average grant-date fair value per share	\$ 91.27

As of July 3, 2022, approximately \$639 million of total unrecognized compensation cost related to restricted stock, stock options and ESPP shares issued to date was expected to be recognized over a weighted-average period of approximately 2.5 years.

6. SUPPLEMENTAL BALANCE SHEET DETAILS

Accounts Receivable

<i>In millions</i>	July 3, 2022	January 2, 2022
Trade accounts receivable, gross	\$ 646	\$ 651
Allowance for credit losses	(4)	(3)
Total accounts receivable, net	\$ 642	\$ 648

Inventory

<i>In millions</i>	July 3, 2022	January 2, 2022
Raw materials	\$ 202	\$ 144
Work in process	366	333
Finished goods	32	32
Inventory, gross	600	509
Inventory reserve	(82)	(78)
Total inventory, net	\$ 518	\$ 431

Intangible Assets and Goodwill

We recorded a developed technology intangible asset of \$23 million, with a useful life of 7 years, and a database intangible asset of \$12 million, with a useful life of 7 years, as a result of an acquisition in Q2 2022. We are still finalizing the allocation of the purchase price as additional information is received to complete our analysis. We expect to finalize the valuation as soon as practicable, but no later than one year after the acquisition date.

Changes to goodwill during YTD 2022 were as follows:

In millions

Balance as of January 2, 2022	\$	7,113
Acquisition		45
Balance as of July 3, 2022	\$	7,158

Goodwill is reviewed for impairment at least annually during the second quarter, or more frequently if an event occurs indicating the potential for impairment. In May 2022, we performed our annual goodwill impairment test for our two reporting units: Core Illumina and GRAIL. We performed a qualitative assessment for the Core Illumina reporting unit, noting no impairment. For the GRAIL reporting unit, we performed a quantitative assessment and determined a fair value for the reporting unit using a discounted cash flow model, which included assumptions for projected cash flows and a discount rate of 16.0%. The selected discount rate was determined using a weighted average cost of capital for risk factors specific to the GRAIL reporting unit and other market and industry data. Estimates and assumptions used in this assessment represent a Level 3 measurement because they are supported by little or no market activity and reflect our own assumptions in measuring the fair value. Based on the quantitative test performed, the fair value of the GRAIL reporting unit exceeded its carrying value by \$700 million and no goodwill impairment charge was recorded as of Q2 2022. The assumptions used in our impairment analysis are inherently subject to uncertainty. If actual results are not consistent with our estimates and assumptions, goodwill may be overstated, and an impairment charge would need to be recorded. Had we used a discount rate greater than 16.4% in our annual quantitative impairment test, this would have resulted in the carrying value of the GRAIL reporting unit exceeding its fair value and an impairment charge being recorded in Q2 2022.

On July 13, 2022, the EU General Court reached a decision in favor of the European Commission, holding that the European Commission has jurisdiction to review our acquisition of GRAIL. Refer to note [“7. Legal Proceedings”](#) for additional details. This decision represents a triggering event in Q3 2022 for purposes of performing an interim goodwill impairment test. The results of performing an interim impairment test could result in us having to record material intangible asset and goodwill impairment charges related to the GRAIL reporting unit in Q3 2022.

Accrued Liabilities

In millions

	July 3, 2022	January 2, 2022
Legal contingencies (a)	\$ 609	\$ —
Contract liabilities, current portion	226	234
Accrued compensation expenses	203	241
Accrued taxes payable	81	98
Operating lease liabilities, current portion	75	71
Liability-classified equity incentive awards	40	11
Other, including warranties (b)	120	106
Total accrued liabilities	\$ 1,354	\$ 761

(a) See note [“7. Legal Proceedings”](#) for additional details.

(b) Changes in the reserve for product warranties were as follows:

In millions

	Q2 2022	Q2 2021	YTD 2022	YTD 2021
Balance at beginning of period	\$ 21	\$ 15	\$ 22	\$ 13
Additions charged to cost of product revenue	6	7	12	15
Repairs and replacements	(6)	(6)	(13)	(12)
Balance at end of period	\$ 21	\$ 16	\$ 21	\$ 16

We generally provide a one-year warranty on instruments. Additionally, we provide a warranty on consumables through the expiration date, which generally ranges from six to twelve months after the manufacture date. At the time revenue is recognized, an accrual is established for estimated warranty expenses based on historical experience as well as anticipated product performance. We periodically review the warranty reserve for adequacy and adjust the warranty accrual, if necessary, based on actual experience and estimated costs to be incurred. Warranty expense is recorded as a component of cost of product revenue.

Derivative Financial Instruments

We are exposed to foreign exchange rate risks in the normal course of business and use derivative financial instruments to partially offset this exposure. We do not use derivative financial instruments for speculative or trading purposes. Foreign exchange contracts are carried at fair value in other current assets, other assets, accrued liabilities, or other long-term liabilities, as appropriate, on the condensed consolidated balance sheets.

We use foreign exchange forward contracts to manage foreign currency risks related to monetary assets and liabilities denominated in currencies other than the U.S. dollar. These derivative financial instruments have terms of one month or less and are not designated as hedging instruments. Changes in fair value of these derivatives are recognized in other (expense) income, net, along with the re-measurement gain or loss on the foreign currency denominated assets or liabilities. As of July 3, 2022, we had foreign exchange forward contracts in place to hedge exposures in the euro, Japanese yen, Australian dollar, Canadian dollar, Singapore dollar, Chinese Yuan Renminbi, and British pound. As of July 3, 2022 and January 2, 2022, the total notional amounts of outstanding forward contracts in place for these foreign currency purchases were \$559 million and \$462 million, respectively.

We also use foreign currency forward contracts to hedge portions of our foreign currency exposure associated with forecasted revenue transactions. These derivative financial instruments have terms up to 24 months and are designated as cash flow hedges. Changes in fair value of our cash flow hedges are recorded as a component of accumulated other comprehensive income and are reclassified to revenue in the same period the underlying hedged transactions are recorded. Accordingly, we reclassified \$10 million and \$16 million to revenue in Q2 2022 and YTD 2022, respectively, and \$1 million in both Q2 2021 and YTD 2021. The fair value of the foreign currency forward contracts recorded in total assets on the condensed consolidated balance sheets was \$36 million and \$19 million as of July 3, 2022 and January 2, 2022, respectively, of which \$33 million and \$19 million, respectively, was recorded within prepaid expenses and other current assets. The estimated net amount of gains reported in accumulated other comprehensive income that is expected to be reclassified into earnings within the next 12 months is \$33 million as of July 3, 2022. We regularly review the effectiveness of our cash flow hedges and consider them to be ineffective if it becomes probable that the forecasted transactions will not occur in the identified period. Changes in fair value of the ineffective portions of our cash flow hedges, if any, will be recognized in other (expense) income, net. As of July 3, 2022, we had foreign currency forward contracts in place to hedge exposures associated with forecasted revenue transactions denominated in the euro, Japanese yen, Australian dollar, and Canadian dollar. As of July 3, 2022 and January 2, 2022, the total notional amounts of outstanding cash flow hedge contracts in place for these foreign currency purchases were \$456 million and \$450 million, respectively.

7. LEGAL PROCEEDINGS

We are involved in various lawsuits and claims arising in the ordinary course of business, including actions with respect to intellectual property, employment, and contractual matters. In connection with these matters, we assess, on a regular basis, the probability and range of possible loss based on the developments in these matters. A liability is recorded in the condensed consolidated financial statements if it is believed to be probable that a loss has been incurred and the amount of the loss can be reasonably estimated. Because litigation is inherently unpredictable and unfavorable resolutions could occur, assessing contingencies is highly subjective and requires judgments about future events. We regularly review outstanding legal matters to determine the adequacy of the liabilities accrued and related disclosures in consideration of many factors, which include, but are not limited to, past history, scientific and other evidence, and the specifics and status of each matter. We may change our estimates if our assessment of the various factors changes and the amount of ultimate loss may differ from our estimates, resulting in a material effect on our business, financial condition, results of operations, and/or cash flows.

Acquisition of GRAIL

On March 30, 2021, the Federal Trade Commission (the FTC) filed an administrative complaint and a motion for a preliminary injunction in the United States District Court for the District of Columbia. In both actions, the FTC alleged that our acquisition of GRAIL would violate Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18. We filed an answer to the FTC's complaint in federal district court on April 6, 2021, and in the administrative court on April 13, 2021. On April 20, 2021, the United States District Court for the District of Columbia granted our motion to transfer venue to the United States District Court for the Southern District of California. On May 28, 2021, the district court granted the FTC's motion to dismiss the complaint without prejudice. The administrative trial commenced on August 24, 2021, and live testimony concluded on September 24, 2021. On April 15, 2022, the parties filed their opening post-trial briefs and proposed findings. Reply briefs were filed May 25, 2022, and closing arguments took place on June 8, 2022. A decision by the administrative judge is currently due no later than September 2, 2022. We intend to vigorously defend against the FTC action.

On April 19, 2021, the European Commission accepted a request for a referral of the GRAIL acquisition for European Union merger review, submitted by a Member State of the European Union (France), and joined by several other Member States (Belgium, Greece, Iceland, the Netherlands and Norway), under Article 22(1) of Council Regulation (EC) No 139/2004 (the EU Merger Regulation). On April 29, 2021, we filed an action in the General Court of the European Union (the EU General Court) asking for annulment of the European Commission's assertion of jurisdiction to review the acquisition under Article 22 of the EU Merger Regulation, as the acquisition does not meet the jurisdictional criteria under the EU Merger Regulation or under the national merger control laws of any Member State of the European Union. On December 16, 2021, the EU General Court held a hearing regarding the European Commission's assertion of jurisdiction. On July 13, 2022, the EU General Court reached a decision in favor of the European Commission, holding that the European Commission has jurisdiction to review the acquisition. We intend to appeal the decision. Additionally, as a result of our decision to proceed with the completion of the acquisition of GRAIL during the pendency of the European Commission's review, the European Commission will likely seek to impose a fine on us pursuant to Article 14(2)(b) of the EU Merger Regulation of up to 10% of our consolidated annual revenues. On July 19, 2022, the European Commission issued a Statement of Objections alleging that we breached the EU Merger Regulation by completing our acquisition of GRAIL. As a result, we accrued \$453 million, included in accrued liabilities, in Q2 2022, representing 10% of our consolidated annual revenues for fiscal year 2021 in accordance with ASC 450, *Contingencies*.

BGI Genomics Co. Ltd. and its Affiliates

We are involved in lawsuits against BGI Genomics Co. Ltd (BGI) and its affiliates, including Complete Genomics, Inc. (CGI), in the United States and elsewhere.

On June 27, 2019, we filed suit against BGI in the United States District Court for the Northern District of California, alleging that certain BGI sequencing products infringe our U.S. Patent No. 7,566,537 ('537 patent) and U.S. Patent No. 9,410,200 ('200 patent). BGI has denied our claims and has counterclaimed that our technology infringes U.S. Patent No. 9,944,984 ('984 patent). We deny their allegations. On February 27, 2020, we filed a second patent infringement suit against BGI in the United States District Court for the Northern District of California alleging that BGI sequencing products infringed U.S. Patent 7,771,973 ('973 patent), U.S. Patent 7,541,444 ('444 patent), and U.S. Patent 10,480,025 ('025 patent). On June 15, 2020, the Court granted our motions requesting preliminary injunctions against BGI, finding that our patents were likely valid and infringed by BGI's chemistries. The injunction prohibits the sale of infringing BGI sequencers and sequencing reagents in the U.S. On December 9, 2020, BGI filed a motion to amend its answer to our second suit to include allegations that the '444 and '973 patents are unenforceable under the doctrine of inequitable conduct; we deny BGI's allegations. We deny that we owe any damages or ongoing royalty. On August 27, 2021, and September 9, 2021, the Court issued its decisions on the summary judgment motions: (i) the Court granted our motion for summary judgment that we do not infringe BGI's '984 patent; (ii) the Court granted our motion for summary judgment that our '444 and '973 patents are not unenforceable; (iii) the Court granted our motion for summary judgment that BGI's standard MPS products infringe all of our patents-in-suit; (iv) the Court granted our motion for summary judgment that BGI's "Cool MPS" sequencing products infringe the '973 and '444 patents, and granted BGI's motion for summary judgment that BGI's "Cool MPS" sequencing products do not infringe the '025 patent; and (v) the Court denied BGI's motion for summary judgment that our '973 patent is invalid for lack of written description and enablement. Trial began on November 12, 2021, and the jury rendered a verdict on November 30, 2021. The jury found that the '537, '200, '973 patents and claims 9, 27, 31, 33, 34, 42, 47 of the '025 patent are valid and were willfully infringed by BGI. The jury also ruled that the claim 4

of the '444 patent and claim 1 of the '025 patent were invalid as obvious. The jury awarded the Company \$8 million in damages. On March 27, 2022, the Court issued a decision on post-trial motions. The Court denied BGI's motions. The Court (i) upheld the jury's award of \$8 million and granted pre-judgment interest, (ii) upheld the jury's finding that BGI's infringement was willful, (iii) granted the Company's request for a permanent injunction until the relevant patents expire; (iv) granted the Company's request that claim 1 of the '025 patent is not invalid, but denied the request with respect to claim 4 of the '444 patent; and (v) denied the Company's request for enhanced damages. On April 27, 2022, BGI appealed the judgment to the United States Court of Appeals for the Federal Circuit. The Company cross-appealed, including with respect to the denial of the Company's request for enhanced damages.

On January 11, 2021, Complete Genomics, Inc., BGI Americas Corp., and MGI Americas, Inc. also filed a complaint in the United States District Court for the Northern District of California alleging the Company and its subsidiary Illumina Cambridge Ltd. violated federal antitrust and state unfair competition laws. CGI and these affiliates allege that the Company fraudulently withheld a prior art reference that was material to patentability for the '444 and '973 patents. They also allege that our infringement claims of the '025 against BGI's "Cool MPS" chemistry were objectively baseless. The Company denies the allegations in the complaint. On March 30, 2021, the Court stayed the antitrust case pending resolution of the underlying patent infringement suit taking place in the same court.

On May 28, 2019, CGI filed suit against us in the United States District Court for the District of Delaware alleging that our two-channel sequencing systems, including the NovaSeq, NextSeq, and MiniSeq systems, infringe certain claims of U.S. Patent No. 9,222,132. We have denied CGI's allegations and have counterclaimed for infringement by CGI, BGI Americas Corp., and MGI Americas, Inc. of U.S. Patent No. 9,303,290, U.S. Patent No. 9,217,178, and U.S. Patent No. 9,970,055. On August 15, 2019, CGI filed a motion to dismiss our counterclaims. On August 29, 2019, we filed our Opposition to the Motion to Dismiss. The Court denied and granted the motion in part, denying the motion as to our claims for inducing infringement and granting it for contributory infringement. The Court gave us leave to file an amended complaint to attempt to cure the alleged deficiencies as to contributory infringement. On July 1, 2020, CGI amended its complaint to add claims of infringement of U.S. Patent No. 10,662,473 by our two-channel sequencing systems. We deny these allegations. As of April 8, 2022, CGI is seeking \$334 million in alleged past damages and an average ongoing royalty of at least 5.5% on sales of the accused two-channel sequencing instruments and chemistry in the U.S. until the patents-in-suit expire on January 28, 2029. We deny that we owe any damages or ongoing royalty. On October 22, 2021, pursuant to the Court's local rules, the Company sought leave to file a motion for summary judgment of non-infringement of the CGI patents-in-suit. CGI sought leave to file a motion for summary judgment against the Company's invalidity defense based on prior invention. On January 14, 2022, the Court denied the Company and CGI's motions for leave to file for summary judgment. Trial began on April 25, 2022.

On May 6, 2022, the jury in the U.S. District Court for the District of Delaware rendered a verdict that we willfully infringed U.S. Patent Nos. 9,222,132 and 10,662,473 owned by CGI, and awarded approximately \$334 million to CGI in past damages. The jury also invalidated three patents owned by us, namely, U.S. Patent Nos. 9,217,178; 9,303,290; and 9,970,055. On July 14, 2022, we entered into a Settlement and License Agreement with BGI and CGI (the "Agreement"). The Agreement resolves all claims in Complete Genomics, Inc. v. Illumina, Inc., Case No. C.A. No. 19-970-MN (D. Del.). The Agreement also resolves all claims in Illumina, Inc. and Illumina Cambridge Ltd. v. BGI Genomics Co., Ltd., BGI Americas Corp., MGI Tech Co., Ltd., MGI Americas Inc., and Complete Genomics, Inc., Case No. 3:19-cv-03770-WHO (N.D. Cal.) and Illumina, Inc. and Illumina Cambridge Ltd. v. BGI Genomics Co., Ltd., BGI Americas Corp., MGI Tech Co., Ltd., MGI Americas Inc., and Complete Genomics, Inc., Case No. 3:20-cv-01465-WHO (N.D. Cal.), as well as related Appeal Nos. 2022-1733, 2022-1735 and 2022-1742, 2022-1743 pending in the United States Court of Appeals for the Federal Circuit, with the exception that the permanent injunction entered on April 11, 2022 against BGI remains in effect with a revised expiration date of January 1, 2023, with respect to BGI's StandardMPS chemistry. The Agreement further resolves all antitrust claims against us in Complete Genomics, Inc., BGI Americas Corp. and MGI Americas, Inc. v. Illumina, Inc. and Illumina Cambridge Ltd., Case No. 21-cv-00217 (N.D. Cal.) and that complaint will be dismissed with prejudice. Pursuant to the terms of the Agreement, the Company agrees to pay Complete Genomics a one-time payment of \$325 million, with the parties agreeing that the judgment against BGI and the judgment against the Company in the above-referenced litigations are satisfied in total. In addition, the Company received from BGI a fully paid-up license to U.S. Patent Nos. 8,617,811, 9,222,132, 9,523,125, 10,662,473, 11,098,356 and 11,214,832, U.S. Patent Application Nos. 61/024,396, 61/024,110, 16/882,461, 17/407,935 and 17/523,706, and U.S. patents and patent applications related to each of the foregoing U.S. patents and patent applications until their expiration ("the 2-channel technology patents"). Our license allows the Company to use the 2-channel technology in all its current and future platforms with no additional royalties owed. BGI received from us a fully paid-up license to U.S. Patent Nos. 9,217,178, 9,303,290 and

9,970,055 (“the image mix patents”) and U.S. patents and applications related to each of the foregoing U.S. patents until their expiration. The parties agree to a litigation standstill for patent and antitrust actions in the United States and its territories until October 1, 2025, as set forth in the Agreement. The standstill does not apply to the parties’ patents or patent applications related to non-invasive prenatal testing, nor to any intellectual property of Grail, Inc., related to multi-cancer early detection. None of the parties make any admission of liability in entering into the Agreement.

Per our preliminary assessment performed in Q2 2022, we allocated the \$325 million payment with an estimated \$156 million allocated to the release of past damages claimed. We accrued this estimate in Q2 2022, included in accrued liabilities. We also expect to record an estimated \$177 million as an intangible asset in Q3 2022 representing the fair value of the license granted to us, which is expected to be amortized over a period of approximately 6.5 years. The value of the license was estimated using a discounted cash flow model. In addition, we expect to record the damages awarded to us, estimated to be \$8 million, as a gain contingency in Q3 2022.

8. INCOME TAXES

Our effective tax rate may vary from the U.S. federal statutory tax rate due to the change in the mix of earnings in tax jurisdictions with different statutory rates, benefits related to tax credits, and the tax impact of non-deductible expenses and other permanent differences between income before income taxes and taxable income.

Our effective tax rates for Q2 2022 and YTD 2022 were 16.0% and 9.7%, respectively, compared to 10.8% and 11.8% in Q2 2021 and YTD 2021, respectively. The tax benefits in Q2 2022 and YTD 2022 had effective tax rates that were lower than the U.S. federal statutory tax rate of 21% primarily because of the \$95 million impact from the potential European Commission fine related to the GRAIL acquisition which is nondeductible for tax purposes, the \$6 million and \$31 million impacts of GRAIL pre-acquisition net operating losses on global intangible low-taxed income (GILTI) and the utilization of U.S. foreign tax credits, respectively, and the \$23 million and \$27 million impacts of research and development expense capitalization for tax purposes, respectively. This was partially offset by the mix of earnings in jurisdictions with lower statutory tax rates than the U.S. federal statutory tax rate, such as in Singapore and the United Kingdom.

As of July 3, 2022 and January 2, 2022, prepaid income taxes included within prepaid expenses and other current assets on the condensed consolidated balance sheets were \$199 million and \$101 million, respectively. The increase primarily relates to the tax benefit recorded in Q2 2022.

9. SEGMENT INFORMATION

We have two reportable segments, Core Illumina and GRAIL. We report segment information based on the management approach, which designates the internal reporting used by the Chief Operating Decision Maker (CODM) for making decisions and assessing performance as the source of our reportable segments. The CODM allocates resources and assesses the performance of each operating segment using information about its revenue and income (loss) from operations. We do not allocate expenses between segments. Core Illumina sells products and provides services to GRAIL, and vice versa, in accordance with contractual agreements between the entities.

Core Illumina:

Core Illumina's products and services serve customers in the research, clinical and applied markets, and enable the adoption of a variety of genomic solutions. Core Illumina includes all of our operations, excluding the results of GRAIL.

GRAIL:

GRAIL is a healthcare company focused on early detection of multiple cancers. We acquired GRAIL on August 18, 2021. We have included the financial results of GRAIL in our condensed consolidated financial statements from the date of acquisition.

<i>In millions</i>	Q2 2022	Q2 2021	YTD 2022	YTD 2021
Revenue:				
Core Illumina	\$ 1,156	\$ 1,126	\$ 2,377	\$ 2,219
GRAIL	12	—	22	—
Eliminations	(6)	—	(13)	—
Consolidated revenue	<u>\$ 1,162</u>	<u>\$ 1,126</u>	<u>\$ 2,386</u>	<u>\$ 2,219</u>
Income (loss) from operations:				
Core Illumina	\$ (396)	\$ 187	\$ (34)	\$ 381
GRAIL	(187)	—	(359)	—
Eliminations	4	—	(2)	—
Consolidated (loss) income from operations	<u>\$ (579)</u>	<u>\$ 187</u>	<u>\$ (395)</u>	<u>\$ 381</u>

Total other (expense) income, net relates primarily to Core Illumina, and we do not allocate income taxes to our segments.

<i>In millions</i>	July 3, 2022	January 2, 2022
Total assets:		
Core Illumina	\$ 5,829	\$ 5,571
GRAIL	9,625	9,649
Eliminations	(6)	(3)
Consolidated total assets	<u>\$ 15,448</u>	<u>\$ 15,217</u>

MANAGEMENT'S DISCUSSION & ANALYSIS

Our Management's Discussion and Analysis (MD&A) will help readers understand our results of operations, financial condition, and cash flow. It is provided in addition to the accompanying condensed consolidated financial statements and notes. This MD&A is organized as follows:

- *Management's Overview and Outlook.* High level discussion of our operating results and significant known trends that affect our business.
- *Results of Operations.* Detailed discussion of our revenues and expenses.
- *Liquidity and Capital Resources.* Discussion of key aspects of our condensed consolidated statements of cash flows, changes in our financial position, and our financial commitments.
- *Critical Accounting Policies and Estimates.* Discussion of significant changes since our most recent Annual Report on Form [10-K](#) that we believe are important to understanding the assumptions and judgments underlying our condensed consolidated financial statements.
- *Recent Accounting Pronouncements.* Summary of recent accounting pronouncements applicable to our condensed consolidated financial statements.
- *Quantitative and Qualitative Disclosure About Market Risk.* Discussion of our financial instruments' exposure to market risk.

Our discussion of our results of operations, financial condition, and cash flow for Q2 2021 and YTD 2021 can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" within our filing of [Form 10-Q](#) for the fiscal quarter ended July 4, 2021.

This MD&A discussion contains forward-looking statements that involve risks and uncertainties. See "[Consideration Regarding Forward-Looking Statements](#)" preceding the Condensed Consolidated Financial Statements section of this report for additional factors relating to such statements. This MD&A should be read in conjunction with our condensed consolidated financial statements and accompanying notes included in this report and our Annual Report on Form [10-K](#) for the fiscal year ended January 2, 2022. Operating results are not necessarily indicative of results that may occur in future periods.

MANAGEMENT'S OVERVIEW AND OUTLOOK

This overview and outlook provide a high-level discussion of our operating results and significant known trends that affect our business. We believe that an understanding of these trends is important to understanding our financial results for the periods being reported herein as well as our future financial performance. This summary is not intended to be exhaustive, nor is it intended to be a substitute for the detailed discussion and analysis provided elsewhere in this report.

About Illumina

Our focus on innovation has established us as the global leader in DNA sequencing and array-based technologies, serving customers in the research, clinical and applied markets. Our products are used for applications in the life sciences, oncology, reproductive health, agriculture and other emerging segments.

Our customers include leading genomic research centers, academic institutions, government laboratories, and hospitals, as well as pharmaceutical, biotechnology, commercial molecular diagnostic laboratories, and consumer genomics companies.

Our comprehensive line of products addresses the scale of experimentation and breadth of functional analysis to advance disease research, drug development, and the development of molecular tests. This portfolio of leading-edge sequencing and array-based solutions addresses a range of genomic complexity and throughput, enabling researchers and clinical practitioners to select the best solution for their scientific challenge.

On August 18, 2021, we acquired GRAIL, a healthcare company focused on early detection of multiple cancers. GRAIL's Galleri blood test detects various types of cancers before they are symptomatic. We believe our acquisition of GRAIL will accelerate the adoption of next-generation sequencing based early multi-cancer detection tests, enhance our position in Clinical Genomics, and increase our directly accessible total addressable market. The acquisition is subject to ongoing legal proceedings and GRAIL is currently being held and operated as a separate company, with oversight provided by an appointed, independent monitoring trustee during the European Commission's ongoing merger review. See note "[7. Legal Proceedings](#)" for further details. We have included the financial results of GRAIL in our condensed consolidated financial statements from the date of acquisition. GRAIL is a separate reportable segment.

Our financial results have been, and will continue to be, impacted by several significant trends, which are described below. While these trends are important to understanding and evaluating our financial results, this discussion should be read in conjunction with our condensed consolidated financial statements and the notes thereto within the Condensed Consolidated Financial Statements section of this report, and the other transactions, events, and trends discussed in "[Risk Factors](#)" within the Other Key Information section of this report.

Financial Overview

Beginning in 2020, the COVID-19 pandemic and international efforts to control its spread have significantly curtailed the movement of people, goods, and services worldwide, including in the regions in which we sell our products and services and conduct our business operations. In addition, beginning in 2022, the armed conflict between Russia and Ukraine and the imposed sanctions by the U.S. and other countries may impact our ability to ship products into the regions. Both the COVID-19 pandemic and the armed conflict between Russia and Ukraine could potentially impact our sales and results of operations in 2022, the size and duration of which are significantly uncertain.

Financial highlights for YTD 2022 included the following:

- Revenue increased 8% in YTD 2022 to \$2,386 million compared to \$2,219 million in YTD 2021 primarily due to growth in sequencing consumables and instruments, as well as in service and other revenue. We expect our revenue to continue to increase in 2022.
- Gross profit as a percentage of revenue (gross margin) was 66.3% in YTD 2022 compared to 70.6% in YTD 2021. The decrease in gross margin was driven primarily by the gross loss incurred by GRAIL in YTD 2022. Our gross margin depends on many factors, including: market conditions that may impact our pricing; sales mix changes among consumables, instruments, services, and development and licensing revenue; product mix changes between established products and new products; excess and obsolete inventories; royalties; our cost structure for manufacturing operations relative to volume; freight costs; and product support obligations.
- (Loss) income from operations as a percentage of revenue was (16.6)% in YTD 2022 compared to 17.2% in YTD 2021. The decrease was primarily due to legal contingencies recorded as they relate to the potential European Commission fine and our settlement with BGI, and a decrease in gross margin. We expect our operating expenses to continue to grow on an absolute basis in 2022.
- Our effective tax rate was 9.7% in YTD 2022 compared to 11.8% in YTD 2021. The tax benefit in YTD 2022 had an effective tax rate that was lower than the U.S. federal statutory tax rate of 21% primarily because of the impact of the potential European Commission fine related to the GRAIL acquisition which is nondeductible for tax purposes, the impact of GRAIL pre-acquisition net operating losses on GILTI and the utilization of U.S. foreign tax credits, and the impact of research and development expense capitalization for tax purposes. This was partially offset by the mix of earnings in jurisdictions with lower statutory tax rates than the U.S. federal statutory tax rate, such as in Singapore and the United Kingdom.
- We ended Q2 2022 with cash, cash equivalents, and short-term investments totaling \$1.3 billion as of July 3, 2022, of which approximately \$611 million was held by our foreign subsidiaries.

RESULTS OF OPERATIONS

To enhance comparability, the following table sets forth unaudited condensed consolidated statement of operations data for the specified reporting periods, stated as a percentage of total revenue⁽¹⁾.

	Q2 2022	Q2 2021	YTD 2022	YTD 2021
Revenue:				
Product revenue	86.6 %	86.3 %	87.0 %	86.8 %
Service and other revenue	13.4	13.7	13.0	13.2
Total revenue	100.0	100.0	100.0	100.0
Cost of revenue:				
Cost of product revenue	24.7	22.6	24.6	23.4
Cost of service and other revenue	5.9	5.6	5.8	5.4
Amortization of acquired intangible assets	3.4	0.6	3.3	0.6
Total cost of revenue	34.0	28.8	33.7	29.4
Gross profit	66.0	71.2	66.3	70.6
Operating expense:				
Research and development	28.1	18.0	27.3	18.0
Selling, general and administrative	35.4	36.6	30.1	35.4
Legal contingencies	52.3	—	25.5	—
Total operating expense	115.8	54.6	82.9	53.4
(Loss) income from operations	(49.8)	16.6	(16.6)	17.2
Other income (expense):				
Interest income	0.1	—	—	—
Interest expense	(0.5)	(1.4)	(0.5)	(1.6)
Other (expense) income, net	(4.6)	3.2	(3.8)	1.4
Total other (expense) income, net	(5.0)	1.8	(4.3)	(0.2)
(Loss) income before income taxes	(54.8)	18.4	(20.9)	17.0
(Benefit) provision for income taxes	(8.8)	2.0	(2.1)	2.0
Net (loss) income	(46.0)%	16.4 %	(18.8)%	15.0 %

⁽¹⁾ Percentages may not recalculate due to rounding.

Revenue

<i>Dollars in millions</i>	Q2 2022	Q2 2021	Change	% Change	YTD 2022	YTD 2021	Change	% Change
Core Illumina:								
Consumables	\$ 818	\$ 778	\$ 40	5 %	\$ 1,676	\$ 1,552	\$ 124	8 %
Instruments	193	194	(1)	(1)	412	373	39	10
Total product revenue	1,011	972	39	4	2,088	1,925	163	8
Service and other revenue	145	154	(9)	(6)	289	294	(5)	(2)
Total Core Illumina revenue	1,156	1,126	30	3	2,377	2,219	158	7
GRAIL:								
Service and other revenue	12	—	12	100	22	—	22	100
Eliminations	(6)	—	(6)	100	(13)	—	(13)	100
Total consolidated revenue	\$ 1,162	\$ 1,126	\$ 36	3 %	\$ 2,386	\$ 2,219	\$ 167	8 %

The increases in Core Illumina consumables revenue in Q2 2022 and YTD 2022 were primarily due to increases in sequencing consumables revenue of \$40 million and \$128 million, respectively, driven primarily by growth in the instrument installed base. Core Illumina instruments revenue slightly decreased in Q2 2022 due to fewer shipments. Core Illumina instruments revenue increased in YTD 2022, primarily due to an increase in sequencing instruments revenue of \$37 million, driven primarily by increased shipments of our NovaSeq instrument, partially offset by fewer shipments of our NextSeq instrument. Core Illumina service and other revenue decreased in Q2 2022 and YTD 2022, primarily due to revenue from a patent litigation settlement in Q2 2021, partially offset by increased revenue from extended maintenance service contracts in Q2 2022 and YTD 2022. Additionally, Core Illumina revenue was impacted by \$19 million in Q2 2022 and \$33 million in YTD 2022 due to unfavorable foreign exchange rate fluctuations, which is net of amounts reclassified to revenue of \$10 million and \$16 million in Q2 2022 and YTD 2022, respectively, related to our cash flow hedges.

GRAIL service and other revenue for Q2 2022 and YTD 2022 related primarily to sales of Galleri.

Gross Margin

<i>Dollars in millions</i>	Q2 2022	Q2 2021	Change	% Change	YTD 2022	YTD 2021	Change	% Change
Gross profit (loss):								
Core Illumina	\$ 801	\$ 802	\$ (1)	— %	\$ 1,651	\$ 1,566	\$ 85	5 %
GRAIL	(29)	—	(29)	100	(58)	—	(58)	100
Eliminations	(5)	—	(5)	100	(10)	—	(10)	100
Consolidated gross profit	\$ 767	\$ 802	\$ (35)	(4) %	\$ 1,583	\$ 1,566	\$ 17	1 %
Gross margin:								
Core Illumina	69.3 %	71.2 %			69.5 %	70.6 %		
GRAIL	*	—			*	—		
Consolidated gross margin	66.0 %	71.2 %			66.3 %	70.6 %		

* Not meaningful.

The decreases in Core Illumina gross margin in Q2 2022 and YTD 2022 were driven primarily by less fixed cost leverage and higher freight costs, increased revenue from a patent litigation settlement in Q2 2021, partially offset by favorable product mix.

GRAIL gross loss for Q2 2022 and YTD 2022 was primarily due to amortization of intangible assets of \$33 million and \$67 million, respectively.

Operating Expense

<i>Dollars in millions</i>	Q2 2022	Q2 2021	Change	% Change	YTD 2022	YTD 2021	Change	% Change
Research and development:								
Core Illumina	\$ 249	\$ 202	\$ 47	23 %	\$ 486	\$ 398	\$ 88	22 %
GRAIL	86	—	86	100	171	—	171	100
Eliminations	(8)	—	(8)	100	(7)	—	(7)	100
Consolidated research and development	327	202	125	62	650	398	252	63
Selling, general and administrative:								
Core Illumina	339	413	(74)	(18)	590	787	(197)	(25)
GRAIL	72	—	72	100	130	—	130	100
Eliminations	(1)	—	(1)	100	(1)	—	(1)	100
Consolidated selling, general and administrative	410	413	(3)	(1)	719	787	(68)	(9)
Legal contingencies:								
Core Illumina	609	—	609	100	609	—	609	100
Total consolidated operating expense	\$ 1,346	\$ 615	\$ 731	119 %	\$ 1,978	\$ 1,185	\$ 793	67 %

Core Illumina research and development expense increased by \$47 million, or 23%, in Q2 2022 and by \$88 million, or 22%, in YTD 2022 primarily due to increases in headcount, as we continue to invest in the research and development of new products and enhancements to existing products and professional services, partially offset by a decrease in performance-based compensation.

GRAIL research and development expense for Q2 2022 and YTD 2022 consisted primarily of expenses related to headcount, including performance-based compensation, and clinical trials.

Core Illumina selling, general and administrative expense decreased by \$74 million, or 18%, in Q2 2022 and by \$197 million, or 25%, in YTD 2022 primarily due to a decrease in acquisition-related expenses as a result of \$105 million and \$210 million in Continuation Payments made to GRAIL in Q2 2021 and YTD 2021, respectively, and a decrease in performance-based compensation, partially offset in Q2 2022 by the fair value change of \$38 million related to our contingent consideration liability. The decreases in Q2 2022 and YTD 2022 were partially offset by increases in headcount and travel expenses.

GRAIL selling, general and administrative expense for Q2 2022 and YTD 2022 consisted primarily of expenses related to headcount, including performance-based compensation, and professional services.

Core Illumina legal contingencies for Q2 2022 and YTD 2022 consisted of an accrual of \$453 million, recorded in Q2 2022, for the potential fine that the European Commission may impose of up to 10% of our consolidated annual revenues and an estimated accrual of \$156 million, also recorded in Q2 2022, related to the settlement of our litigation with BGI in July 2022. See note [7. Legal Proceedings](#) for additional details.

Other Income (Expense)

<i>Dollars in millions</i>	Q2 2022	Q2 2021	Change	% Change	YTD 2022	YTD 2021	Change	% Change
Interest income	\$ 1	\$ —	\$ 1	100 %	\$ 1	\$ —	\$ 1	100 %
Interest expense	(6)	(16)	10	(63)	(12)	(34)	22	(65)
Other (expense) income, net	(53)	36	(89)	(247)	(91)	31	(122)	(394)
Total other (expense) income, net	<u>\$ (58)</u>	<u>\$ 20</u>	<u>\$ (78)</u>	(390)%	<u>\$ (102)</u>	<u>\$ (3)</u>	<u>\$ (99)</u>	3,300 %

Total other (expense) income, net relates primarily to the Core Illumina segment.

Interest expense in Q2 2022 and YTD 2022 consisted primarily of accrued interest on our Term Notes. The decreases in Q2 2022 and YTD 2022 were primarily due to the accretion of the original debt discount on our convertible senior notes, prior to the adoption of ASU 2020-06. The decrease in YTD 2022 was also due to the recognition of interest expense in Q2 2021 and YTD 2021 associated with the amortization of debt issuance costs related to the termination of our Bridge Facility in Q1 2021. The fluctuations in other (expense) income, net were primarily due to unrealized losses on our marketable equity securities in Q2 2022 and YTD 2022, and unrealized gains on our non-marketable equity securities and Helix contingent value right in Q2 2021 and YTD 2021. For YTD 2022 the fluctuation was also due to a \$26 million gain recorded on our derivative assets related to the terminated PacBio acquisition in Q1 2021.

(Benefit) Provision for Income Taxes

<i>Dollars in millions</i>	Q2 2022	Q2 2021	Change	% Change	YTD 2022	YTD 2021	Change	% Change
(Loss) income before income taxes	\$ (637)	\$ 207	\$ (844)	(408)%	\$ (497)	\$ 378	\$ (875)	(231)%
(Benefit) provision for income taxes	(102)	22	(124)	(564)	(48)	45	(93)	(207)
Net (loss) income	<u>\$ (535)</u>	<u>\$ 185</u>	<u>\$ (720)</u>	(389)%	<u>\$ (449)</u>	<u>\$ 333</u>	<u>\$ (782)</u>	(235)%
Effective tax rate	16.0 %	10.8 %			9.7 %	11.8 %		

Our effective tax rate was 16.0% in Q2 2022 compared to 10.8% in Q2 2021. The tax benefit in Q2 2022 had an effective tax rate that was lower than the U.S. federal statutory tax rate of 21% primarily because of the \$95 million impact from the potential European Commission fine related to the GRAIL acquisition which is nondeductible for tax purposes, the \$6 million impact of GRAIL pre-acquisition net operating losses on GILTI and the utilization of U.S. foreign tax credits, and the \$23 million impact of capitalizing research and development expenses for tax purposes beginning in 2022, in accordance with the 2017 Tax Cuts and Jobs Act. If the capitalization requirement is not repealed, modified, or deferred, potentially retroactively to the beginning of 2022, our provision for income taxes will continue to be negatively impacted and our cash tax payments will increase by approximately \$142 million in 2022. The tax benefit in Q2 2022 was also favorably impacted by the mix of earnings in jurisdictions with lower statutory tax rates than the U.S. federal statutory tax rate, such as in Singapore and the United Kingdom.

In Q2 2021, the variance from the U.S. federal statutory tax rate of 21% was primarily attributable to discrete tax benefits related to GRAIL Continuation Payments and the mix of earnings in jurisdictions with lower statutory tax rates than the U.S. federal statutory tax rate, such as in Singapore and the United Kingdom.

Our effective tax rate was 9.7% in YTD 2022 compared to 11.8% in YTD 2021. The tax benefit in YTD 2022 had an effective tax rate that was lower than the U.S. federal statutory tax rate of 21% primarily because of the \$95 million impact from the potential European Commission fine related to the GRAIL acquisition which is nondeductible for tax purposes, the \$31 million impact of GRAIL pre-acquisition net operating losses on GILTI and the utilization of the U.S. foreign tax credits, and the \$27 million impact of capitalizing research and development expenses for tax purposes beginning in 2022, in accordance with the 2017 Tax Cuts and Jobs Act. The tax benefit in YTD 2022 was also favorably impacted by the mix of earnings in jurisdictions with lower statutory tax rates than the U.S. federal statutory tax rate, such as in Singapore and the United Kingdom.

In YTD 2021, the variance from the U.S. federal statutory tax rate of 21% was primarily attributable to discrete tax benefits related to GRAIL Continuation Payments and the mix of earnings in jurisdictions with lower statutory tax rates than the U.S. federal statutory tax rate, such as in Singapore and the United Kingdom. This was partially offset by tax expense on certain foreign subsidiary earnings that are no longer indefinitely reinvested.

Our future effective tax rate may vary from the U.S. federal statutory tax rate due to the mix of earnings in tax jurisdictions with different statutory tax rates and the other factors discussed in the risk factor “We are subject to risks related to taxation in multiple jurisdictions” described in “Risk Factors” within the Business & Market Information section of our Annual Report on Form [10-K](#) for the fiscal year ended January 2, 2022.

LIQUIDITY AND CAPITAL RESOURCES

At July 3, 2022, we had approximately \$1.3 billion in cash and cash equivalents, of which approximately \$611 million was held by our foreign subsidiaries. Cash and cash equivalents increased by \$57 million from January 2, 2022, due to the factors described in the “Cash Flow Summary” below. Our primary source of liquidity, other than our holdings of cash, cash equivalents, and investments, has been cash flows from operations and, from time to time, issuances of debt. Our ability to generate cash from operations provides us with the financial flexibility we need to meet operating, investing, and financing needs.

Historically, we have liquidated our short-term investments and/or issued debt and equity securities to finance our business needs as a supplement to cash provided by operating activities. As of July 3, 2022, we had \$38 million in short-term investments comprised of marketable equity securities.

As of July 3, 2022, the fair value of our contingent consideration liability related to our acquisition of GRAIL was \$605 million. The contingent value rights issued as part of the acquisition entitle the holders to receive future cash payments on a quarterly basis (Covered Revenue Payments) representing a pro rata portion of certain GRAIL-related revenues (Covered Revenues) each year for a 12-year period. This will reflect a 2.5% payment right to the first \$1 billion of revenue each year for 12 years. Revenue above \$1 billion each year will be subject to a 9% contingent payment right during this same period. Covered Revenues for Q4 2021 and Q1 2022 were \$20 million in aggregate, driven primarily by sales of GRAIL’s Galleri test. Covered Revenue Payments in YTD 2022 were approximately \$187,000; however, pursuant to the Contingent Value Rights Agreement, a portion of the Covered Revenue Payments were applied to reimburse us for certain expenses. We expect Covered Revenue Payments to total approximately \$110,000 in Q3 2022 due to Covered Revenues for Q2 2022 of approximately \$12 million.

We continued to grant GRAIL employees cash incentive equity awards in YTD 2022. As of July 3, 2022, the aggregate cash value of awards outstanding and unvested was \$267 million, and we accrued an estimated liability of \$40 million, included in accrued liabilities. In addition, we have an outstanding performance-based award for which vesting is based on GRAIL’s future revenues. The award has an aggregate potential value of up to \$78 million, which is expected to be settled in cash, and expires, to the extent unvested, in August 2030. As of July 3, 2022, it was not probable that the performance conditions associated with the award will be achieved.

As a result of our decision to proceed with the completion of acquisition of GRAIL during the pendency of the European Commission’s review, the European Commission will likely seek to impose a fine on us. In Q2 2022, we accrued \$453 million, included in accrued liabilities, representing 10% of our consolidated annual revenues for fiscal year 2021, as further disclosed in note “[7. Legal Proceedings](#).”

On July 14, 2022, we entered into a Settlement and License Agreement with BGI, in which we agreed to pay an affiliate of BGI a one-time payment of \$325 million, resolve claims in certain cases between the two parties and license certain technology to and from CGI and its affiliates, as further disclosed in note “[7. Legal Proceedings](#).” We paid the one-time payment amount of \$325 million on July 25, 2022.

On March 23, 2021, we issued term notes due 2023 with an aggregate principal amount of \$500 million and term notes due 2031 with an aggregate principal amount of \$500 million. The 2023 Term Notes and the 2031 Term Notes accrue interest at a rate of 0.550% and 2.550% per annum, respectively, payable semi-annually on March 23 and September 23 of each year. The 2023 Term Notes, which are classified as short-term, mature on March 23, 2023 and the 2031 Term Notes mature on March 23, 2031. We may redeem for cash all or any portion of the Term Notes, at our option, at any time prior to maturity. Our convertible senior notes, with an aggregate principal amount of \$750 million, due on August 15, 2023, were not convertible as of July 3, 2022. As of July 3, 2022, our convertible notes were reclassified to short-term given the holders may convert their notes on or after May 15, 2023 until August 11, 2023.

On March 8, 2021, we obtained a Credit Facility, which provides us with a \$750 million senior unsecured five-year revolving credit facility, including a \$40 million sublimit for swingline borrowings and a \$50 million sublimit for letters of credit. The Credit Facility matures, and all amounts outstanding thereunder become due and payable in full, on March 8, 2026, subject to two one-year extensions at our option and the consent of the extending lenders and certain other conditions. As of July 3, 2022, there were no borrowings outstanding under the Credit Facility.

We had \$14 million and up to \$101 million, respectively, remaining in our capital commitments to two venture capital investment funds as of July 3, 2022 that are callable through April 2026 and July 2029, respectively.

Authorizations to repurchase \$15 million of our common stock remained available as of July 3, 2022 under the \$750 million share repurchase program authorized by our Board of Directors on February 5, 2020. The repurchases may be completed under a 10b5-1 plan or at management's discretion. We do not intend to make any share repurchases during fiscal year 2022.

We anticipate that our current cash, cash equivalents, and short-term investments, together with cash provided by operating activities and available borrowing capacity under the Credit Facility, are sufficient to fund our near-term capital and operating needs for at least the next 12 months. Operating needs include the planned costs to operate our business, including amounts required to fund working capital and capital expenditures. Our primary short-term needs for capital, which are subject to change, include:

- support of commercialization efforts related to our current and future products;
- acquisitions of equipment and other fixed assets for use in our current and future manufacturing and research and development facilities;
- the continued advancement of research and development efforts;
- potential strategic acquisitions and investments;
- repayment of debt obligations; and
- the expansion needs of our facilities, including costs of leasing and building out additional facilities.

We expect that our revenue and the resulting operating income, as well as the status of each of our new product development programs, will significantly impact our cash management decisions.

Our future capital requirements and the adequacy of our available funds will depend on many factors, including:

- our ability to successfully commercialize and further develop our technologies and create innovative products in our markets;
- scientific progress in our research and development programs and the magnitude of those programs;
- competing technological and market developments; and
- the need to enter into collaborations with other companies or acquire other companies or technologies to enhance or complement our product and service offerings.

Cash Flow Summary

<i>In millions</i>	YTD 2022	YTD 2021
Net cash provided by operating activities	\$ 297	\$ 535
Net cash (used in) provided by investing activities	(239)	1,379
Net cash provided by financing activities	16	472
Effect of exchange rate changes on cash and cash equivalents	(17)	—
Net increase in cash and cash equivalents	\$ 57	\$ 2,386

Operating Activities

Net cash provided by operating activities in YTD 2022 primarily consisted of net loss of \$449 million plus net adjustments of \$406 million and net changes in operating assets and liabilities of \$340 million. The primary adjustments to net loss included depreciation and amortization expense of \$185 million, share-based compensation expense of \$183 million, and net losses on strategic investments of \$76 million, partially offset by deferred income taxes of \$34 million and a gain recorded on our contingent consideration liability of \$11 million. Cash flow impact from changes in net operating assets and liabilities were primarily driven by an increase in accrued liabilities due to legal contingencies, partially offset by an increase in inventory and a decrease in accounts payable.

Investing Activities

Net cash used in investing activities totaled \$239 million in YTD 2022. We invested \$132 million in capital expenditures, primarily associated with our investment in facilities, paid \$85 million for an acquisition, and used \$22 million for purchases of strategic investments.

Financing Activities

Net cash provided by financing activities totaled \$16 million in YTD 2022. We received \$33 million in proceeds from the sale of shares under our employee stock purchase plan, partially offset by \$17 million used to pay taxes related to net share settlement of equity awards.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

In preparing our condensed consolidated financial statements, we make estimates, assumptions and judgments that can have a significant impact on our net revenue, operating income (loss) and net income (loss), as well as on the value of certain assets and liabilities on our balance sheet. We believe that the estimates, assumptions and judgments involved in the accounting policies described in "Critical Accounting Policies and Estimates" within the Management's Discussion & Analysis section of our Annual Report on Form [10-K](#) for the fiscal year ended January 2, 2022 have the greatest potential impact on our financial statements, so we consider them to be our critical accounting policies and estimates. Though the impact of the COVID-19 pandemic to our business and operating results presents additional uncertainty, we continue to use the best information available to inform our critical accounting estimates. There were no material changes to our critical accounting policies and estimates during YTD 2022.

RECENT ACCOUNTING PRONOUNCEMENTS

For a summary of recent accounting pronouncements applicable to our condensed consolidated financial statements, see note "[1. Organization and Significant Accounting Policies](#)" within the Condensed Consolidated Financial Statements section of this report, which is incorporated herein by reference.

QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

There were no substantial changes to our market risks in YTD 2022, when compared to the disclosures in "Quantitative and Qualitative Disclosures about Market Risk" within the Management's Discussion & Analysis section of our Annual Report on Form [10-K](#) for the fiscal year ended January 2, 2022.

OTHER KEY INFORMATION

CONTROLS AND PROCEDURES

We design our internal controls to provide reasonable assurance that (1) our transactions are properly authorized; (2) our assets are safeguarded against unauthorized or improper use; and (3) our transactions are properly recorded and reported in conformity with U.S. generally accepted accounting principles. We also maintain internal controls and procedures to ensure that we comply with applicable laws and our established financial policies.

Based on management's evaluation (under the supervision and with the participation of our chief executive officer (CEO) and chief financial officer (CFO)), as of the end of the period covered by this report, our CEO and CFO concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")), are effective to provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and is accumulated and communicated to management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

During Q2 2022, we continued to monitor and evaluate the design and operating effectiveness of key controls, including the impact of the COVID-19 pandemic on our internal control environment. There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) that materially affected or are reasonably likely to materially affect internal control over financial reporting.

LEGAL PROCEEDINGS

See discussion of legal proceedings in note "[7. Legal Proceedings](#)" in the Condensed Consolidated Financial Statements section of this report, which is incorporated herein by reference.

RISK FACTORS

Our business is subject to various risks, including those described in "Risk Factors" within the Business & Market Information Section of our Annual Report on Form [10-K](#) for the fiscal year ended January 2, 2022, and the "Other Key Information" section of our Quarterly Report on Form [10-Q](#) for the period ended April 3, 2022, which we strongly encourage you to review. In addition to the risk factors disclosed in our Form [10-K](#), the issues raised in the following risk factors could adversely affect our operating results and stock price:

Our acquisition (the Acquisition) of GRAIL remains subject to ongoing legal and regulatory proceedings in the United States and in the European Union. Adverse decisions by the EU General Court, the European Commission, the FTC and/or other governmental or regulatory authorities and/or other adverse consequences resulting from our decision to proceed with the completion of the acquisition, could result in significant financial penalties, operational restrictions, increased costs or loss of revenues or require us to divest all or a portion of the assets or equity interests of GRAIL on terms that are materially worse than the terms on which we acquired GRAIL, any or all of which, individually or in the aggregate, could have a material adverse effect on our business, financial condition and results of operation.

As previously disclosed, on March 30, 2021, the U.S. Federal Trade Commission (the FTC) filed an administrative complaint alleging that our acquisition of GRAIL (the Acquisition) would violate Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18. We filed an answer to the FTC's complaint in the administrative court on April 13, 2021, and the administrative trial commenced on August 24, 2021, and live testimony concluded on September 24, 2021. On April 15, 2022, the parties filed their opening post-trial briefs and proposed findings. Reply briefs were filed on May 25, 2022, and closing arguments took place on June 8, 2022. A decision by the administrative judge is currently due no later than September 2, 2022. We intend to continue to vigorously defend against the FTC's action.

As previously disclosed, on April 19, 2021, the European Commission accepted a request for referral of the Acquisition (the Referral) for European Union merger review under Article 22(1) of Council Regulation (EC) No 139/2004 (the EU Merger Regulation), which had been submitted by a Member State of the European Union. The European Commission had previously notified us asserting that as a result of the Referral, pursuant to Article 22(4) of the EU Merger Regulation, we were prohibited from implementing the Acquisition (i) until the European

Commission clears the Acquisition under the EU Merger Regulation or (ii) until the European Commission refuses the Referral, and therefore the European Commission's acceptance of the Referral continued the purported standstill on the completion of the Acquisition until such time as the European Commission completes its review and approves the Acquisition. On April 29, 2021, we filed an action in the General Court of the European Union (the EU General Court) asking for annulment of the European Commission's decision asserting jurisdiction to review the Acquisition under Article 22 of the EU Merger Regulation, as the Acquisition does not meet the jurisdictional criteria under the EU Merger Regulation or under the national merger control laws of any Member State of the European Union. On December 16, 2021, the EU General Court held a hearing regarding the European Commission's assertion of jurisdiction. On July 13, 2022, the EU General Court ruled that the European Commission has jurisdiction to review the Acquisition under the EU Merger Regulation. We intend to appeal the decision to the Court of Justice of the European Union.

As previously disclosed, on July 22, 2021, the European Commission announced it had initiated a Phase II review of the Acquisition. The duration of the Phase II review cannot be foreseen with certainty. As of the completion of the Acquisition, the European Commission's purported standstill on such completion, the validity and appropriateness of which we are challenging, had not been suspended or overturned. We continue to work with the European Commission on its review and had voluntarily offered to enter into a hold separate arrangement with the European Commission with respect to GRAIL and its operations pending the resolution of the action in the EU General Court and/or completion of the European Commission's review. On October 29, 2021, the European Commission adopted an order imposing interim measures (the Interim Measures Order), which provided that (i) we ensure that Illumina and GRAIL will continue to operate as independent legal entities that transact at arms' length, no integration activity will take place, the day-to-day operation of GRAIL will remain the sole responsibility of GRAIL's management and our management will have no involvement in or influence over GRAIL, (ii) we take certain supportive measures to preserve GRAIL's viability, marketability and competitiveness, including with respect to the provision of resources to GRAIL and the retention and/or replacement of key personnel of GRAIL, (iii) subject to limited exceptions, we implement all necessary measures to ensure that Illumina does not obtain any confidential information relating to GRAIL during the hold separate period and vice versa and (iv) we appoint an independent firm as monitoring trustee to monitor our compliance with the Interim Measures Order. An independent monitoring trustee has been appointed. Such hold separate arrangement, and our obligations pursuant thereto, have imposed implementation and administrative processes and additional costs, which have been burdensome to implement and administer, and which we expect to continue for the duration of the hold separate arrangement. Such burdens and additional costs, independently or together with additional burdens, costs and/or liabilities arising from such arrangement, may result in loss of revenue and other adverse effects on our business, financial condition and results of operations and have an adverse impact on our ability to achieve the anticipated benefits of the Acquisition. Further, our failure to comply with the terms of the Interim Measures Order may result in the European Commission seeking to impose fines or other penalties on us. On December 1, 2021, we filed an action with the EU General Court asking for annulment of the Interim Measures Order. The hearing of that application has been stayed pending our appeal of the judgment of the EU General Court regarding the European Commission's assertion of jurisdiction.

If we are required to divest all or a portion of the assets or equity interests of GRAIL, the terms of such divestment could be materially worse than the terms on which we acquired GRAIL. Furthermore, we may not be able to direct the timing, structure or financial terms of such divestment, which could result in negative financial or tax consequences. In addition, such divestment would impose significant costs and additional liabilities on us, including significant advisory fees and additional expenses. Such divestment could also divert our management's attention and our resources away from existing operations and other opportunities that may have been beneficial to us. For these reasons, a partial or complete divestment of GRAIL could have a material adverse effect on our business, financial condition and results of operations.

On July 19, 2022, the European Commission issued a Statement of Objections alleging that we breached the EU Merger Regulation by completing the Acquisition. We believe that the European Commission will likely seek to impose a fine on us pursuant to Article 14(2)(b) of the EU Merger Regulation of up to 10% of our consolidated annual revenues (the Article 14(2)(b) Fine). In addition, the European Commission, the FTC and/or other governmental or regulatory authorities may seek to impose other fines, penalties, remedies or restrictions. We intend to vigorously defend against any such fines, penalties, remedies or restrictions, but we cannot predict the scope or severity thereof or the outcome of any related proceedings. We also cannot predict what other adverse consequences to, among other things, our reputation, our relationships with governmental or regulatory authorities or our ability to successfully complete future acquisitions and/or divestitures may result from our decision to proceed with the completion of the Acquisition. We expect to continue to hold the assets or equity interests of GRAIL

separate for some period of time, and such delay in integration may materially and adversely affect the synergies and other benefits we expect to achieve as a result of the Acquisition and could result in additional costs or liabilities, loss of revenue and other adverse effects on our business, financial condition and results of operations. In the second fiscal quarter of 2022, we accrued \$453 million in anticipation of a potential Article 14(2)(b) Fine, included in accrued liabilities, representing 10% of our consolidated annual revenues for fiscal year 2021 in accordance with ASC 450, *Contingencies*. In addition, under applicable accounting rules, we may be required from time to time to perform interim analyses of the value of GRAIL. To the extent that the value of GRAIL on a standalone basis is less than its book value, we would be required to record an impairment on our consolidated financial statements.

SHARE REPURCHASES AND SALES

Purchases of Equity Securities by the Issuer

None during the quarterly period ended July 3, 2022.

Unregistered Sales of Equity Securities

None during the quarterly period ended July 3, 2022.

OTHER INFORMATION

As announced on June 9, 2022, following the departure of Sam Samad, Joydeep Goswami, Chief Strategy and Corporate Development Officer, was appointed to serve as interim Chief Financial Officer while the company conducts a search for a permanent CFO.

Prior to joining Illumina in 2019, Mr. Goswami had more than a decade of senior management and P&L responsibilities at Thermo Fisher Scientific, and previously served pharma, technology, and private equity clients at McKinsey & Company. He holds an M.S., Ph.D. in chemical engineering, and an MBA from the Massachusetts Institute of Technology as well as a bachelor's degree in chemical engineering from the Indian Institute of Technology, Mumbai.

On August 9, 2022, in light of Mr. Goswami's increased responsibilities as interim CFO, the Compensation Committee of the Board of Directors of Illumina approved additional compensation for Mr. Goswami in the form of a stipend of \$25,000 per month, retroactive to July 2022 and, due to the expected requirement of Mr. Goswami to provide transition services, running through two months following the appointment of a permanent CFO.

EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File Number	Exhibit	Filing Date	
3.1	Amended and Restated Certificate of Incorporation					X
3.2	Amended and Restated Bylaws					X
31.1	Certification of Francis A. deSouza pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
31.2	Certification of Joydeep Goswami pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
32.1	Certification of Francis A. deSouza pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
32.2	Certification of Joydeep Goswami pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
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					X
101.SCH	XBRL Taxonomy Extension Schema					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase					X
101.LAB	XBRL Taxonomy Extension Label Linkbase					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase					X
104	Cover Page Interactive Data File - formatted in Inline XBRL and included as Exhibit 101					X

+ Management contract or corporate plan or arrangement

* Certain schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule or exhibit will be furnished supplementally to the SEC upon request.

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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.

ILLUMINA, INC.
(registrant)

Date: August 11, 2022

/s/ Joydeep Goswami

Joydeep Goswami
Chief Strategy and Corporate Development Officer and
Interim Chief Financial Officer

**Amended and Restated Certificate of Incorporation
of
Illumina, Inc.**

Illumina, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware (the “corporation”), hereby certifies as follows:

1. The present name of the corporation is Illumina, Inc. The original Certificate of Incorporation of the corporation was filed with the Secretary of State of the State of Delaware on May 16, 2000.
2. This Amended and Restated Certificate of Incorporation restates and integrates, and also further amends, the provisions of the Amended and Restated Certificate of Incorporation of the corporation.
3. This Amended and Restated Certificate of Incorporation has been duly adopted in accordance with the provisions of Sections 242 and 245 of the General Corporation Law of the State of Delaware (the “DGCL”).
4. Pursuant to Sections 242 and 245 of the DGCL, the text of the Amended and Restated Certificate of Incorporation of the corporation is hereby amended and restated to read in its entirety as follows:

ARTICLE I

The name of this corporation is Illumina, Inc.

ARTICLE II

The address of the corporation’s registered office in the State of Delaware is 1209 Orange Street, City of Wilmington, County of New Castle, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III

The purpose of the corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of the State of Delaware.

ARTICLE IV

The corporation is authorized to issue two classes of shares of stock, which shall be designated, respectively, Common Stock, \$0.01 par value per share, and Preferred Stock, \$0.01 par value per share. The total number of shares that the corporation is authorized to issue is 330,000,000 shares. The number of shares of Common Stock authorized is 320,000,000. The number of shares of Preferred Stock authorized is 10,000,000.

The Preferred Stock may be issued from time to time in one or more series pursuant to a resolution or resolutions providing for such issue duly adopted by the board of directors (authority to do so being hereby expressly vested in the board). The board of directors is further authorized to determine or alter the rights, preferences, privileges and restrictions granted to or imposed upon any wholly unissued series of Preferred Stock and to fix the number of shares of any series of Preferred Stock and the designation of any such series of Preferred Stock. The board of directors, within the limits and restrictions stated in any resolution or resolutions of the board of directors originally fixing the number of shares constituting any series, may increase or decrease (but not below the number of shares of any such series then outstanding) the number of shares of any series subsequent to the issue of shares of that series.

The authority of the board of directors with respect to each such class or series shall include, without limitation of the foregoing, the right to determine and fix:

- (a) the distinctive designation of such class or series and the number of shares to constitute such class or series;
- (b) the rate at which dividends on the shares of such class or series shall be declared and paid, or set aside for payment, whether dividends at the rate so determined shall be cumulative or accruing, and whether the

shares of such class or series shall be entitled to any participating or other dividends in addition to dividends at the rate so determined, and if so, on what terms;

- (c) the right or obligation, if any, of the corporation to redeem shares of the particular class or series of Preferred Stock and, if redeemable, the price, terms and manner of such redemption;
- (d) the special and relative rights and preferences, if any, and the amount or amounts per share that the shares of such class or series of Preferred Stock shall be entitled to receive upon any voluntary or involuntary liquidation, dissolution or winding up of the corporation;
- (e) the terms and conditions, if any, upon which shares of such class or series shall be convertible into, or exchangeable for, shares of capital stock of any other class or series, including the price or prices or the rate or rates of conversion or exchange and the terms of adjustment, if any;
- (f) the obligation, if any, of the corporation to retire, redeem or purchase shares of such class or series pursuant to a sinking fund or fund of a similar nature or otherwise, and the terms and conditions of such obligation;
- (g) voting rights, if any, on the issuance of additional shares of such class or series or any shares of any other class or series of Preferred Stock;
- (h) limitations, if any, on the issuance of additional shares of such class or series or any shares of any other class or series of Preferred Stock; and
- (i) such other preferences, powers, qualifications, special or relative rights and privileges thereof as the board of directors of the corporation, acting in accordance with this Amended and Restated Certificate of Incorporation, may deem advisable and are not inconsistent with law and the provisions of this Amended and Restated Certificate of Incorporation.

ARTICLE V

The corporation reserves the right to amend, alter, change, or repeal any provision contained in this Amended and Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon the stockholders herein are granted subject to this right.

ARTICLE VI

The corporation is to have perpetual existence.

ARTICLE VII

1. Limitation of Liability. To the fullest extent permitted by the General Corporation Law of the State of Delaware as the same exists or as may hereafter be amended, a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director.
2. Indemnification. The corporation shall indemnify to the fullest extent permitted by law any person made or threatened to be made a party to an action or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that such person or his or her testator or intestate is or was a director or officer of the corporation, or any predecessor of the corporation, or serves or served at any other enterprise as a director, officer or employee at the request of the corporation or any predecessor to the corporation and may indemnify to the fullest extent permitted by law any person made or threatened to be made a party to an action or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that such person or his or her testator or intestate is or was an employee of the corporation, or any predecessor of the corporation, or serves or served at any other enterprise as a director, officer or employee at the request of the corporation or any predecessor to the corporation.
3. Amendments. Neither any amendment nor repeal of this Article VII, nor the adoption of any provision of this Amended and Restated Certificate of Incorporation inconsistent with this Article VII, shall eliminate or reduce the effect of this Article VII, in respect of any matter occurring, or any action or proceeding accruing or arising

or that, but for this Article VII, would accrue or arise, prior to such amendment, repeal, or adoption of an inconsistent provision.

ARTICLE VIII

In the event any shares of Preferred Stock shall be redeemed or converted pursuant to the terms hereof, the shares so converted or redeemed shall not revert to the status of authorized but unissued shares, but instead shall be canceled and shall not be re-issuable by the corporation.

ARTICLE IX

Holders of stock of any class or series of the corporation shall not be entitled to cumulate their votes for the election of directors or any other matter submitted to a vote of the stockholders, unless such cumulative voting is required pursuant to Section 214 of the General Corporation Law of the State of Delaware, in which event each such holder shall be entitled to as many votes as shall equal the number of votes which (except for this provision as to cumulative voting) such holder would be entitled to cast for the election of directors with respect to his shares of stock multiplied by the number of directors to be elected by him, and the holder may cast all of such votes for a single director or may distribute them among the number of directors to be voted for, or for any two or more of them as such holder may see fit, so long as the name of the candidate for director shall have been placed in nomination prior to the voting and the stockholder, or any other holder of the same class or series of stock, has given notice at the meeting prior to the voting of the intention to cumulate votes.

1. Number of Directors. The number of directors which constitutes the whole board of directors of the corporation shall be designated in the Amended and Restated Bylaws of the corporation. The directors shall, until the annual meeting of stockholders to be held in 2022, be divided, with respect to the time for which they severally hold office, into three classes. The term of office of the class of directors elected at the annual meeting of stockholders held in 2019 shall expire at the 2022 annual meeting of stockholders; the term of office of the class of directors elected at the annual meeting of stockholders held in 2020 shall expire at the 2021 annual meeting of stockholders; and the term of office of the class of directors elected at the annual meeting of stockholders held in 2021 shall expire at the 2022 annual meeting of stockholders. At each annual meeting of stockholders, commencing with the 2020 annual meeting of stockholders, directors shall be elected for a term of office to expire at the annual meeting of stockholders held in the year following the year of their election, with each director to hold office until his or her successor shall been duly elected and qualified, or, if earlier, such director's death, resignation, retirement, disqualification or removal from office.
2. Election of Directors. Elections of directors need not be by written ballot unless the Amended and Restated Bylaws of the corporation shall so provide.
3. Removal of Directors. So long as the directors are divided into three classes, they may be removed only for cause by the affirmative vote of the holders of a majority of the voting power of all then outstanding shares of capital stock of the corporation entitled to vote generally in the election of directors

ARTICLE X

In furtherance and not in limitation of the powers conferred by statute, the board of directors is expressly authorized to make, alter, amend or repeal the Amended and Restated Bylaws of the corporation.

ARTICLE XI

No action shall be taken by the stockholders of the corporation except at an annual or special meeting of the stockholders called in accordance with this Article XI and the Amended and Restated Bylaws of the corporation and no action, including the removal of directors without cause, shall be taken by stockholders by written consent. The affirmative vote of a majority of the then outstanding voting securities of the corporation, voting together as a single class, shall be required for the amendment, repeal or modification of the provisions of Article IX, Article X or Article XII of this Amended and Restated Certificate of Incorporation or Sections 2.4 (Notice of Stockholders' Meetings), 2.8 (Voting; Participation), or 3.2 (Number of Directors; Election; and Term of Office of Directors) of the Amended and Restated Bylaws of the corporation.

1. Special Meeting. Except as otherwise required by law, a special meeting of the stockholders may be called, at any time for any purpose or purposes, only by (i) the board of directors or (ii) the secretary of the corporation at the written request in proper form, made in accordance with the Amended and Restated Bylaws of the corporation, by one or more record holders (or their duly authorized agent(s)) having an aggregate “net long position” (defined below) of at least twenty-five percent (25%) of the outstanding Common Stock of the corporation as of the date such request is delivered to the corporation, and having held such net long position continuously for at least one year prior to the date such request is delivered to the corporation (the “Requisite Special Meeting Percent”). Any disposition by a requesting party (as defined below) after the date such request is delivered to the corporation of any shares of Common Stock of the corporation shall be deemed a revocation of such request with respect to such shares and such shares will not be included in determining whether the Requisite Special Meeting Percent has been satisfied.
 - a. For purposes of this Article XI and determining the Requisite Special Meeting Percent, “net long position” shall be determined with respect to each record holder requesting a special meeting and each beneficial owner who is directing a record holder to act on such owner’s behalf (each record holder and beneficial owner, a “requesting party”) in accordance with the definition thereof set forth in Rule 14e-4 under the Securities Exchange Act of 1934, as amended, provided that:
 - i. for purposes of such definition, in determining such requesting party’s “short position,” the reference in such Rule to (A) “the date that a tender offer is first publicly announced or otherwise made known by the bidder to holders of the security to be acquired” shall be the date the relevant special meeting request is delivered to the corporation and all dates in the one-year period prior thereto, (B) the “highest tender offer price or stated amount of the consideration offered for the subject security” shall refer to the closing sales price of the Common Stock of the corporation on The NASDAQ Global Select Market (or such other securities exchange designated by the board of directors if the Common Stock of the corporation is not listed for trading on The NASDAQ Global Select Market) on such corresponding date (or, if such date is not a trading day, the next succeeding trading day), (C) the “person whose securities are the subject of the offer” shall refer to the corporation and (D) a “subject security” shall refer to the issued and outstanding shares of Common Stock of the corporation; and
 - ii. the net long position of such requesting party shall be reduced by the number of shares of Common Stock of the corporation as to which the board of directors determines that such requesting party does not, or will not, have the right to vote or direct the vote at such special meeting or as to which the board of directors determines that such requesting party has entered into any derivative or other agreement, arrangement or understanding that hedges or transfers, in whole or in part, directly or indirectly, any of the economic consequences of ownership of such shares.

Whether a requesting party has complied with the requirements of this Article XI shall be determined in good faith by the board of directors, which determination shall be conclusive and binding on the corporation and the stockholders. Additional requirements for calling a special meeting of the stockholders of the corporation may be set forth in the Amended and Restated Bylaws of the corporation. Nothing herein shall be construed to give any stockholder a right to fix the date, time, or place, if any, of, or to fix any record date for, any special meeting of the stockholders of the corporation.

ARTICLE XII

Meetings of stockholders may be held within or without the State of Delaware, as the Amended and Restated Bylaws of the corporation may provide. The books of the corporation may be kept (subject to any provision contained in the statutes) outside of the State of Delaware at such place or places as may be designated from time to time by the board of directors or in the Amended and Restated Bylaws of the corporation.

[Remainder of Page Intentionally Left Blank]

In Witness Whereof, Illumina, Inc. has caused this instrument to be executed by Francis A. deSouza, its Chief Executive Officer, on this June 3, 2022, which execution shall constitute an affirmation, under penalties of perjury, that this instrument is the act and deed of Illumina, Inc. and that the facts stated herein are true.

By:

Name: Francis A. deSouza

Title: Chief Executive Officer

BYLAWS
OF
ILLUMINA, INC.
Amended and Restated
as of June 3, 2022

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**BYLAWS
OF
ILLUMINA, INC.**

ARTICLE I

CORPORATE OFFICES

1.1. REGISTERED OFFICE

The registered office of the corporation shall be 1209 Orange Street, in the City of Wilmington, County of New Castle, State of Delaware. The name of the registered agent of the corporation at such location is Corporation Trust Company.

1.2. OTHER OFFICES

The board of directors may at any time establish other offices at any place or places where the corporation is qualified to do business.

ARTICLE II

MEETINGS OF STOCKHOLDERS

2.1. PLACE OF MEETINGS

Meetings of stockholders shall be held at any place, within or outside the State of Delaware, designated by the board of directors. The board of directors may, in its sole discretion, determine that the meeting shall not be held at any place but may instead be held by means of remote communication as authorized by Section 211 of the General Corporation Law of the State of Delaware, as amended (the "DGCL"). In the absence of any such designation, stockholders' meetings shall be held at the registered office of the corporation.

2.2. ANNUAL MEETING

The annual meeting of stockholders shall be held each year on a date and at a time designated by the board of directors. In the absence of such designation, the annual meeting of stockholders shall be held on the Second Tuesday of May in each year at 10:00 a.m. However, if such day falls on a legal holiday, then the meeting shall be held at the same time and place on the next succeeding full business day. At the meeting, directors shall be elected and any other proper business may be transacted.

2.3. SPECIAL MEETING

A special meeting of the stockholders, for any purpose or purposes, unless otherwise required by law, may be called only as set forth in Article XI of the certificate of incorporation and these bylaws.

In order for a stockholder requested special meeting under Article XI of the certificate of incorporation and these bylaws (a "Stockholder Requested Special Meeting") to be called, one or more written requests for a special meeting (each, a "Stockholder Special Meeting Request," and collectively, the "Stockholder Special Meeting Requests") must be signed by the Requisite Special Meeting Percent (as such term is defined in the certificate of incorporation) of record holders (or their duly authorized agent(s)) and must be delivered to the secretary of the corporation. The Stockholder Special Meeting Request(s) shall be delivered to the secretary of the corporation at the principal executive offices of the corporation by registered mail, return receipt requested. To be validly made in accordance with these bylaws, a Stockholder Special Meeting Request must:

- (a) set forth a statement of the specific purpose(s) of the meeting and the matters proposed to be acted on at it;
- (b) as to each purpose for which the meeting is to be called, set forth (A) a reasonably brief description of such purpose, (B) a reasonably brief description of the specific proposal to be made or business to be conducted at the special meeting in connection with such purpose, (C) the text of any proposal or business to be considered at the special meeting in connection with such purpose (including the text of any resolutions proposed for consideration and if such business includes a proposal to amend these bylaws, the language of the proposed amendment), (D) the reasons for calling a special meeting of the stockholders for such purpose, and (E) a reasonably brief description of any material interest of each requesting party (as defined in the certificate of incorporation) in any proposal or business to be considered at the special meeting in connection with such purpose;
- (c) bear the date of signature of each record holder (or duly authorized agent) signing the Stockholder Special Meeting Request;
- (d) set forth (A) the name and address, as they appear in the corporation's stock ledger, of each such record holder (or on whose behalf the Stockholder Special Meeting Request is signed) and (B) the class, if applicable, and the number of shares of common stock of the corporation that are owned of record and beneficially by each such stockholder;
- (e) include documentary evidence (A) of each such stockholder's record and beneficial ownership of such stock and (B) that the ownership of common stock of the corporation by the requesting party(ies) satisfies the Requisite Special Meeting Percent;
- (f) include (A) an acknowledgment of the requesting party(ies) that any disposition by such stockholder(s) after the delivery to the corporation of the Stockholder Special Meeting Request of any shares of common stock of the corporation shall be deemed a revocation of the Stockholder Special Meeting Request with respect to such shares and that such shares will no longer be included in determining whether the Requisite Special Meeting Percent has been satisfied and (B) a commitment by such stockholder(s) to continue to satisfy the Requisite Special Meeting Percent through the date of the Stockholder Requested Special Meeting and to notify the corporation upon any disposition of any shares of the corporation's common stock;
- (g) set forth a representation that each record holder or beneficial owner requesting the special meeting, or one or more representatives of each such record holder or beneficial owner, intends to appear in person at the special meeting to present the business brought before the special meeting;
- (h) set forth all information relating to each such stockholder that must be disclosed in solicitations of proxies for election of directors in an election contest (even if an election contest is not involved), or is otherwise required, in each case, pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the "Exchange Act"); and
- (i) contain the information required by the third full paragraph of Section 2.15 of these bylaws, to the extent not already provided as required by this Section 2.3.

Each requesting party is required to supplement and update the information required by the foregoing clauses (a) through (i), as necessary, so that such information shall be true and correct as of the fifth (5th) business day prior to the Stockholder Requested Special Meeting.

In determining whether a special meeting of the stockholders has been validly requested by stockholders satisfying, in the aggregate, the Requisite Special Meeting Percent, multiple Stockholder Special Meeting Requests delivered to the secretary of the corporation will be considered together only if each such Stockholder Special Meeting Request (x) identifies substantially the same purpose(s) of or business intended to be brought before the special meeting of the stockholders of the corporation and substantially the same reasons for conducting such business at the special meeting, as determined by the board of directors, and (y) has been dated

and delivered to the secretary of the corporation within sixty (60) days of the earliest dated Stockholder Special Meeting Request relating to such business.

Any requesting party may revoke its special meeting request at any time by written revocation delivered to the secretary of the corporation at the principal executive offices of the corporation by registered mail, return receipt requested, and if, following such revocation or any time after the delivery of a valid Stockholder Special Meeting Request, there are unrevoked requests from stockholders holding in the aggregate less than the Requisite Special Meeting Percent, the board of directors, in its discretion, may cancel the special meeting. The requesting party(ies) shall certify in writing to the secretary of the corporation on the fifth (5th) business day prior to the Stockholder Requested Special Meeting as to whether such stockholder(s) continue to satisfy the Requisite Special Meeting Percent.

Notwithstanding the foregoing, the secretary of the corporation shall not be required to call a Stockholder Requested Special Meeting if:

- (a) the board of directors calls an annual or special meeting of the stockholders to be held not later than 60 days after the date on which a valid Stockholder Special Meeting Request has been delivered to the secretary of the corporation (the "Delivery Date") relating to an identical or substantially similar item (a "Similar Item") (as determined by the board of directors) to the item identified in the Stockholder Special Meeting Request(s); or
- (b) the Stockholder Special Meeting Request(s) (A) is received by the secretary of the corporation during the period commencing ninety (90) days prior to the first anniversary of the date of the immediately preceding annual meeting and ending on the date of the next annual meeting; (B) contains a Similar Item to an item that was presented at any meeting of stockholders held within one hundred and twenty (120) days prior to the Delivery Date; (C) relates to an item of business that is not a proper subject for stockholder action under applicable law; (D) was made in a manner that involved a violation of Regulation 14A under the Exchange Act or other applicable law; or (E) does not comply with the provisions of this Section 2.3.

Any special meeting shall be held at such date, time and place, if any, as may be fixed by the board of directors in accordance with these bylaws and the DGCL. In the case of a Stockholder Requested Special Meeting, such meeting shall be held at such date, time and place, if any, as may be fixed by the board of directors, on condition that the date of any Stockholder Requested Special Meeting shall be not more than one hundred and twenty (120) days after the Delivery Date. In fixing a date, time and place, if any, for any Stockholder Requested Special Meeting, the board of directors may consider such factors as it deems relevant within the good faith exercise of business judgment, including, without limitation, the nature of the matters to be considered, the facts and circumstances surrounding any request for meeting and any plan of the board of directors to call an annual meeting or a special meeting. The board of directors may postpone or reschedule any special meeting of the stockholders. Nothing herein shall be construed (i) to give any stockholder a right to fix the date, time, or place, if any, of, or to fix any record date for, any special meeting of the stockholders of the corporation or (ii) as limiting, fixing or affecting the time when a special meeting of the stockholders called by action of the board of directors may be held.

Only such business shall be conducted at a special meeting of the stockholders as shall have been brought before the meeting pursuant to the corporation's notice of meeting. Business transacted at any Stockholder Requested Special Meeting shall be limited to the business stated in the Stockholder Special Meeting Request(s), except that nothing herein shall prohibit the board of directors from submitting matters, whether or not described in the Stockholder Special Meeting Request(s), to the stockholders at any Stockholder Requested Special Meeting. Notwithstanding the provisions of this Section 2.3 of these bylaws, unless otherwise required by law, if the stockholders (or qualified representatives of the stockholders) who submitted Stockholder Special Meeting Requests do not appear at the Stockholder Requested Special Meeting for the presentation of the matters that were specified in the Stockholder Special Meeting Request, the corporation need not present such matters for a vote at such meeting. Nothing herein will limit the power of the board of directors or chairperson appointed for any special meeting in respect of the conduct of any such meeting.

2.4. NOTICE OF STOCKHOLDERS' MEETINGS

All notices of meetings with stockholders shall be in writing and shall be sent or otherwise given in accordance with Section 2.5 of these bylaws not less than 10 nor more than 60 days before the date of the meeting to each stockholder entitled to vote at such meeting. The notice shall specify the place, date, and hour of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Business transacted at a special meeting of the stockholders shall be confined to the purpose or purposes of the meeting specified in the notice of meeting (or supplement or amendment thereto) given by or at the direction of the board of directors. Stockholders may not make nominations for directors before a special meeting of the stockholders.

2.5. MANNER OF GIVING NOTICE; AFFIDAVIT OF NOTICE

Written notice of any meeting of stockholders, if mailed, is given when deposited in the United States mail, postage prepaid, directed to the stockholder at his address as it appears on the records of the corporation. An affidavit of the secretary or an assistant secretary or of the transfer agent of the corporation that the notice has been given shall, in the absence of fraud, be *prima facie* evidence of the facts stated therein.

2.6. QUORUM

The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by statute or by the certificate of incorporation. If, however, such quorum is not present or represented at any meeting of the stockholders, then the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present or represented. At such adjourned meeting at which a quorum is present or represented, any business may be transacted that might have been transacted at the meeting as originally noticed.

2.7. ADJOURNED MEETING; NOTICE

When a meeting is adjourned to another time or place, unless these bylaws otherwise require, notice need not be given of the adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting the corporation may transact any business that might have been transacted at the original meeting. If the adjournment is for more than 30 days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

2.8. VOTING; PARTICIPATION

The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.12 of these bylaws, subject to the provisions of Sections 217 and 218 of the DGCL (relating to voting rights of fiduciaries, pledgors and joint owners of stock and to voting trusts and other voting agreements).

Except as may be otherwise provided in the certificate of incorporation, each stockholder shall be entitled to one vote for each share of capital stock held by such stockholder.

If authorized by the board of directors, and subject to such guidelines and procedures as the board of directors may adopt, stockholders and proxy holders not physically present at a meeting of stockholders may, by means of remote communication, participate in the meeting and be deemed present in person and vote at the meeting, whether such meeting is to be held at a designated place or solely by means of remote communication; provided that (a) the corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at the meeting by means of remote communication is a stockholder or

proxy holder, (b) the corporation shall implement reasonable measures to provide such stockholders and proxy holders a reasonable opportunity to participate in the meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of the meeting substantially concurrently with such proceedings, and (c) if any stockholder or proxy holder votes or takes other action at the meeting by means of remote communication, a record of such vote or other action shall be maintained by the corporation.

2.9. WAIVER OF NOTICE

Whenever notice is required to be given under any provision of the DGCL or of the certificate of incorporation or these bylaws, a written waiver thereof, signed by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice unless so required by the certificate of incorporation or these bylaws.

2.10. RECORD DATE FOR STOCKHOLDER NOTICE; VOTING; GIVING CONSENTS

In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the board of directors may fix, in advance, a record date, which shall not be more than 60 nor less than 10 days before the date of such meeting, nor more than 60 days prior to any other action.

If the board of directors does not so fix a record date:

1. The record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.
2. The record date for determining stockholders entitled to express consent to corporate action in writing without a meeting, when no prior action by the board of directors is necessary, shall be the day on which the first written consent is expressed.
3. The record date for determining stockholders for any other purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating thereto.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the board of directors may fix a new record date for the adjourned meeting.

2.11. PROXIES

Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to corporate action may authorize another person or persons to act for him by a written proxy, signed by the stockholder and filed with the secretary of the corporation, but no such proxy shall be voted or acted upon after three (3) years from its date, unless the proxy provides for a longer period. A proxy shall be deemed signed if the stockholder's name is placed on the proxy (whether by manual signature, typewriting, telegraphic transmission or otherwise) by the stockholder or the stockholder's attorney-in-fact. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Section 212(e) of the DGCL.

2.12. LIST OF STOCKHOLDERS ENTITLED TO VOTE

The officer who has charge of the stock ledger of a corporation shall prepare and make, at least 10 days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business hours, for a period of at least 10 days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

2.13. NOMINATIONS FOR DIRECTORS

Nominations of persons for election to the board of directors of the corporation may be made only (i) by the board of directors at any meeting of stockholders and (ii) at an annual meeting of stockholders, by any stockholder of the corporation who is entitled to vote for the election of directors and who has complied with the procedures established by this Section 2.13. For a nomination to be properly brought before an annual meeting by a stockholder, the stockholder intending to make the nomination or bring other business before a meeting of shareholders, as the case may be (the "Proponent") must have given timely and proper notice thereof in writing to the secretary of the corporation, in accordance with, and containing all information and the completed questionnaire provided for in, this Section 2.13.

To be timely, a Proponent's notice must be delivered to or mailed to the secretary of the corporation and received at the principal executive offices of the corporation prior to the close of business not less than ninety (90) nor more than one hundred and twenty (120) days prior to the first anniversary of the preceding year's annual meeting of stockholders; provided, however, in the event the date of the annual meeting is advanced more than 30 days prior to such anniversary date or delayed more than 60 days after such anniversary date, then to be timely such notice must be received by the corporation not later than the close of business on the later of the 90th day prior to the date of the meeting or the 10th day following the date of Public Disclosure (defined below) of the date of the annual meeting. In no event shall any adjournment or postponement of an annual meeting of stockholders or announcement thereof commence a new time period or extend any time period for the giving of a Proponent's notice as required by this Section 2.13.

A Proponent's notice to the secretary shall set forth: (a) as to each person the Proponent proposes to nominate for election as a director at the annual meeting, (i) the name, age, business address, residence address and telephone number of such nominee and the name, business address and residence address of any Nominee Associated Persons (defined below), (ii) the principal occupation or employment of such nominee, (iii) the class and number of shares of stock of the corporation that are owned (beneficially and of record) by or on behalf of such nominee and by or on behalf of any Nominee Associated Person as of the date of the Proponent's notice, (iv) a description of such nominee's qualifications to be a director and (v) a statement as to whether such nominee would be an independent director, and the basis therefor, under the listing standards of the Nasdaq Global Market and the corporation's Corporate Governance Guidelines and (b) as to the Proponent and any Stockholder Associated Person (defined below) on whose behalf the nomination is being made, (i) the name and address of the Proponent, and any holder of record of the Proponent's shares of stock, as they appear on the corporation's books, and of any Stockholder Associated Person, (ii) the class and number of shares of stock of the corporation that are owned (beneficially and of record) by or on behalf of the Proponent and by or on behalf of any Stockholder Associated Person as of the date of the Proponent's notice, the date such shares were acquired and the investment intent with respect thereto, (iii) a representation and agreement that the Proponent will notify the corporation in writing of the class and number of shares of stock of the corporation that are owned (beneficially and of record) by or on behalf of the Proponent and by or on behalf of any Stockholder Associated Person as of the record date for the meeting, not later than the close of business on the third business day following the later of the record date or the date of Public Disclosure of the record date, (iv) a description of all purchases and sales of, or other transactions involving in any way, shares of stock of the corporation by or on

behalf of the Proponent and by or on behalf of any Stockholder Associated Person during the 24-month period prior to the date of the Proponent's notice, including the date of the transactions, the class and number of shares and the consideration (without regard to whether such shares were or were not owned by the Proponent or any such person), (v) a description of any agreement, arrangement or understanding, including any Derivative Instrument (defined below), that has been entered into or is in effect as of the date of the Proponent's notice, by or on behalf of the Proponent, any Stockholder Associated Person, any nominee or any Nominee Associated Person, the effect or intent of which agreement, arrangement or understanding is to mitigate loss to, manage risk or benefit of stock price changes for, or increase or decrease the voting power of, the Proponent, any Stockholder Associated Person, any nominee or any Nominee Associated Person with respect to the corporation's securities, (vi) a representation and agreement that the Proponent will notify the corporation in writing of any such agreement, arrangement or understanding, including any Derivative Instrument, that has been entered into or is in effect as of the record date for the meeting, not later than the close of business on the third business day following the later of the record date or the date of Public Disclosure of the record date, (vii) a description of any other agreement, arrangement or understanding that has been entered into or is in effect as of the date of the Proponent's notice, between or among the Proponent, any Stockholder Associated Person, any nominee, any Nominee Associated Person or any other person, and that relates to such nomination or such nominee's service as a director of the corporation, (viii) a representation and agreement that the Proponent will notify the corporation in writing of any agreement, arrangement or understanding of the type described in clause (vii) above that has been entered into or is in effect as of the record date for the meeting, not later than the close of business on the third business day following the later of the record date or the date of Public Disclosure of the record date, (ix) a representation that the Proponent is the holder of record or beneficial owner of shares of stock of the corporation entitled to vote for the election of directors at the annual meeting and intends to appear in person or by proxy at the meeting to nominate any such nominee and (x) a representation as to whether the Proponent intends to deliver a proxy statement and/or form of proxy to stockholders and/or otherwise to solicit proxies from stockholders in support of such nomination.

The Proponent's notice shall also include a completed questionnaire (in the form provided by the secretary of the corporation upon request by the Proponent) signed by such nominee with respect to information of the type required by the corporation's questionnaires for directors and officers of the corporation in connection with the annual meeting of stockholders and various reports to the Securities and Exchange Commission. The questionnaire shall also include a representation and agreement that such nominee (i) is not and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such nominee, if elected as a director of the corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been, or will not be within three business days thereafter, disclosed to the corporation or (B) any Voting Commitment that could limit or interfere with the nominee's ability to comply, if elected as a director of the corporation, with such nominee's fiduciary duties under applicable law, (ii) is not and will not become a party to any agreement, arrangement or understanding with any person or entity other than the corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director of the corporation that has not been, or will not be within three business days thereafter, disclosed to the corporation and (iii) in such nominee's individual capacity and on behalf of any person or entity on whose behalf the nomination is being made, would be in compliance, if elected as a director of the corporation, and will comply, with applicable law and all applicable corporate governance, code of conduct and ethics, conflict of interest, corporate opportunities, confidentiality and stock ownership and trading policies and guidelines of the corporation.

No person proposed to be nominated by a stockholder shall be eligible for election as a director of the corporation unless such person is nominated in accordance with the procedures set forth in this Section 2.13. If the Proponent intending to nominate a person for election as a director of the corporation at an annual meeting pursuant to this Section 2.13 does not give timely and proper notice thereof in writing to the secretary of the corporation, in accordance with, and containing all information and the completed questionnaire provided for in, this Section 2.13, or if the Proponent (or a qualified representative of the Proponent) does not appear at the meeting to nominate such person for election as a director of the corporation, then, in any such case, such proposed nomination shall not be made, notwithstanding the fact that proxies in respect of such nomination may have been solicited or obtained. The chairman of the meeting shall, if the facts warrant, determine that the

nomination was not properly made in accordance with the provisions of this Section 2.13, and, if the chairman should so determine, he or she shall declare to the meeting that such nomination was not properly made and shall be disregarded.

For purposes of these bylaws:

“Derivative Instrument” means any option, warrant, convertible security, stock appreciation right, swap or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class or series of shares of stock of the corporation or with a value derived in whole or in part from the value of any class or series of shares of stock of the corporation, whether or not such instrument or right shall be subject to settlement in the underlying class or series of shares of stock of the corporation or otherwise directly or indirectly owned and any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of stock of the corporation.

“Nominee Associated Person” of any nominee for election as a director means (i) any affiliate or associate (as such terms are defined for purposes of the Exchange Act) of the nominee and any other person acting in concert with any of the foregoing, (ii) any beneficial owner of shares of stock of the corporation owned of record or beneficially by such nominee and (iii) any person controlling, controlled by or under common control with such Nominee Associated Person.

“Public Disclosure” means disclosure made in a press release reported by Dow Jones News Service, Associated Press or a comparable national news service or in a document filed by the corporation pursuant to Section 13, 14 or 15(d) of the Exchange Act.

“Stockholder Associated Person” of any stockholder means (i) any affiliate or associate (as such terms are defined for purposes of the Exchange Act) of the stockholder and any other person acting in concert with any of the foregoing, (ii) any beneficial owner of shares of stock of the corporation owned of record or beneficially by such stockholder and (iii) any person controlling, controlled by or under common control with such Stockholder Associated Person.

2.14. PROXY ACCESS FOR DIRECTOR NOMINATIONS

Whenever the board of directors solicits proxies with respect to an annual meeting of stockholders, the corporation shall include in its proxy statement the name, together with the Required Information (defined below), of any Proxy Access Nominee (defined below) identified in a timely notice that satisfies this Section 2.14, delivered by one or more stockholders who at the time the request is delivered satisfy, or are acting on behalf of persons who satisfy, the ownership and other requirements of this Section 2.14 (such stockholder or stockholders, and any person on whose behalf they are acting, the “Eligible Stockholder”), and who expressly elects at the time of providing the notice required by this Section 2.14 (the “Notice of Proxy Access Nomination”) to have its nominee included in the corporation’s proxy materials pursuant to this Section 2.14.

To be timely, a Notice of Proxy Access Nomination must be delivered to the secretary of the corporation so as to be received at the principal executive offices of the corporation, in the case of an annual meeting, not later than the close of business on the 120th day, nor earlier than the close of business on the 150th day, prior to the anniversary date of the proxy statement for the immediately preceding annual meeting (the last day on which a Notice of Proxy Access Nomination may be delivered, the “Final Proxy Access Nomination Date”). In the event that the date of the regularly scheduled annual meeting is advanced by more than 30 days or delayed by more than 60 days from such anniversary date, notice by the Eligible Stockholder must be so delivered not earlier than the 150th day prior to such annual meeting and not later than the close of business on the later of (x) the 120th day prior to such annual meeting and (y) the 10th day following the day on which public announcement of the date of such meeting is first made to be timely. In the event that no annual meeting was held in the previous year, or in the case of a special meeting called for the purpose of electing directors, the Notice of Proxy Access Nomination must be so received not later than the close of business on the 10th day following the day on which such notice of the date of the meeting was mailed or public disclosure of the date of the meeting was made,

whichever occurs first. In no event shall any adjournment or postponement of a meeting or the public disclosure thereof commence a new time period (or extend any time period) for the giving of a Notice of Proxy Access Nomination as described above.

For purposes of this Section 2.14, "Proxy Access Nominee" shall mean a person properly nominated for director by a stockholder in accordance with this Section 2.14. The "Required Information" that the corporation will include in its proxy statement is (i) the information concerning the Proxy Access Nominee and the Eligible Stockholder that, as determined by the corporation, would be required to be disclosed in a proxy statement or other filings required to be filed pursuant to Regulation 14A (the "Proxy Rules") under the Exchange Act and (ii) if the Eligible Stockholder so elects, a Statement (defined below).

The corporation shall not be required to include a Proxy Access Nominee in its proxy materials for any meeting of stockholders for which (i) the secretary of the corporation receives a notice that the Eligible Stockholder has nominated a person for election to the board of directors pursuant to the notice requirements set forth in Section 2.13 of these bylaws and (ii) the Eligible Stockholder does not expressly elect at the time of providing the notice to have its nominee included in the corporation's proxy materials pursuant to this Section 2.14.

The maximum number of Proxy Access Nominees (the "Permitted Number") that must be included in the corporation's proxy materials pursuant to this Section 2.14 shall not exceed the greater of two directors or 20% of the number of directors currently serving on the board as of the Final Proxy Access Nomination Date, rounded down to the nearest whole number. The following persons shall be considered Proxy Access Nominees for purposes of determining when the maximum number of Proxy Access Nominees provided for in this Section 2.14 has been reached: (1) any Proxy Access Nominee that was submitted by an Eligible Stockholder for inclusion in the corporation's proxy materials pursuant to this Section 2.14 whom the board decides to nominate as a board nominee, (2) any Stockholder nominee whose nomination is subsequently withdrawn and (3) any director who had been a Proxy Access Nominee at any of the preceding three annual meetings and whose reelection at the upcoming annual meeting is being recommended by the Board. The Permitted Number shall be reduced by the number of director candidates for which the corporation shall have received one or more valid notices that a stockholder (other than an Eligible Stockholder) intends to nominate director candidates at such annual meeting of stockholders pursuant to Section 2.13; provided, further, that in the event that one or more vacancies for any reason occurs on the board of directors at any time after the Final Proxy Access Nomination Date and before the date of the applicable annual meeting of stockholders and the board of directors resolves to reduce the size of the board of directors in connection therewith, the Permitted Number shall be calculated based on the number of directors in office as so reduced.

In the event that the number of Proxy Access Nominees submitted by Eligible Stockholders pursuant to this Section 2.14 exceeds the Permitted Number, each Eligible Stockholder shall select one Proxy Access Nominee for inclusion in the corporation's proxy materials until the maximum number is reached, going in the order of the amount (largest to smallest) of shares of the corporation's capital stock owned by each Eligible Stockholder as disclosed in the written notice of the nomination submitted to the corporation. If the maximum number is not reached after each Eligible Stockholder has selected one Proxy Access Nominee, this selection process shall continue as many times as necessary, following the same order each time, until the maximum number is reached.

An Eligible Stockholder must have owned 3% or more of the corporation's outstanding capital stock continuously for at least three years (the "Required Shares") as of both the date the written notice of the nomination is delivered to or mailed and received by the corporation in accordance with this Section 2.14, and the record date for determining stockholders entitled to vote at the meeting. For purposes of satisfying the foregoing ownership requirement under this Section 2.14, the shares of common stock owned by one or more stockholders, or by the person or persons who own shares of the corporation's common stock and on whose behalf any stockholder is acting, may be aggregated, provided that the number of stockholders and other persons whose ownership of shares is aggregated for such purpose shall not exceed 20. Two or more funds that are (i) under common management and investment control, (ii) under common management and funded primarily by a single

employer or (iii) a "group of investment companies," as such term is defined in Section 12(d)(1)(G)(ii) of the Investment Company Act of 1940 (the "Investment Company Act") (such funds together under each of (i), (ii) or (iii) comprising a "Qualifying Fund") shall be treated as one owner for the purpose of determining the aggregate number of stockholders in this paragraph, and treated as one person for the purpose of determining "ownership" as defined in this Section 2.14; provided that each fund comprising a Qualifying Fund otherwise meets the requirements set forth in this Section 2.14. With respect to any one particular annual meeting, no person may be a member of more than one group of persons constituting an Eligible Stockholder under this Section 2.14.

For purposes of this Section 2.14, an Eligible Stockholder shall be deemed to "own" only those outstanding shares of the corporation's capital stock as to which the stockholder possesses both (i) the full voting and investment rights pertaining to the shares and (ii) the full economic interest in (including the opportunity for profit and risk of loss on) such shares; provided that the number of shares calculated in accordance with clauses (i) and (ii) shall not include any shares (x) sold by such Eligible Stockholder or any of its affiliates in any transaction that has not been settled or closed, (y) borrowed by such Eligible Stockholder or any of its affiliates for any purposes or purchased by such Eligible Stockholder or any of its affiliates pursuant to an agreement to resell or (z) subject to any option, warrant, forward contract, swap, contract of sale, other derivative or similar agreement entered into by such stockholder or any of its affiliates, whether any such instrument or agreement is to be settled with shares or with cash based on the notional amount or value of outstanding shares of the corporation's capital stock, in any such case which instrument or agreement has, or is intended to have, the purpose or effect of (1) reducing in any manner, to any extent or at any time in the future, such stockholder's or affiliates' full right to vote or direct the voting of any such shares, and/or (2) hedging, offsetting or altering to any degree gain or loss arising from the full economic ownership of such shares by such stockholder or affiliate. An Eligible Stockholder shall "own" shares held in the name of a nominee or other intermediary so long as the stockholder retains the right to instruct how the shares are voted with respect to the election of directors and possesses the full economic interest in the shares. A stockholder's ownership of shares shall be deemed to continue during any period in which (i) the person has loaned such shares; provided that the person has the power to recall such loaned shares on no more than five business days' notice; or (ii) the person has delegated any voting power by means of a proxy, power of attorney or other instrument or arrangement that is revocable at any time by the person. Whether outstanding shares of the corporation's capital stock are "owned" for these purposes shall be determined by the board of directors, which determination shall be conclusive and binding on the corporation and its stockholders. For purposes of this Section 2.14, the term "affiliate" shall have the meaning ascribed thereto in the regulations promulgated under the Exchange Act.

The Eligible Stockholder (including each member of a group of persons that is an Eligible Stockholder hereunder) must provide, with its timely notice of nomination, the following information in writing to the secretary (in addition to the information required to be provided by Section 2.13):

- (a) one or more written statements from the record holder of the shares (and from each intermediary through which the shares are or have been held during the requisite three-year holding period) verifying that, as of a date within seven calendar days prior to the date the Notice of Proxy Access Nomination is delivered to or mailed and received by the corporation, the Eligible Stockholder owns, and has owned continuously for the preceding three years, the Required Shares, as well as the Eligible Stockholder's agreement to provide: (i) within five business days after the record date for the meeting, written statements from the record holder and any intermediaries verifying the Eligible Stockholder's continuous ownership of the Required Shares through the record date, and (ii) immediate notice if the Eligible Stockholder ceases to own any of the Required Shares prior to the date of the applicable annual meeting of stockholders;
- (b) documentation satisfactory to the corporation demonstrating that a group of funds treated as one stockholder for purposes of this Section 2.14 are under common management and investment control;
- (c) the written consent of each Proxy Access Nominee to be named in the proxy statement as a nominee and to serve as a director, if elected;

- (d) a copy of the Schedule 14N that has been filed with the SEC as required by Rule 14a-18 under the Exchange Act;
- (e) in the case of a nomination by a group of stockholders that together is an Eligible Stockholder, the designation by all group members of one group member that is authorized to act on behalf of all members of the nominating stockholder group with respect to the nomination and all matters related thereto, including withdrawal of the nomination;
- (f) representations that the Eligible Stockholder (including each member of any group of stockholders that together is an Eligible Stockholder hereunder): (i) acquired the Required Shares in the ordinary course of business and not with the intent to change or influence control at the corporation, and does not presently have such intent, (ii) has not nominated and will not nominate for election to the board of directors at the meeting any person other than the Proxy Access Nominee(s) being nominated pursuant to this Section 2.14, (iii) has not engaged and will not engage in, and has not and will not be, a "participant" in another person's "solicitation" within the meaning of Rule 14a-1(l) under the Exchange Act in support of the election of any individual as a director at the meeting other than its Proxy Access Nominee or a board nominee, (iv) will not distribute to any stockholder any form of proxy for the meeting other than the form distributed by the corporation, (v) intends to continue to own the Required Shares through the date of the meeting, (vi) will provide facts, statements and other information in all communications with the corporation and its stockholders that are or will be true and correct in all material respects and do not and will not omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading, (vii) is not and will not become party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such Proxy Access Nominee, if elected as a director of the corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the corporation or (B) any Voting Commitment that could limit or interfere with such Proxy Access Nominee's ability to comply, if elected as a director of the corporation, with such person's fiduciary duties under applicable law, (viii) is not and will not become a party to any compensatory, payment or other financial agreement, arrangement or understanding with any person or entity other than the corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed to the corporation; and
- (g) an undertaking that the Eligible Stockholder agrees to (i) assume all liability stemming from any legal or regulatory violation arising out of the Eligible Stockholder's communications with the corporation's stockholders or out of the information that the Eligible Stockholder provided to the corporation, (ii) indemnify and hold harmless the corporation and each of its directors, officers and employees individually against any liability, loss or damages in connection with any threatened or pending action, suit or proceeding, whether legal, administrative or investigative, against the corporation or any of its directors, officers or employees arising out of any nomination submitted by the Eligible Stockholder pursuant to this Section 2.14, (iii) file with the SEC all soliciting and other materials required under Rule 14a-6 under the Exchange Act and (iv) comply with all other applicable laws, rules, regulations and listing standards with respect to any solicitation in connection with the meeting. The inspector of elections shall not give effect to the Eligible Stockholder's votes with respect to the election of directors if the Eligible Stockholder does not comply with each of the representations in clause (f) above.

The Eligible Stockholder may include with its timely notice of nomination a written statement for inclusion in the corporation's proxy statement for the meeting, not to exceed 500 words, in support of the Proxy Access Nominee's candidacy (the "Statement"). Notwithstanding anything to the contrary contained in this Section 2.14, the corporation may omit from its proxy materials any information or Statement that it believes would violate any applicable law, rule, regulation or listing standard.

Within the time period specified in this Section 2.14 for providing a Notice of Proxy Access Nomination, a Proxy Access Nominee must deliver to the secretary of the corporation a written representation and agreement that such Proxy Access Nominee: (i) is not and will not become a party to any agreement, arrangement

or understanding with, and has not given any commitment or assurance to, any person or entity as to how such Proxy Access Nominee, if elected as a director, will act or vote on any issue or question that has not been disclosed to the corporation, (ii) is not and will not become a party to any agreement, arrangement or understanding with any person or entity other than the corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with his or her candidacy for the board or his or her service or action as a director that has not been disclosed to the corporation and (iii) will comply with applicable law and listing standards, all of the corporation's corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines, and any other policies and guidelines applicable to directors. At the request of the corporation, the Proxy Access Nominee must submit all completed and signed questionnaires required of the corporation's directors and officers. The corporation may also require that any Proxy Access Nominee furnish such other information as may reasonably be required by the corporation as necessary to permit the board of directors to determine whether each Proxy Access Nominee (i) is independent under applicable law, applicable listing standards, any applicable rules or regulations of the SEC and any publicly disclosed standards used by the board in determining and disclosing the independence of the corporation's directors (the "Applicable Independence Standards"), (ii) such Proxy Access Nominee has any direct or indirect relationship with the corporation other than those relationships that the board of directors or a committee of the board deems to be permitted under the corporation's policies and procedures, including its conflict of interest policies and (iii) such Proxy Access Nominee is or has been subject to (A) any event specified in Item 401(f) of Regulation S-K under the Securities Act of 1933 (the "Securities Act") or (B) any order of the type specified in Rule 506(d) of Regulation D under the Securities Act. If the board of directors determines that the Proxy Access Nominee is not independent under the applicable standards, the Proxy Access Nominee will not be eligible for inclusion in the corporation's proxy materials. The corporation may also require any Proxy Access Nominee to furnish such other information as may reasonably be required by the corporation that the corporation reasonably believes could be material to a reasonable stockholder's understanding of (i) the independence, or lack thereof, of such Proxy Access Nominee and (ii) the qualifications or eligibility of such Proxy Access Nominee to serve as a director of the corporation.

In the event that any information or communications provided by the Eligible Stockholder or Proxy Access Nominee to the corporation or its stockholders ceases to be true and correct in any respect or omits a fact necessary to make the statements made, in light of the circumstances under which they were made, not misleading, each Eligible Stockholder or Proxy Access Nominee, as the case may be, shall promptly notify the secretary of any such inaccuracy or omission in such previously provided information and of the information that is required to make such information or communication true and correct.

The corporation shall not be required to include, pursuant to this Section 2.14, a Proxy Access Nominee in its proxy materials (or, if the proxy statement has already been filed, to allow the nomination of a Proxy Access Nominee, notwithstanding that proxies in respect of such vote may have been received by the corporation):

- (a) for any meeting for which the secretary receives a notice that the Eligible Stockholder or any other stockholder has nominated a Proxy Access Nominee for election to the board of directors pursuant to the requirements of Section 2.13 and does not expressly elect at the time of providing the notice to have its nominee included in the corporation's proxy materials pursuant to this Section 2.14;
- (b) if the Eligible Stockholder who has nominated such Proxy Access Nominee has nominated for election to the board of directors at the annual meeting any person pursuant to Section 2.13, or has or is currently engaged in, or has been or is a "participant" in another person's "solicitation" within the meaning of Rule 14a-1(l) under the Exchange Act, in support of the election of any individual as a director at the meeting other than its Proxy Access Nominee(s) or a board nominee;
- (c) if the Proxy Access Nominee is or becomes a party to any compensatory, payment or other financial agreement, arrangement or understanding with any person or entity other than the corporation, or is receiving or will receive any such compensation or other payment from any person or entity other than the corporation, in each case in connection with service as a director of the corporation, and such agreement, arrangement or understanding has not been disclosed to the corporation;

- (d) if the Proxy Access Nominee is or becomes a party to any commitment or assurance to, any person or entity as to how such Proxy Access Nominee, if elected as a director, will act or vote on any issue or question, and such commitment or assurance has not been disclosed to the corporation;
- (e) who is not independent under the Applicable Independence Standards, as determined by the board of directors;
- (f) whose election as a member of the board of directors would cause the corporation to be in violation of these bylaws, the corporation's certificate of incorporation, the listing standards of the principal exchange upon which the corporation's capital stock is traded, or any applicable state or federal law, rule or regulation;
- (g) who is or has been, within the past three years, an officer or director of a competitor, as defined in Section 8 of the Clayton Antitrust Act of 1914;
- (h) whose then-current or within the preceding ten (10) years' business or personal interests place such Proxy Access Nominee in a conflict of interest with the corporation or any of its subsidiaries that would cause such Proxy Access Nominee to violate any fiduciary duties of directors established pursuant to the DGCL, including but not limited to, the duty of loyalty and duty of care, as determined by the board of directors;
- (i) who is a named subject of a pending criminal proceeding (excluding traffic violations and other minor offenses) or has been convicted in such a criminal proceeding within the past ten (10) years;
- (j) who is subject to any order of the type specified in Rule 506(d) of Regulation D promulgated under the Securities Act;
- (k) if such Proxy Access Nominee or the applicable Eligible Stockholder shall have provided information to the corporation in respect to such nomination that was untrue in any material respect or omitted to state a material fact necessary in order to make the statement made, in light of the circumstances under which they were made, not misleading, as determined by the board of directors; or
- (l) if the Eligible Stockholder or applicable Proxy Access Nominee otherwise contravenes any of the agreements or representations made by such Eligible Stockholder or Proxy Access Nominee or fails to comply with its obligations pursuant to Section 2.13 or this Section 2.14.

Notwithstanding anything to the contrary set forth herein, the board of directors or the person presiding at the meeting shall declare a nomination by an Eligible Stockholder to be invalid, and such nomination shall be disregarded notwithstanding that proxies in respect of such vote may have been received by the corporation, if (a) the Proxy Access Nominee(s) and/or the applicable Eligible Stockholder shall have breached its or their obligations, agreements, representations, undertakings and/or obligations under Section 2.13 or this Section 2.14, as determined by the board of directors or the person presiding at the meeting, or (b) the Eligible Stockholder (or a qualified representative thereof) does not appear at the meeting to present any nomination pursuant to this Section 2.14.

The Eligible Stockholder (including any person who owns shares that constitute part of the Eligible Stockholder's ownership for purposes of satisfying this Section 2.14) shall file with the SEC any solicitation or other communication with the corporation's stockholders relating to the meeting at which the Proxy Access Nominee will be nominated, regardless of whether any such filing is required under the Proxy Rules or whether any exemption from filing is available for such solicitation or other communication under the Proxy Rules.

The board of directors (and any other person or body authorized by the board of directors) shall have exclusive power and authority to interpret this Section 2.14 and to make any and all determinations necessary or advisable to apply this Section 2.14 to any persons, facts or circumstances, including the power to determine (a) whether a person or group of persons qualifies as an Eligible Stockholder; (b) whether outstanding

shares of the corporation's capital stock are "owned" for purposes of meeting the ownership requirements of this Section 2.14; (c) whether a notice complies with the requirements of this Section 2.14; (d) whether a person satisfies the qualifications and requirements to be a Proxy Access Nominee; (e) whether inclusion of the Required Information in the corporation's proxy statement is consistent with all applicable laws, rules, regulations and listing standards; and (f) whether any and all requirements of Section 2.13 and this Section 2.14 have been satisfied. Any such interpretation or determination adopted in good faith by the board of directors (or any other person or body authorized by the board of directors) shall be conclusive and binding on all persons, including the corporation and all record or beneficial owners of stock of the corporation.

2.15. BUSINESS AT MEETINGS OF STOCKHOLDERS

At any meeting of stockholders, only such business shall be transacted as shall have been properly brought before the meeting. To be properly brought before a meeting of stockholders, business must be (a) specified in the notice of meeting (or any supplement or amendment thereto) given by or at the direction of the board of directors, (b) otherwise properly brought before the meeting by or at the direction of the board of directors or (c) in the case of an annual meeting of stockholders, properly brought before the meeting by a stockholder who is entitled to vote and who has complied with the procedures established by this Section 2.15. For business to be properly brought before an annual meeting by a stockholder (other than the nomination of a person for election as a director, which is governed by Section 2.13 of these bylaws), the Proponent (defined in Section 2.13) must have given timely and proper notice thereof in writing to the secretary of the corporation, in accordance with, and containing all information provided for, in this Section 2.15, and such business must be a proper matter for stockholder action under the DGCL.

To be timely, a Proponent's notice must be delivered to or mailed to the secretary of the corporation and received at the principal executive offices of the corporation prior to the close of business not less than ninety (90) nor more than one hundred and twenty (120) days prior to the first anniversary of the preceding year's annual meeting of stockholders; provided, however, in the event the date of the annual meeting is advanced more than 30 days prior to such anniversary date or delayed more than 60 days after such anniversary date, then to be timely such notice must be received by the corporation not later than the close of business on the later of the 90th day prior to the date of the meeting or the 10th day following the date of Public Disclosure (defined in Section 2.13) of the date of the annual meeting. In no event shall any adjournment or postponement of an annual meeting of stockholders or announcement thereof commence a new time period or extend any time period for the giving of a Proponent's notice as required by this Section 2.15.

A Proponent's notice to the secretary shall set forth: (a) as to each matter the Proponent proposes to bring before the annual meeting, a description of the business desired to be brought before the annual meeting, the reasons for transacting such business at the meeting and the text of any resolutions to be proposed, and whether the Proponent has communicated with any other stockholder or beneficial owner of shares of stock of the corporation regarding such business and (b) as to the Proponent and any Stockholder Associated Person (defined in Section 2.13) on whose behalf the proposal is being made, (i) the name and address of the Proponent, and any holder of record of the Proponent's shares of stock, as they appear on the corporation's books, and of any Stockholder Associated Person, (ii) the class and number of shares of stock of the corporation that are owned (beneficially and of record) by or on behalf of the Proponent and by or on behalf of any Stockholder Associated Person as of the date of the Proponent's notice, the date such shares were acquired and the investment intent with respect thereto, (iii) a representation and agreement that the Proponent will notify the corporation in writing of the class and number of shares of stock of the corporation that are owned (beneficially and of record) by or on behalf of the Proponent and by or on behalf of any Stockholder Associated Person as of the record date for the meeting, not later than the close of business on the third business day following the later of the record date or the date of Public Disclosure of the record date, (iv) a description of all purchases and sales of, or other transactions involving in any way, shares of stock of the corporation by or on behalf of the Proponent and by or on behalf of any Stockholder Associated Person during the 24-month period prior to the date of the Proponent's notice, including the date of the transactions, the class and number of shares and the consideration (without regard to whether such shares involved were or were not owned by the Proponent or any such person), (v) a description of any agreement, arrangement or understanding, including any Derivative Instrument (defined in

Section 2.13), that has been entered into or is in effect as of the date of the Proponent's notice, by or on behalf of the Proponent or any Stockholder Associated Person, the effect or intent of which is to mitigate loss to, manage risk or benefit of stock price changes for, or increase or decrease the voting power of, the Proponent or any Stockholder Associated Person with respect to the corporation's securities, (vi) a representation and agreement that the Proponent will notify the corporation in writing of any such agreement, arrangement or understanding, including any Derivative Instrument, that has been entered into or is in effect as of the record date for the meeting, not later than the close of business on the third business day following the later of the record date or the date of Public Disclosure of the record date, (vii) any material interest of the Proponent or any Stockholder Associated Person in such business, (viii) a description of any other agreement, arrangement or understanding that has been entered into or is in effect as of the date of the Proponent's notice, between or among the Proponent, any Stockholder Associated Person or any other person, and that relates to such business, (ix) a representation and agreement that the Proponent will notify the corporation in writing of any agreement, arrangement or understanding of the type described in clause (viii) above that has been entered into or is in effect as of the record date for the meeting, not later than the close of business on the third business day following the later of the record date or the date of Public Disclosure of the record date, (x) a representation that the Proponent is the holder of record or beneficial owner of shares of stock of the corporation entitled to vote for the election of directors at the annual meeting and intends to appear in person or by proxy at the meeting to propose such business and (xi) a representation as to whether the Proponent intends to deliver a proxy statement and/or form of proxy to stockholders and/or otherwise to solicit proxies from stockholders in support of such proposal.

No business proposed by a stockholder shall be transacted at an annual meeting of stockholders except in accordance with the procedures set forth in this Section 2.15. If the Proponent intending to propose business at an annual meeting pursuant to this Section 2.15 does not give timely and proper notice thereof in writing to the secretary of the corporation, in accordance with, and containing all information provided for in, this Section 2.15, or if the Proponent (or a qualified representative of the Proponent) does not appear at the meeting to present the proposed business, then, in any such case, such business shall not be transacted, notwithstanding the fact that proxies in respect of such business may have been solicited or obtained. The chairman of the meeting shall, if the facts warrant, determine that the business was not properly brought before the meeting in accordance with the provisions of this Section 2.15, and, if the chairman should so determine, he or she shall declare to the meeting that such business was not properly brought before the meeting and shall not be transacted.

The requirements of this Section 2.15 shall apply to any business to be brought before an annual meeting of stockholders by a stockholder (other than the nomination by a stockholder of a person for election as a director, which is governed by Section 2.13 of these bylaws) without regard to whether such business also is intended to be included in the corporation's proxy statement pursuant to Rule 14a-8 of the Exchange Act or whether such business is presented to stockholders by means of a proxy solicitation by any person other than by or on behalf of the board of directors.

ARTICLE III

DIRECTORS

3.1. POWERS

Subject to the provisions of the DGCL and any limitations in the certificate of incorporation or these bylaws relating to action required to be approved by the stockholders or by the outstanding shares, the business and affairs of the corporation shall be managed and all corporate powers shall be exercised by or under the direction of the board of directors.

3.2. NUMBER OF DIRECTORS; ELECTION; AND TERM OF OFFICE OF DIRECTORS

The board of directors shall consist of such number of directors determined from time to time by resolution of the board of directors. The number of directors may be changed by resolution of the board of directors, by an amendment to this bylaw, duly adopted by the board of directors or by the stockholders, or by a

duly adopted amendment to the certificate of incorporation. The term of each director so elected shall be set forth in the certificate of incorporation.

No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

Each director, including a director elected to fill a vacancy, shall hold office until such director's term expires and until such director's successor shall be elected and qualified or until such director's earlier death, resignation, retirement, disqualification or removal.

3.3. QUALIFICATION OF DIRECTORS

Directors need not be stockholders unless so required by the certificate of incorporation or these bylaws, wherein other qualifications for directors may be prescribed.

3.4. RESIGNATION AND VACANCIES

Any director may resign at any time upon written notice to the corporation.

Unless otherwise provided in the certificate of incorporation or these bylaws:

- (a) Vacancies and newly created directorships resulting from any increase in the authorized number of directors elected by all of the stockholders having the right to vote as a single class may be filled by a majority of the directors then in office, although less than a quorum, or by a sole remaining director. So long as directors are divided into classes, such directors or director shall have the authority to appoint any newly appointed director to serve as a member of a particular class of directors.
- (b) Whenever the holders of any class or classes of stock or series thereof are entitled to elect one or more directors by the provisions of the certificate of incorporation, vacancies and newly created directorships of such class or classes or series may be filled by a majority of the directors elected by such class or classes or series thereof then in office, or by a sole remaining director so elected. Directors appointed to fill a vacancy of such class or classes or series will be appointed to serve, so long as the directors are divided into classes, in the same class of directors as the director he or she is being appointed to replace.

If at any time, by reason of death or resignation or other cause, the corporation should have no directors in office, then any officer or any stockholder or an executor, administrator, trustee or guardian of a stockholder, or other fiduciary entrusted with like responsibility for the person or estate of a stockholder, may call a special meeting of the stockholders in accordance with the provisions of the certificate of incorporation or these bylaws, or may apply to the Court of Chancery for a decree summarily ordering an election as provided in Section 211 of the DGCL.

If, at the time of filling any vacancy or any newly created directorship, the directors then in office constitute less than a majority of the whole board (as constituted immediately prior to any such increase), then the Court of Chancery may, upon application of any stockholder or stockholders holding at least ten (10) percent of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office as aforesaid, which election shall be governed by the provisions of Section 223 of the DGCL as far as applicable.

3.5. PLACE OF MEETINGS; MEETINGS BY TELEPHONE

The board of directors of the corporation may hold meetings, both regular and special, either within or outside the State of Delaware.

Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the board of directors, or any committee designated by the board of directors, may participate in a meeting of the board of directors, or any committee, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

3.6. FIRST MEETINGS

The first meeting of each newly elected board of directors shall be held at such time and place as shall be fixed by the vote of the stockholders at the annual meeting and no notice of such meeting shall be necessary to the newly elected directors in order legally to constitute the meeting, provided a quorum shall be present. In the event of the failure of the stockholders to fix the time or place of such first meeting of the newly elected board of directors, or in the event such meeting is not held at the time and place so fixed by the stockholders, the meeting may be held at such time and place as shall be specified in a notice given as hereinafter provided for special meetings of the board of directors, or as shall be specified in a written waiver signed by all of the directors.

3.7. REGULAR MEETINGS

Regular meetings of the board of directors may be held without notice at such time and at such place as shall from time to time be determined by the board.

3.8. SPECIAL MEETINGS; NOTICE

Special meetings of the board may be called by the chairman of the board, or the chief executive officer, on three days' notice to each director if provided either by mail or overnight courier, or on 24 hours' notice if provided either personally, by telephone, or email; special meetings shall be called by the chief executive officer or secretary in like manner and on like notice on the written request of two directors unless the board consists of only one director, in which case special meetings shall be called by the chief executive officer or secretary in like manner and on like notice on the written request of the sole director.

3.9. QUORUM

At all meetings of the board of directors, a majority of the authorized number of directors shall constitute a quorum for the transaction of business and the act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the board of directors, except as may be otherwise specifically provided by statute or by the certificate of incorporation. If a quorum is not present at any meeting of the board of directors, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

3.10. WAIVER OF NOTICE

Whenever notice is required to be given under any provision of the DGCL or of the certificate of incorporation or these bylaws, a written waiver thereof, signed by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the directors, or members of a committee of directors, need be specified in any written waiver of notice unless so required by the certificate of incorporation or these bylaws.

3.11. ADJOURNED MEETING; NOTICE

If a quorum is not present at any meeting of the board of directors, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

3.12. BOARD ACTION BY WRITTEN CONSENT WITHOUT A MEETING

Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the board of directors, or of any committee thereof, may be taken without a meeting if all members of the board or committee, as the case may be, consent thereto in writing and the writing or writings are filed with the minutes of proceedings of the board or committee.

3.13. FEES AND COMPENSATION OF DIRECTORS

Unless otherwise restricted by the certificate of incorporation or these bylaws, the board of directors shall have the authority to fix the compensation of directors.

3.14. APPROVAL OF LOANS TO OFFICERS

The corporation may lend money to, or guarantee any obligation of, or otherwise assist any officer or other employee of the corporation or of its subsidiary, including any officer or employee who is a director of the corporation or its subsidiary, whenever, in the judgment of the directors, such loan, guaranty or assistance may reasonably be expected to benefit the corporation. The loan, guaranty or other assistance may be with or without interest and may be unsecured, or secured in such manner as the board of directors shall approve, including, without limitation, a pledge of shares of stock of the corporation. Nothing contained in this Section 3.14 shall be deemed to deny, limit or restrict the powers of guaranty or warranty of the corporation at common law or under any statute.

3.15. REMOVAL OF DIRECTORS

Unless otherwise restricted by statute, by the certificate of incorporation or by these bylaws, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors.

No reduction of the authorized number of directors shall have the effect of removing any director prior to the expiration of such director's term of office.

3.16. MAJORITY VOTING

Each director shall be elected by the vote of the majority of the votes cast (meaning the number of shares voted "for" a nominee must exceed the number of shares voted "against" such nominee, with "abstentions" and "broker non-votes" not counted as votes cast either "for" or "against" such director's election) at any meeting for the election of directors at which a quorum is present; provided, that in a contested election (meaning that the number of persons properly nominated to serve as directors exceeds the number of directors to be elected), the directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at such meeting and entitled to vote on the election of directors and recommended for adoption by the board of directors.

ARTICLE IV

COMMITTEES

4.1. COMMITTEES OF DIRECTORS

The board of directors may, by resolution passed by a majority of the whole board, designate one or more committees, with each committee to consist of one or more of the directors of the corporation. The board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he, she, or they constitute a quorum, may unanimously appoint another member of the board of directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the board of directors or in the bylaws of the corporation, shall have and may exercise all the powers and authority of the board of directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers that may require it; but no such committee shall have the power or authority to (i) amend the certificate of incorporation (except that a committee may, to the extent authorized in the resolution or resolutions providing for the issuance of shares of stock adopted by the board of directors as provided in Section 151(a) of the DGCL, fix any of the preferences or rights of such shares relating to dividends, redemption, dissolution, any distribution of assets of the corporation or the conversion into, or the exchange of such shares for, shares of any other class or classes or any other series of the same or any other class or classes of stock of the corporation), (ii) adopt an agreement of merger or consolidation under Sections 251 or 252 of the DGCL, (iii) recommend to the stockholders the sale, lease or exchange of all or substantially all of the corporation's property and assets, (iv) recommend to the stockholders a dissolution of the corporation or a revocation of a dissolution, or (v) amend the bylaws of the corporation; and, unless the board resolution establishing the committee, the bylaws or the certificate of incorporation expressly so provide, no such committee shall have the power or authority to declare a dividend, to authorize the issuance of stock, or to adopt a certificate of ownership and merger pursuant to Section 253 of the DGCL.

4.2. COMMITTEE MINUTES

Each committee shall keep regular minutes of its meetings and report the same to the board of directors when required.

4.3. MEETINGS AND ACTION OF COMMITTEES

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of Article III, Sections 3.5, 3.7, 3.8, 3.9, 3.10, 3.11, and 3.12 of these bylaws, with such changes in the context of those bylaws as are necessary to substitute the committee and its members (including its chairman) for the board of directors and its members (including its chairman); provided, however, that the time of regular meetings of committees may also be called by resolution of the board of directors and that notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The board of directors may adopt rules for the government of any committee not inconsistent with the provisions of these bylaws.

ARTICLE V

OFFICERS

5.1. OFFICERS

The officers of the corporation shall be a chief executive officer, a president, one or more vice presidents, a secretary, and a treasurer. The corporation may also have, at the discretion of the board of directors, a chairman of the board, one or more assistant vice presidents, assistant secretaries, assistant treasurers, and any such other officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws. Any number of offices may be held by the same person.

5.2. ELECTION OF OFFICERS

The officers of the corporation, except such officers as may be appointed in accordance with the provisions of Sections 5.3 or 5.5 of these bylaws, shall be chosen by the board of directors, subject to the rights, if any, of an officer under any contract of employment.

5.3. SUBORDINATE OFFICERS

The board of directors may appoint, or empower the chief executive officer to appoint, such other officers and agents as the business of the corporation may require, each of whom shall hold office for such period, have such authority, and perform such duties as are provided in these bylaws or as the board of directors may from time to time determine.

5.4. REMOVAL AND RESIGNATION OF OFFICERS

Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by an affirmative vote of the majority of the board of directors at any regular or special meeting of the board or, except in the case of an officer chosen by the board of directors, by any officer upon whom such power of removal may be conferred by the board of directors.

Any officer may resign at any time by giving written notice to the corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice; and, unless otherwise specified in that notice, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the corporation under any contract to which the officer is a party.

5.5. VACANCIES IN OFFICES

Any vacancy occurring in any office of the corporation shall be filled by the board of directors.

5.6. CHAIRMAN OF THE BOARD

The chairman of the board, if such an officer be elected, shall, if present, preside at meetings of the board of directors and exercise and perform such other powers and duties as may from time to time be assigned to him by the board of directors or as may be prescribed by these bylaws. If there is no chief executive officer or president, then the chairman of the board shall also be the chief executive officer of the corporation and shall have the powers and duties prescribed in Section 5.7 of these bylaws.

5.7. CHIEF EXECUTIVE OFFICER

Subject to such supervisory powers, if any, as may be given by the board of directors to the chairman of the board, if there be such an officer, the chief executive officer shall, subject to the control of the board of directors, shall be responsible for corporate policy and strategy and general supervision, direction, and control of the business. He or she shall preside at all meetings of the stockholders and, in the absence or nonexistence of a chairman of the board, at all meetings of the board of directors. He or she shall have the general powers and duties of management usually vested in the office of chief executive officer of a corporation and shall have such other powers and duties as may be prescribed by the board of directors or these bylaws.

5.8. PRESIDENT

The president shall be the chief operating officer of the corporation, with general responsibility for the management and control of the operations of the corporation. The president shall, when requested, counsel with and advise the other officers of the corporation and shall perform such other duties as such officer may agree with the chief executive officer or as the board of directors may from time to time determine.

5.9. VICE PRESIDENT

Each vice president shall have such powers and perform such duties as may be assigned to him or her from time to time by the chairman of the board, the chief executive officer, or the president.

5.10. SECRETARY

The secretary shall keep or cause to be kept, at the principal executive offices of the corporation or such other place as the board of directors may direct, a book of minutes of all meetings and actions of directors, committees of directors, and stockholders. The minutes shall show the time and place of each meeting, whether regular or special (and, if special, how authorized and the notice given), the names of those present at directors' meetings or committee meetings, the number of shares present or represented at stockholders' meetings, and the proceedings thereof.

The secretary shall keep, or cause to be kept, at the principal executive offices of the corporation or at the office of the corporation's transfer agent or registrar, as determined by resolution of the board of directors, a share register, or a duplicate share register, showing the names of all stockholders and their addresses, the number and classes of shares held by each, the number and date of certificates evidencing such shares, and the number and date of cancellation of every certificate surrendered for cancellation.

The secretary shall give, or cause to be given, notice of all meetings of the stockholders and of the board of directors required to be given by law or by these bylaws. He or she shall keep the seal of the corporation, if one be adopted, in safe custody and shall have such other powers and perform such other duties as may be prescribed by the board of directors or by these bylaws.

5.11. TREASURER

The treasurer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and records of accounts of the properties and business transactions of the corporation, including accounts of its assets, liabilities, receipts, disbursements, gains, losses, capital, retained earnings, and shares. The books of account shall at all reasonable times be open to inspection by any director.

The treasurer shall deposit all money and other valuables in the name and to the credit of the corporation with such depositories as may be designated by the board of directors. He or she shall disburse the funds of the corporation as may be ordered by the board of directors, shall render to the chief executive officer and directors, whenever they request it, an account of all of his transactions as treasurer and of the financial condition of the corporation, and shall have such other powers and perform such other duties as may be prescribed by the board of directors or these bylaws.

5.12. ASSISTANT SECRETARY

The assistant secretary, or, if there is more than one, the assistant secretaries in the order determined by the stockholders or board of directors (or if there be no such determination, then in the order of their election) shall, in the absence of the secretary or in the event of his or her inability or refusal to act, perform the duties and exercise the powers of the secretary and shall perform such other duties and have such other powers as the board of directors or the stockholders may from time to time prescribe.

5.13. ASSISTANT TREASURER

The assistant treasurer, or, if there is more than one, the assistant treasurers, in the order determined by the stockholders or board of directors (or if there be no such determination, then in the order of their election), shall, in the absence of the treasurer or in the event of his or her inability or refusal to act, perform the duties and exercise the powers of the treasurer and shall perform such other duties and have such other powers as the board of directors or the stockholders may from time to time prescribe.

5.14. AUTHORITY AND DUTIES OF OFFICERS

In addition to the foregoing authority and duties, all officers of the corporation shall respectively have such authority and perform such duties in the management of the business of the corporation as may be designated from time to time by the board of directors or the stockholders.

ARTICLE VI

INDEMNITY

6.1. INDEMNIFICATION OF DIRECTORS AND OFFICERS

The corporation shall, to the maximum extent and in the manner permitted by the DGCL, indemnify each of its directors and officers against expenses (including attorneys' fees), judgments, fines, settlements, and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of the corporation. For purposes of this Section 6.1, a "director" or "officer" of the corporation includes any person (i) who is or was a director or officer of the corporation, (ii) who is or was serving at the request of the corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, or (iii) who was a director or officer of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

6.2. INDEMNIFICATION OF OTHERS

The corporation shall have the power, to the extent and in the manner permitted by the DGCL, to indemnify each of its employees and agents (other than directors and officers) against expenses (including attorneys' fees), judgments, fines, settlements, and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of the corporation. For purposes of this Section 6.2, an "employee" or "agent" of the corporation (other than a director or officer) includes any person (i) who is or was an employee or agent of the corporation, (ii) who is or was serving at the request of the corporation as an employee or agent of another corporation, partnership, joint venture, trust or other enterprise, or (iii) who was an employee or agent of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

6.3. INSURANCE

The corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him and incurred by him in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify him against such liability under the provisions of the DGCL.

6.4. ADVANCEMENT

The right to indemnification conferred in the certificate of incorporation and these bylaws shall include the right to be paid by the corporation the expenses incurred in defending any proceeding for which such right to indemnification is applicable in advance of its final disposition (an "Advancement of Expenses"); provided, however, that an Advancement of Expenses incurred by or on behalf of an indemnitee shall be made only upon delivery to the corporation of an undertaking, by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such indemnitee is not entitled to be indemnified for such expenses under this Section 6.4 or otherwise.

ARTICLE VII

RECORDS AND REPORTS

7.1. MAINTENANCE AND INSPECTION OF RECORDS

The corporation shall, either at its principal executive offices or at such place or places as designated by the board of directors, keep a record of its stockholders listing their names and addresses and the number and class of shares held by each stockholder, a copy of these bylaws as amended to date, accounting books, and other records.

Any stockholder of record, in person or by attorney or other agent, shall, upon written demand under oath stating the purpose thereof, have the right during the usual hours for business to inspect for any proper purpose the corporation's stock ledger, a list of its stockholders, and its other books and records and to make copies or extracts therefrom. A proper purpose shall mean a purpose reasonably related to such person's interest as a stockholder. In every instance where an attorney or other agent is the person who seeks the right to inspection, the demand under oath shall be accompanied by a power of attorney or such other writing that authorizes the attorney or other agent to so act on behalf of the stockholder. The demand under oath shall be directed to the corporation at its registered office in Delaware or at its principal place of business.

The officer who has charge of the stock ledger of a corporation shall prepare and make, at least 10 days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business hours, for a period of at least 10 days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

7.2. INSPECTION BY DIRECTORS

Any director shall have the right to examine the corporation's stock ledger, a list of its stockholders, and its other books and records for a purpose reasonably related to his position as a director. The Court of Chancery is hereby vested with the exclusive jurisdiction to determine whether a director is entitled to the inspection sought. The Court of Chancery may summarily order the corporation to permit the director to inspect any and all books and records, the stock ledger, and the stock list and to make copies or extracts therefrom. The Court of Chancery may, in its discretion, prescribe any limitations or conditions with reference to the inspection, or award such other and further relief as the Court of Chancery may deem just and proper.

7.3. ANNUAL STATEMENT TO STOCKHOLDERS

The board of directors shall present at each annual meeting, and at any special meeting of the stockholders when called for by vote of the stockholders, a full and clear statement of the business and condition of the corporation.

7.4. REPRESENTATION OF SHARES OF OTHER CORPORATIONS

The chairman of the board, the chief executive officer, the president, any vice president, the treasurer, the secretary or assistant secretary of this corporation, or any other person authorized by the board of directors or the chief executive officer or the president or a vice president, is authorized to vote, represent, and exercise on behalf of this corporation all rights incident to any and all shares of any other corporation or corporations standing in the name of this corporation. The authority granted herein may be exercised either by

such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by such person having the authority.

ARTICLE VIII

GENERAL MATTERS

8.1. CHECKS

From time to time, the board of directors shall determine by resolution which person or persons may sign or endorse all checks, drafts, other orders for payment of money, notes or other evidences of indebtedness that are issued in the name of or payable to the corporation, and only the persons so authorized shall sign or endorse those instruments.

8.2. EXECUTION OF CORPORATE CONTRACTS AND INSTRUMENTS

The board of directors, except as otherwise provided in these bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the board of directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

8.3. STOCK CERTIFICATES; PARTLY PAID SHARES

The shares of a corporation shall be represented by certificates, provided that the board of directors of the corporation may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the corporation. Notwithstanding the adoption of such a resolution by the board of directors, every holder of stock represented by certificates and upon request every holder of uncertificated shares shall be entitled to have a certificate signed by, or in the name of the corporation by the chairman or vice-chairman of the board of directors, or the chief executive officer, president, or vice-president, and by the treasurer or an assistant treasurer, or the secretary or an assistant secretary of such corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the corporation with the same effect as if he or she were such officer, transfer agent or registrar at the date of issue.

The corporation may issue the whole or any part of its shares as partly paid and subject to call for the remainder of the consideration to be paid therefor. Upon the face or back of each stock certificate issued to represent any such partly paid shares, upon the books and records of the corporation in the case of uncertificated partly paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated. Upon the declaration of any dividend on fully paid shares, the corporation shall declare a dividend upon partly paid shares of the same class, but only upon the basis of the percentage of the consideration actually paid thereon.

8.4. SPECIAL DESIGNATION ON CERTIFICATES

If the corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the corporation shall issue to represent such class or series of stock; provided, however, that, except as otherwise

provided in Section 202 of the DGCL, in lieu of the foregoing requirements there may be set forth on the face or back of the certificate that the corporation shall issue to represent such class or series of stock a statement that the corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

8.5. LOST CERTIFICATES

Except as provided in this Section 8.5, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the corporation and cancelled at the same time. The corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the corporation may require the owner of the lost, stolen or destroyed certificate, or his legal representative, to give the corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

8.6. CONSTRUCTION; DEFINITIONS

Unless the context requires otherwise, the general provisions, rules of construction, and definitions in the DGCL shall govern the construction of these bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

8.7 DIVIDENDS

The directors of the corporation, subject to any restrictions contained in the certificate of incorporation, may declare and pay dividends upon the shares of its capital stock pursuant to the DGCL. Dividends may be paid in cash, in property, or in shares of the corporation's capital stock.

The directors of the corporation may set apart out of any of the funds of the corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the corporation, and meeting contingencies.

8.8. FISCAL YEAR

The fiscal year of the corporation shall be fixed by resolution of the board of directors and may be changed by the board of directors.

8.9. SEAL

The seal of the corporation shall be such as from time to time may be approved by the board of directors.

8.10. TRANSFER OF STOCK

Upon surrender to the corporation or the transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer, it shall be the duty of the corporation to issue a new certificate to the person entitled thereto, cancel the old certificate, and record the transaction in its books.

8.11. STOCK TRANSFER AGREEMENTS

The corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the corporation to restrict the transfer of shares of stock of the corporation of any one or more classes owned by such stockholders in any manner not prohibited by the DGCL.

8.12. REGISTERED STOCKHOLDERS

The corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends and to vote as such owner, shall be entitled to hold liable for calls and assessments the person registered on its books as the owner of shares, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

8.13. SEVERABILITY

If any provision of these bylaws (or any portion, including words or phrases, thereof) or the application of any provision (or any portion, including words or phrases, thereof) to any person or circumstance shall be held invalid, illegal or unenforceable in any respect under applicable law by a court of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other provisions hereof (or the remaining portion thereof) or the application of such provision to any other persons or circumstances, which unaffected provisions (or portions thereof) shall remain valid, legal and enforceable to the fullest extent permitted by law.

ARTICLE IX

AMENDMENTS

The original or other bylaws of the corporation may be adopted, amended or repealed by the stockholders entitled to vote; provided, however, that the corporation may, in its certificate of incorporation, confer the power to adopt, amend or repeal bylaws upon the directors. The fact that such power has been so conferred upon the directors shall not divest the stockholders of the power, nor limit their power to adopt, amend or repeal bylaws.

ARTICLE X

DISSOLUTION

If it should be deemed advisable in the judgment of the board of directors of the corporation that the corporation should be dissolved, the board, after the adoption of a resolution to that effect by a majority of the whole board at any meeting called for that purpose, shall cause notice to be mailed to each stockholder entitled to vote thereon of the adoption of the resolution and of a meeting of stockholders to take action upon the resolution.

At the meeting, a vote shall be taken for and against the proposed dissolution. If a majority of the outstanding stock of the corporation entitled to vote thereon votes for the proposed dissolution, then a certificate stating that the dissolution has been authorized in accordance with the provisions of Section 275 of the DGCL and setting forth the names and residences of the directors and officers shall be executed, acknowledged, and filed, and shall become effective in accordance with Section 103 of the DGCL. Upon such certificate's becoming effective in accordance with Section 103 of the DGCL, the corporation shall be dissolved.

Whenever all the stockholders entitled to vote on a dissolution consent in writing, either in person or by duly authorized attorney, to a dissolution, no meeting of directors or stockholders shall be necessary. The consent shall be filed and shall become effective in accordance with Section 103 of the DGCL. Upon such consent's becoming effective in accordance with Section 103 of the DGCL, the corporation shall be dissolved. If the consent is signed by an attorney, then the original power of attorney or a photocopy thereof shall be attached to

and filed with the consent. The consent filed with the Secretary of State shall have attached to it the affidavit of the secretary or some other officer of the corporation stating that the consent has been signed by or on behalf of all the stockholders entitled to vote on a dissolution; in addition, there shall be attached to the consent a certification by the secretary or some other officer of the corporation setting forth the names and residences of the directors and officers of the corporation.

ARTICLE XI

CUSTODIAN

11.1 APPOINTMENT OF A CUSTODIAN IN CERTAIN CASES

The Court of Chancery, upon application of any stockholder, may appoint one or more persons to be custodians and, if the corporation is insolvent, to be receivers, of and for the corporation when:

- (a) at any meeting held for the election of directors, the stockholders are so divided that they have failed to elect successors to directors whose terms have expired or would have expired upon qualification of their successors; or
- (b) the business of the corporation is suffering or is threatened with irreparable injury because the directors are so divided respecting the management of the affairs of the corporation that the required vote for action by the board of directors cannot be obtained and the stockholders are unable to terminate this division; or
- (c) the corporation has abandoned its business and has failed within a reasonable time to take steps to dissolve, liquidate or distribute its assets.

11.2. DUTIES OF CUSTODIAN

The custodian shall have all the powers and title of a receiver appointed under Section 291 of the DGCL, but the authority of the custodian shall be to continue the business of the corporation and not to liquidate its affairs and distribute its assets, except when the Court of Chancery otherwise orders and except in cases arising under Sections 226(a)(3) or 352(a)(2) of the DGCL.

ARTICLE XII

EXCLUSIVE FORUM FOR ADJUDICATION OF DISPUTES

12.1 FORUM FOR ADJUDICATION OF DISPUTES

Unless the board of directors of the corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, another state court located within the State of Delaware, or, if no state court located within the State of Delaware has jurisdiction, the federal district court for the District of Delaware) shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the corporation; (ii) any action asserting a claim for breach of a fiduciary duty owed by any director, officer, employee or agent of the corporation to the corporation or the corporation's stockholders; (iii) any action asserting a claim arising pursuant to any provision of the DGCL, the certificate of incorporation or these bylaws (as any such may be amended from time to time); or (iv) any action asserting a claim governed by the internal affairs doctrine, in each case subject to said court having personal jurisdiction over the indispensable parties named as defendants therein.

CERTIFICATION OF FRANCIS A. DESOUZA PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Francis A. deSouza, certify that:

- 1 I have reviewed this Quarterly Report on Form 10-Q of Illumina, Inc.;
- 2 Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3 Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4 The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5 The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 11, 2022

By: /s/ FRANCIS A. DESOUZA
 Francis A. deSouza
 Chief Executive Officer

CERTIFICATION OF JOYDEEP GOSWAMI PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Joydeep Goswami, certify that:

- 1 I have reviewed this Quarterly Report on Form 10-Q of Illumina, Inc.;
- 2 Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3 Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4 The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5 The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 11, 2022

By: /s/ JOYDEEP GOSWAMI

Joydeep Goswami

Chief Strategy and Corporate Development Officer and Interim Chief Financial Officer

**CERTIFICATION OF FRANCIS A. DESOUZA PURSUANT TO 18 U.S.C. SECTION
1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-
OXLEY ACT OF 2002**

In connection with the Quarterly Report of Illumina, Inc. (the "Company") on Form 10-Q for the quarter ended July 3, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Francis A. deSouza, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 11, 2022

By: /s/ FRANCIS A. DESOUZA
Francis A. deSouza
Chief Executive Officer

This certification accompanying the Report is not deemed filed with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities such Section, and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before, on or after the date of the Report), irrespective of any general incorporation language contained in such filing.

**CERTIFICATION OF JOYDEEP GOSWAMI PURSUANT TO 18 U.S.C.
SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Illumina, Inc. (the "Company") on Form 10-Q for the quarter ended July 3, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Joydeep Goswami, Chief Strategy and Corporate Development Officer and Interim Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 11, 2022

By: /s/ JOYDEEP GOSWAMI
Joydeep Goswami
Chief Strategy and Corporate Development Officer and Interim Chief
Financial Officer

This certification accompanying the Report is not deemed filed with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities such Section, and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before, on or after the date of the Report), irrespective of any general incorporation language contained in such filing.