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 March 31, 2021 or

☐ Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the transition period from __ to __.

LUMINEX CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	**000-30109**	**74-2747608**
(State or other jurisdiction of incorporation)	(Commission File Number)	(I.R.S. Employer Identification No.)

12212 Technology Blvd., Austin, Texas	**78727**
(Address of principal executive offices)	(Zip Code)

(512) 219-8020
Registrant's Telephone Number, Including Area Code

None
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 exchange on which registered
Common Stock, $0.001 par value	LMNX	The Nasdaq Global Select Market

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

☑ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

☑ Yes ☐ No

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

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

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

☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

☐ Yes ☑ No

There were 47,313,816 shares of the Company's Common Stock, par value $0.001 per share, outstanding on May 4, 2021.

LUMINEX CORPORATION

FORM 10-Q
FOR THE QUARTER ENDED MARCH 31, 2021

TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS

LUMINEX CORPORATION
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except share amounts)

	March 31 2021	December 31, 2020
ASSETS	**(unaudited)**	
Current assets:		
Cash and cash equivalents	$ 271,560	$ 309,407
Accounts receivable, net	69,051	66,963
Inventories, net	132,089	123,134
Prepaids and other	9,085	9,527
Total current assets	481,785	509,031
Property and equipment, net	72,599	64,146
Intangible assets, net	75,877	78,796
Deferred income taxes	33,613	21,077
Goodwill	118,145	118,145
Right of use assets	19,971	17,768
Other	17,041	16,500
Total assets	$ 819,031	$ 825,463
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 14,559	$ 21,049
Accrued liabilities	32,133	56,365
Deferred revenue - current portion	10,871	10,047
Total current liabilities	57,563	87,461
Deferred revenue	1,723	1,658
Lease liabilities	16,053	13,366
Long-term debt	253,514	203,136
Other long-term liabilities	2,131	2,131
Total liabilities	330,984	307,752
Stockholders' equity:		
Common stock, $.001 par value, 200,000,000 shares authorized; issued and outstanding: 46,252,663 shares at March 31, 2021; 45,682,687 shares at December 31, 2020	46	45
Preferred stock, $.001 par value, 5,000,000 shares authorized; no shares issued and outstanding	—	—
Additional paid-in capital	396,244	434,021
Accumulated other comprehensive loss	(657)	(142)
Retained earnings	92,414	83,787
Total stockholders' equity	488,047	517,711
Total liabilities and stockholders' equity	$ 819,031	$ 825,463

See the accompanying notes which are an integral part of these Consolidated Financial Statements.

LUMINEX CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands, except per share amounts)

	Three Months Ended March 31,	
	2021	2020
	(unaudited)	
Revenue	$ 110,688	$ 90,424
Cost of revenue	44,227	40,078
Gross profit	66,461	50,346
Operating expenses:		
Research and development	13,899	11,918
Selling, general and administrative	36,184	33,935
Amortization of acquired intangible assets	2,919	2,852
Total operating expenses	53,002	48,705
Income from operations	13,459	1,641
Interest and other expense, net	(2,147)	1
Loss from equity method investment	(270)	(614)
Income before income taxes	11,042	1,028
Income tax expense	(1,960)	(374)
Net income	$ 9,082	$ 654
Net income attributable to common stockholders		
Basic	$ 8,902	$ 634
Diluted	8,904	633
Net income per share attributable to common stockholders		
Basic	$ 0.19	$ 0.01
Diluted	$ 0.19	$ 0.01
Weighted-average shares used in computing net income per share		
Basic	45,889	44,404
Diluted	46,675	45,038
Dividends declared per share	$ 0.10	$ 0.09
Other comprehensive loss:		
Foreign currency translation adjustments	(515)	(63)
Other comprehensive loss	(515)	(63)
Comprehensive income	$ 8,567	$ 591

See the accompanying notes which are an integral part of these Consolidated Financial Statements.

LUMINEX CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Three Months Ended March 31,	
	2021	2020
	(unaudited)	
Cash flows from operating activities:		
Net income	$ 9,082	$ 654
Adjustments to reconcile net income to net cash used in operating activities:		
Depreciation and amortization	7,841	7,434
Amortization of debt issuance costs	363	—
Stock-based compensation	3,429	2,683
Deferred income tax (benefit) expense	(208)	1,053
Loss on sale or disposal of assets	150	47
Loss on equity method investment	270	614
Other	(891)	(138)
Changes in operating assets and liabilities:		
Accounts receivable, net	(2,091)	(8,075)
Inventories, net	(8,989)	(1,510)
Other assets	(2,697)	(501)
Accounts payable	(6,556)	(4,186)
Accrued liabilities	(22,166)	(6,134)
Deferred revenue	901	843
Net cash used in operating activities	(21,562)	(7,216)
Cash flows from investing activities:		
Purchase of property and equipment	(13,323)	(3,923)
Proceeds from cost method investment	—	22
Acquired technology rights	(125)	—
Net cash used in investing activities	(13,448)	(3,901)
Cash flows from financing activities:		
Proceeds from issuance of common stock	4,560	1,349
Shares surrendered for tax withholding	(3,191)	(2,310)
Dividends paid	(4,658)	(4,063)
Net cash provided by (used in) financing activities	(3,289)	(5,024)
Effect of foreign currency exchange rate on cash	452	45
Change in cash and cash equivalents	(37,847)	(16,096)
Cash and cash equivalents, beginning of period	309,407	59,173
Cash and cash equivalents, end of period	$ 271,560	$ 43,077

See the accompanying notes which are an integral part of these Consolidated Financial Statements.

LUMINEX CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(in thousands, except share data)
(unaudited)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity
	Number of Shares	Amount				
Balance at December 31, 2020	45,682,687	$ 45	$ 434,021	$ (142)	$ 83,787	$ 517,711
Exercise of options, net of shares withheld	204,340	—	3,881	—	—	3,881
Issuances of restricted stock, net of shares withheld for taxes	365,636	1	(3,191)	—	—	(3,190)
Stock compensation	—	—	3,429	—	—	3,429
Net income	—	—	—	—	9,082	9,082
Foreign currency translation adjustments	—	—	—	(515)	—	(515)
Dividends	—	—	54	—	(4,776)	(4,722)
Equity component of convertible notes, net of issuance costs	—	—	$ (41,950)	—	$ 4,321	(37,629)
Balance at March 31, 2021	46,252,663	$ 46	$ 396,244	$ (657)	$ 92,414	$ 488,047

See the accompanying notes which are an integral part of these Consolidated Financial Statements.

LUMINEX CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (cont.)
(in thousands, except share data)
(unaudited)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity
	Number of Shares	Amount				
Balance at December 31, 2019	44,325,369	$ 44	$ 380,304	$ (1,380)	$ 85,892	$ 464,860
Exercise of options, net of shares withheld	52,604	—	782	—	—	782
Issuances of restricted stock, net of shares withheld for taxes	224,435	1	(2,310)	—	—	(2,309)
Stock compensation	—	—	2,683	—	—	2,683
Net income	—	—	—	—	654	654
Foreign currency translation adjustments	—	—	—	(63)	—	(63)
Dividends	—	—	42	—	(4,143)	(4,101)
Balance at March 31, 2020	44,602,408	$ 45	$ 381,501	$ (1,443)	$ 82,403	$ 462,506

See the accompanying notes which are an integral part of these Consolidated Financial Statements.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 — BASIS OF PRESENTATION

The accompanying unaudited condensed consolidated financial statements have been prepared by Luminex Corporation (the Company or Luminex) in accordance with United States generally accepted accounting principles (U.S. GAAP) for interim financial information and the rules and regulations of the Securities and Exchange Commission (SEC). Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. The condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. In the opinion of management, all adjustments (consisting of normal recurring entries) considered necessary for a fair presentation have been included. Operating results for the three months ended March 31, 2021 are not necessarily indicative of the results that may be expected for the year ending December 31, 2021. These financial statements should be read in conjunction with the financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2020 (the 2020 10-K).

NOTE 2 — INVESTMENTS AND OTHER ASSETS

Marketable Securities

The Company determines the appropriate classification of any investments in debt and equity securities at the time of purchase and re-evaluates such determinations at each balance sheet date. As of March 31, 2021, the Company had no short or long-term investments, as those funds were used to pay for acquisitions.

Available-for-sale securities consisted of the following as of March 31, 2021 (in thousands):

	Amortized Cost	Gains in Accumulated Other Comprehensive Income	Losses in Accumulated Other Comprehensive Income	Estimated Fair Value
Current:				
Money market funds	$ 707	$ —	$ —	$ 707
Total current securities	707	—	—	707
Total available-for-sale securities	$ 707	$ —	$ —	$ 707

Available-for-sale securities consisted of the following as of December 31, 2020 (in thousands):

	Amortized Cost	Gains in Accumulated Other Comprehensive Income	Losses in Accumulated Other Comprehensive Income	Estimated Fair Value
Current:				
Money market funds	$ 707	$ —	$ —	$ 707
Total current securities	707	—	—	707
Total available-for-sale securities	$ 707	$ —	$ —	$ 707

There were no proceeds from the sales of available-for-sale securities for the three months ended March 31, 2021 and the year ended December 31, 2020. Realized gains and losses on sales of investments are determined using the specific identification method and are included in Other income, net in the Condensed Consolidated Statements of Comprehensive Income. There were no available-for-sale debt securities as of March 31, 2021 or December 31, 2020. All of the Company's available-for-sale securities with gross unrealized losses as of March 31, 2021 had been in a loss position for less than 12 months.

Non-Marketable Securities and Other-Than-Temporary Impairment

As of March 31, 2021, the Company has an investment in Combinati, a private company, with a carrying value of $9.6 million, which exceeded the Company's share of Combinati's net assets by $8.0 million. This investment represents ownership of approximately 28.4% of the voting interest of Combinati. For the quarter ended March 31, 2021, the Company recorded $0.3 million for its allocable share of Combinati's net loss in its Consolidated Statement of Comprehensive Income and as an adjustment to the invested balance. The Company accounts for its investment in Combinati under the equity method, given the Company's significant influence over the investee due to its larger ownership percentage and its participation on the Board of Directors. The Company does not have unilateral decision making power, and therefore will not consolidate the investee.

This investment does not have readily determinable fair values. Therefore, the Company has elected the measurement alternative for this minority interest and this investment is recorded at cost, less any impairment, including changes resulting from observable price changes. The Company regularly evaluates the carrying value of its investment for impairment and whether any events or circumstances are identified that would significantly harm the fair value of the investment. The primary indicators the Company utilizes to identify these events and circumstances are the investee's ability to remain in business, such as the investee's liquidity and rate of cash use, and the investee's ability to secure additional funding and the value of that additional funding. In the event a decline in fair value is less than the investment's carrying value, the Company will record an impairment charge in Other income, net in the Consolidated Statements of Comprehensive Income.

As the inputs utilized for the Company's periodic impairment assessment are not based on observable market data, the determination of fair value of its investments is classified within Level 3 of the fair value hierarchy. See Note 5 - Fair Value Measurement to our Condensed Consolidated Financial Statements for further information on the fair value hierarchy and the three classification levels. To determine the fair value of these investments, the Company uses all available financial information related to the entities, including information based on recent or pending third-party equity investments in these entities. In certain instances, an investment's fair value is not estimated as there are no identified events or changes in the circumstances. There have been no unrealized gains or losses related to these Level 3 minority interest investments.

Other long-term assets consisted of the following (in thousands):

	March 31, 2021	December 31, 2020
Purchased technology rights (net of accumulated amortization of $9,009 and $8,872 on March 31, 2021 and December 31, 2020, respectively)	$ 5,442	$ 5,454
Minority interest investment	9,639	9,909
Other	1,960	1,137
	$ 17,041	$ 16,500

For the three months ended March 31, 2021 and 2020, the Company recognized amortization expenses related to the amortization of purchased technology rights of approximately $138,000 and $159,000, respectively. Future amortization expenses are estimated to be $426,000 in the remaining nine months of 2021, $568,000 in 2022, $449,000 in 2023, $442,000 in 2024, $441,000 in 2025 and $3,116,000 thereafter.

NOTE 3 — INVENTORIES, NET

Inventories are stated at the lower of cost or net realizable value, with cost determined according to the standard cost method, which approximates the first-in, first-out method. Net realizable value is defined as the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. The Company routinely assesses its on-hand inventory for timely identification and measurement of obsolete, slow-moving or otherwise impaired inventory. Net inventories consisted of the following (in thousands):

	March 31, 2021	December 31, 2020
Parts and supplies	$ 85,726	$ 86,380
Work-in-progress	26,345	18,858
Finished goods	20,018	17,896
	$ 132,089	$ 123,134

NOTE 4 — ACCOUNTS RECEIVABLE AND RESERVES

Accounts receivable consisted of the following (in thousands):

	March 31, 2021	December 31, 2020
Accounts receivable	71,308	68,629
Less: Allowance for doubtful accounts	(2,257)	(1,666)
	69,051	66,963

Balance as of December 31, 2020	$	1,666
Net increases charged to costs and expenses		591
Balance as of March 31, 2021	$	2,257

NOTE 5 — FAIR VALUE MEASUREMENT

Accounting Standards Codification (ASC) 820 “Fair Value Measurement” (ASC 820) defines fair value, establishes a framework for measuring fair value under U.S. GAAP and enhances disclosures about fair value measurements. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. ASC 820 describes a fair value hierarchy based on the following three levels of inputs that may be used to measure fair value, of which the first two are considered observable and the last unobservable:

Level 1—Quoted prices in active markets for identical assets or liabilities.

Level 2—Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The Company determines the fair value of its investment portfolio assets by obtaining non-binding market prices from its third-party portfolio managers on the last day of the quarter, whose sources may use quoted prices in active markets for identical assets (Level 1 inputs) or inputs other than quoted prices that are observable either directly or indirectly (Level 2 inputs) in determining fair value. There were no transfers between Level 1, Level 2 or Level 3 measurements for the three-month period ended March 31, 2021.

The following table represents the Company’s fair value hierarchy for its financial assets and liabilities measured at fair value on a recurring basis as of March 31, 2021 and December 31, 2020 (in thousands):

	Fair Value Measurements as of March 31, 2021 Using			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 707	$ —	$ —	$ 707
Equity investment	$ —	$ —	$ 9,639	$ 9,639

	Fair Value Measurements as of December 31, 2020 Using			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 707	$ —	$ —	$ 707
Equity investment	$ —	$ —	$ 9,909	$ 9,909

NOTE 6 — GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill is reviewed for impairment at least annually at the beginning of the fourth quarter, or more frequently if impairment indicators arise. A portion of the Company's goodwill is not expected to be deductible for tax purposes. The changes in the carrying amount of goodwill during the period are as follows (in thousands):

	March 31, 2021	December 31, 2020
Balance at beginning of period	$ 118,145	$ 118,145
Flow cytometry acquisition	$ —	$ —
Balance at end of period	$ 118,145	$ 118,145

The Company's intangible assets are reflected in the table below (in thousands, except weighted average lives):

	Finite-lived			Indefinite-lived	
	Technology, trade secrets and know-how	Customer lists and contracts	Other identifiable intangible assets	IP R&D	Total
2021					
Balance as of December 31, 2020	$ 101,040	$ 23,391	$ 11,809	$ 17,310	$ 153,550
Additions	—	—	—	—	—
Balance as of March 31, 2021	101,040	23,391	11,809	17,310	$ 153,550
Less: accumulated amortization:					
Accumulated amortization balance as of December 31, 2020	(56,204)	(13,891)	(4,659)	—	(74,754)
Amortization expense	(2,013)	(607)	(299)	—	(2,919)
Accumulated amortization balance as of March 31, 2021	(58,217)	(14,498)	(4,958)	—	(77,673)
Net balance as of March 31, 2021	$ 42,823	$ 8,893	$ 6,851	$ 17,310	$ 75,877
Weighted average life (in years)	11	10	10		
2020					
Balance as of December 31, 2019	$ 98,353	$ 23,391	$ 11,809	$ 19,997	$ 153,550
Completion of IP R&D projects	2,687	—	—	(2,687)	$ —
Balance as of December 31, 2020	101,040	23,391	11,809	17,310	153,550
Less: accumulated amortization:					
Accumulated amortization balance as of December 31, 2019	(48,285)	(11,464)	(3,465)	—	(63,214)
Amortization expense	(7,919)	(2,427)	(1,194)	—	(11,540)
Accumulated amortization balance as of December 31, 2020	(56,204)	(13,891)	(4,659)	—	(74,754)
Net balance as of December 31, 2020	$ 44,836	$ 9,500	$ 7,150	$ 17,310	$ 78,796
Weighted average life (in years)	11	10	10		

The Company currently has two IP R&D projects. The first relates to the development of the next generation VERIGENE System, VERIGENE II. The Company is targeting the commercial launch of the VERIGENE II System during 2021. The second is a defensive IP R&D project related to the Company's next generation xMAP System, xMAP INTELLIFLEX, which the Company currently believes will launch commercially in the second quarter of 2021.

The estimated aggregate amortization expense for the next five fiscal years and thereafter is as follows (in thousands):

2021 (nine months)	$	8,398
2022		10,070
2023		9,721
2024		9,721
2025		8,188
Thereafter		12,469
	$	58,567

NOTE 7 — OTHER COMPREHENSIVE LOSS

Other comprehensive loss represents a measure of all changes in equity that result from recognized transactions and other economic events other than those resulting from investments by, and distributions to, shareholders. Other comprehensive loss for the Company includes foreign currency translation adjustments and net unrealized holding gains and losses on available-for-sale investments.

The following table presents the changes in each component of accumulated other comprehensive loss, net of tax (in thousands):

		Accumulated Other Comprehensive Loss Items - Foreign Currency
Balance as of December 31, 2020	$	(142)
Other comprehensive loss		(515)
Net current-period other comprehensive loss		(515)
Balance as of March 31, 2021	$	(657)

There are no material tax benefits or expenses related to the other comprehensive loss for the three months ended March 31, 2021.

NOTE 8 — EARNINGS PER SHARE

A reconciliation of the denominators used in computing per share net income (EPS) is as follows (in thousands, except per share amounts):

	Three Months Ended March 31,	
	2021	**2020**
Basic:		
Net income	$ 9,082	$ 654
Less: allocation to participating securities	(180)	(20)
Net income attributable to common stockholders	$ 8,902	$ 634
Weighted average common stock outstanding	45,889	44,404
Net income per share attributable to common stockholders	$ 0.19	$ 0.01
Diluted:		
Net income	$ 9,082	$ 654
Less: allocation to participating securities	(178)	(21)
Net income attributable to common stockholders	$ 8,904	$ 633
Weighted average common stock outstanding	45,889	44,404
Effect of dilutive securities: stock options and awards	786	634
Weighted-average shares used in computing net income per share	46,675	45,038
Net income per share attributable to common stockholders	$ 0.19	$ 0.01

Basic net income per share is computed by dividing the net income for the period by the weighted average number of common shares outstanding during the period. Diluted net income per share is computed by dividing the net income for the period by the weighted average number of common and common equivalent shares outstanding during the period. Restricted stock awards (RSAs) and stock options to acquire 159,330 and 1,156,913 shares for the three months ended March 31, 2021 and 2020, respectively, were excluded from the computations of diluted earnings per share because the effect of including the RSAs and stock options would have been anti-dilutive.

We apply the two-class method of computing earnings per share, which requires the calculation of separate earnings per share amounts for our non-vested, time-based restricted stock awards with non-forfeitable dividends and for our common stock. Our non-vested, time-based restricted stock awards with non-forfeitable dividends are considered securities which participate in undistributed earnings with common stock. Under the two-class computation method, net losses are not allocated to participating securities unless the holder of the security has a contractual obligation to share in the losses. Our non-vested, time-based restricted stock awards with non-forfeitable dividends do not have such an obligation so they are not allocated losses.

NOTE 9 — STOCKHOLDERS' EQUITY AND STOCK-BASED COMPENSATION

Dividends

On February 8, 2021, the Board of Directors declared a cash dividend on the Company's common stock of $0.10 per share. The dividend was payable to stockholders of record as of March 25, 2021 and was paid on April 15, 2021. The Company's current intent is to pay a continuing dividend on a quarterly basis. However, future declarations of dividends are subject to the final determination of the Company's Board of Directors.

Stock-Based Compensation

The Company's stock option activity for the three months ended March 31, 2021 is as follows:

Stock Options	Shares (in thousands)	Weighted Average Exercise Price
Outstanding at December 31, 2020	3,753	$ 21.25
Granted	—	—
Exercised	(205)	18.99
Canceled or expired	(20)	23.22
Outstanding at March 31, 2021	3,528	$ 21.37

The Company had $9.3 million of total unrecognized compensation costs related to stock options at March 31, 2021 that are expected to be recognized over a weighted-average period of 2.66 years.

The Company's restricted share activity for the three months ended March 31, 2021 is as follows:

Restricted Stock Awards (RSAs)	Shares (in thousands)	Weighted Average Grant Price
Non-vested at December 31, 2020	893	$ 22.98
Granted	495	32.74
Vested	(319)	22.21
Cancelled or expired	(17)	22.87
Non-vested at March 31, 2021	1,052	$ 27.81

Restricted Stock Units (RSUs)	Shares (in thousands)
Non-vested at December 31, 2020	570
Granted	59
Vested	(145)
Cancelled or expired	(13)
Non-vested at March 31, 2021	471

As of March 31, 2021, there were $29.7 million and $4.2 million of unrecognized compensation costs related to RSAs and RSUs, respectively. These costs are expected to be recognized over a weighted average-period of 3.08 years for the RSAs and 2.66 years for the RSUs. The Company issues a small number of cash-settled RSUs pursuant to the Company's equity incentive plan in certain foreign countries. These grants do not result in the issuance of common stock and are considered immaterial by the Company.

The following are the stock-based compensation costs recognized in the Company's Condensed Consolidated Statements of Comprehensive Income (in thousands):

	Three Months Ended March 31,	
	2021	2020
Cost of revenue	$ 554	$ 533
Research and development	402	142
Selling, general and administrative	2,556	2,042
Stock-based compensation costs reflected in net income	$ 3,512	$ 2,717

NOTE 10 — ACCRUED LIABILITIES

Accrued liabilities consisted of the following (in thousands):

	March 31, 2021	December 31, 2020
Compensation and employee benefits	$ 13,192	$ 33,992
Dividends payable	4,776	4,711
Income and other taxes	2,171	7,058
Warranty costs	1,474	1,849
Royalties payable	724	782
Current operating lease liabilities	5,339	5,942
Convertible notes interest payable	2,947	996
Other	1,510	1,035
	$ 32,133	$ 56,365

The following table summarizes the changes in the warranty accrual (in thousands):

Accrued warranty costs as of December 31, 2020	$ 1,849
Warranty adjustments/settlements	(734)
Accrual for warranty costs	359
Accrued warranty costs as of March 31, 2021	$ 1,474

NOTE 11 — CONVERTIBLE SENIOR NOTES

In May 2020, the Company issued $260.0 million principal amount of Convertible Senior Notes due in May 2025 (Notes). The interest rates for the Notes is fixed at 3.00% per annum with interest payable semi-annually on May 15 and November 15 of each year, commencing on November 15, 2020. The Notes mature on May 15, 2025, unless earlier redeemed, converted or repurchased in accordance with their terms prior to such date. Each $1,000 of principal amount of the Notes will initially be convertible into 22.8918 shares of the Company's common stock, which is equivalent to an initial conversion price of approximately $43.68 per share. The initial conversion price for each of the Notes is subject to adjustment upon the occurrence of certain specified events. Our Board has declared increased quarterly cash dividends of $0.10 per share of common stock twice since the issuance of the Notes, and this increase in the dividend adjusted the conversion price to $43.65 per share, or 22.9079 shares of the Company's common stock for each $1,000 of principal amount of the Notes.

Holders may convert their Notes at their option at any time prior to the close of business on the business day immediately preceding November 15, 2024 only under the following circumstances:

- during any calendar quarter commencing after the calendar quarter ending on June 30, 2020 (and only during such calendar quarter), if the last reported sale price of the Company’s 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 on each applicable trading day;

- during the five business day period after any five consecutive trading day period (Measurement Period) in which the trading price (as defined in the relevant indenture governing the Notes) per $1,000 principal amount of 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; or

- upon the occurrence of specified corporate events, including but not limited to (a) the bankruptcy, insolvency or reorganization of the Company or any of its significant subsidiaries, or (b) the continued failure after five business days to provide a repurchase notice after (i) a public tender offer; (ii) a recapitalization, share exchange or merger where common stock is converted into cash; (iii) a sale/lease/transfer of all or substantially all of the Company’s assets; (iv) stockholder approval of a plan of liquidation; or (v) the delisting of the Company’s common stock.

On or after November 15, 2024 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert all or any portion of their Notes at any time, regardless of the foregoing circumstances. Upon conversion, the Company will pay or deliver cash, shares of its common stock or a combination of cash and shares of its common stock, at the Company's election. The Company currently intends to settle the principal amount of the Notes in cash, and settle any excess amount with shares of the Company's common stock, upon conversion.

If a fundamental change (as defined in the relevant indenture governing the Notes) occurs prior to the maturity date, holders of each of the Notes may require the Company to repurchase all or a portion of their Notes for cash at a repurchase price equal to 100% of the principal amount of the Notes, plus any accrued and unpaid interest up to, but excluding, the fundamental change repurchase date. As of March 31, 2021, the Notes were not yet convertible.

In August 2020, the FASB issued ASU No. 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity, which simplifies accounting for convertible instruments by removing major separation models required under U.S. GAAP. This update also amends the guidance for the derivatives scope exception for contracts in an entity's own equity to reduce form-over-substance-based accounting conclusions and requires the application of the if-converted method for calculating diluted earnings per share. The update also requires entities to provide expanded disclosures about the terms and features of convertible instruments and how the instruments have been reported in the entity's financial statements. The guidance is effective for interim and annual periods beginning after December 15, 2021. Early adoption is permitted, but no earlier than January 1, 2021. The Company early adopted this guidance effective January 1, 2021 under the modified retrospective basis with the cumulative effect recognized through an adjustment to additional paid-in capital. Under this method, earnings per share amounts were not restated in prior periods presented, but current quarter and future earnings per share amounts could be impacted by the change to the if-converted method for calculating diluted earnings per share. For the quarter ended March 31, 2021, there was no effect on earnings per share amounts when the shares that would be issued if the contingently convertible securities were converted were included in the Company's calculation of diluted earnings per share. The Company's adoption resulted in a decrease of approximately $42 million in additional paid in capital from the de-recognition of the bifurcated equity component and an increase of approximately $50 million in debt from the de-recognition of the discount associated with the bifurcated equity component. The Company wrote-off the related deferred tax liabilities to additional paid in capital.

Issuance costs totaling $7.7 million are being amortized to expense over the expected life of the Notes using the effective interest method. The Notes consist of the following:

	As of March 31, 2021	As of December 31, 2020
Principal	$ 260,000	$ 260,000
Unamortized debt discount	—	(51,352)
Unamortized debt issuance costs	(6,486)	(5,512)
Net carrying amount	$ 253,514	$ 203,136
Equity component:		
Net carrying amount	$ —	$ 41,950

The following table sets forth total interest expense recognized related to the Notes:

	Three Months Ended March 31, 2021	
	2021	2020
Contractual interest expense	$ 1,950	$ —
Amortization of debt issuance costs	362	—
Total	$ 2,312	$ —

The effective interest rate for the quarter ended March 31, 2021 was 3.66%. As of March 31, 2021, the remaining period over which the debt discount and debt issuance costs will be amortized was 4.13 years. As of March 31, 2021 and December 31, 2020, the fair value of the Notes was $276.9 million and $260.7 million, respectively.

Convertible Note Hedge Transactions

Concurrent with the offering of the Notes, the Company entered into privately negotiated convertible note hedge transactions (Convertible Note Hedge Transactions) with certain financial institutions (Option Counterparties) related to the issuance of the Notes. The Convertible Note Hedge Transactions are generally expected to reduce the potential dilution to the Company's common stock upon any conversion of Notes or offset any cash payments the Company is required to make in excess of the principal amount of converted Notes.

The Company also entered into separate privately negotiated Warrant Transactions with each of the Option Counterparties pursuant to which the Company issued Warrants that will be exercisable into a number of shares of the Company's common stock at a price per share equal to $69.89, subject to certain adjustments under the terms of the Warrant Transactions. The Warrant Transactions could separately have a dilutive effect on the Company's common stock if the market value per share of the Company's common stock exceeds the applicable strike price of the Warrants. However, subject to certain conditions, the Company may elect to settle the Warrants in cash.

The Convertible Note Hedge Transactions and the Warrant Transactions are separate transactions, in each case, entered into by the Company with the same Option Counterparties and are not part of the terms of the Notes and will not affect any holder's rights under the Notes. The holders of the Notes will not have any rights with respect to the Convertible Note Hedge Transactions or Warrant Transactions. The Company used approximately $34.7 million of the net proceeds of the issuance of the Notes to pay the costs of the Convertible Note Hedge Transactions, after such cost was partially offset by the proceeds to the Company from the sale of the Warrants in the Warrant Transactions. The Convertible Note Hedge Transactions and Warrant Transactions do not meet the criteria for derivative accounting as they are indexed to the Company's stock. The amounts paid for the Convertible Note Hedge Transactions and the proceeds received from the Warrant Transactions have been included as a net reduction to additional paid-in capital.

NOTE 12 — REVENUE RECOGNITION

The Company recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that the Company determines are within the scope of ASC 606 "Revenue from Contracts with Customers" (the Standard), the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when the Company satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the Company will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of the Standard, the Company assesses the goods or services promised within each contract, identifies the performance obligations and assesses whether each promised good or service is distinct. The Company allocates the total transaction price to each performance obligation in an amount based on the estimated relative standalone selling price of the promised good or service underlying each performance obligation and recognizes this as revenue when such performance obligation is satisfied.

BARDA Contracts

In March 2020, the Biomedical Advanced Research and Development Authority (BARDA) awarded the Company two milestone-based contracts, with a value of $642,450 each, funding approximately 36% of the overall cost of development. BARDA is part of the U.S. Department of Health and Human Services (HHS) and is tasked with protecting the U.S. against emerging infectious diseases and other threats. Through public-private partnerships, BARDA supports the development of vaccines, drugs and diagnostics. One of BARDA's current goals is to develop medical countermeasures to enhance health security and protect against 2019 novel coronavirus disease (COVID-19) infections. The Company's management believes these two contracts help to enable an expansion of the Company's current portfolio of diagnostics for SARS-CoV-2 (the virus that causes COVID-19). The Company recorded government contract revenue of $642,450 in each of the quarters ended March 31, 2020 and June 30, 2020 as all of the milestones were completed for the first BARDA contract in the first quarter and for the second BARDA contract in the second quarter.

In September 2020, BARDA awarded the Company two additional milestone-based contracts valued at $5,389,813 and $683,500, respectively, related to completing a 510(k) filing for Luminex's expanded NxTAG® Respiratory Pathogen Panel (RPP), which will include the SARS-CoV-2 virus for COVID-19 testing and to support the enhancement of the Company's xMAP® SARS-CoV-2 Multi-Antigen IgG Assay. The Company intends to submit this enhanced serology assay for an Emergency Use Authorization (EUA) when this project is completed. The Company recorded government contract revenue of $1.2 million for the quarter ended March 31, 2021 as two of the milestones were completed for these two BARDA contracts.

In February 2021, BARDA awarded the Company an additional $11.3 million milestone-based contract. This contract will support the rapid development and validation of a respiratory panel combining Flu A/B & respiratory syncytial virus (RSV) targets with the SARS-CoV-2 target that can be run on all ARIES Systems. The Company recorded government contract revenue of $4.6 million for the quarter ended March 31, 2021 as three of the milestones were completed for this BARDA contract.

Contract assets are included within accounts receivables, net and contract liabilities are included in deferred revenue on the Company's Condensed Consolidated Balance Sheets. The following table presents the opening and closing balances of the Company's contract assets and liabilities as of March 31, 2021 (in thousands):

	Balance as of March 31, 2021	Balance as of December 31, 2020
Contract assets:		
Unbilled receivables - Royalties	$ 12,438	$ 12,054
Total contract assets	$ 12,438	$ 12,054
Contract liabilities - Short-term:		
Deferred revenue - Service	$ 10,255	$ 9,346
Deferred revenue - Licenses	197	197
Deferred revenue - Instruments	271	78
Deferred revenue - Other	148	426
Total contract liabilities - Short-term	$ 10,871	$ 10,047
Contract liabilities - Long-term:		
Deferred revenue - Service	$ 1,260	$ 1,190
Deferred revenue - Licenses	418	468
Deferred revenue - Instruments	45	—
Total contract liabilities - Long-term	$ 1,723	$ 1,658

During the three months ended March 31, 2021, the Company recognized the following revenues as a result of changes in the contract asset and contract liability balances in the period (in thousands):

	Three Months Ended March 31, 2021
Revenue recognized in the period:	
Amounts included as contract liabilities at the beginning of the period	$ 4,324
Performance obligations satisfied in previous periods	-

NOTE 13 — INCOME TAXES

At the end of each interim reporting period, an estimate is made of the effective tax rate expected to be applicable for the full year. The estimated full year's effective tax rate is used to determine the income tax rate for each applicable interim reporting period. Tax effects of enacted legislation, including changes in the value of deferred tax assets and liabilities, is recognized in the period of the enactment date. The effective tax rate for the three months ended March 31, 2021 was 18%, including amounts recorded for discrete events. This differs from the statutory rate of 21% primarily from the effect of foreign operations and the Company's ability to claim greater tax benefits pursuant to the provisions of the 2017 Tax Reform Act and increased earnings in certain jurisdictions. The Company's tax expense reflects the full federal, various state, and foreign blended statutory rates. The Company currently expects a 2021 full-year annualized effective tax rate of 20% to 30%, excluding amounts recorded for discrete events. The Company will be subject to provisions regarding U.S. federal taxation of foreign intangible income and has included in its estimate of income tax the effects of this provision. The Company is utilizing its net operating losses (NOLs) and tax credits in the U.S., Canada and the Netherlands.

The Company or one of its subsidiaries files income tax returns in the U.S. federal jurisdiction, Australia, Canada, China, France, Germany, Hong Kong, Japan, the Netherlands, the U.K., and various U.S. states. In the United States and Canada, the statute of limitations with respect to the federal income tax returns for tax years after 2015 are open to audit; however, since the Company has net operating losses, the taxing authority has the ability to review tax returns prior to the 2015 tax year and make adjustments to these net operating loss carryforwards. The Company does not expect any material changes to the unrecognized tax benefit liability within the next twelve months. The Company recognizes interest and penalties related to uncertain tax positions in the provision for income taxes.

NOTE 14 — COMMITMENTS AND CONTINGENCIES

In the normal course of business, the Company is subject to claims, lawsuits and legal proceedings. When it appears probable in management's judgment, and based upon consultation with outside counsel, that we will incur monetary damages or other costs in connection with any claims or proceedings, and such costs can be reasonably estimated, we record the estimated liability in the financial statements. If only a range of estimated losses can be estimated, we record an amount within the range that, in management's judgment, reflects the most likely outcome; if none of the estimates within that range is a better estimate than any other amount, we record the liability at the low end of the range of estimates. Any such accrual would be charged to expense in the appropriate period. We disclose significant contingencies when the loss is not probable and/or the amount of the loss is not estimable, when we believe there is at least a reasonable possibility that a loss has been incurred. We recognize costs associated with legal proceedings in the period in which the services were provided.

Leases

We have leased all of our research, manufacturing and office space and have entered into various other agreements in conducting our business. Our leases have remaining lease terms of 1 year to 10 years, and some of our leases include options to extend the leases for up to 10 years, tenant improvement allowances, rent holidays and rent escalation clauses. At inception, we determine whether an agreement represents a lease and at commencement we evaluate each lease agreement to determine whether the lease is an operating or financing lease.

All of the Company's leases outstanding on March 31, 2021 are classified as operating leases. As the Company's leases do not provide an implicit rate, we have used estimated incremental borrowing rates ranging from 4.00% to 5.75% based on the information available at the commencement date in determining the present value of lease payments. The components of the lease expense were as follows (in thousands):

	Three Months Ended March 31, 2021	Three Months Ended March 31, 2020
Operating lease cost[(a)]	$ 2,389	$ 2,391

(a) Includes short-term lease expense costs, which were immaterial in the three months ended March 31, 2021 and 2020.

Supplemental cash flow information related to leases was as follows (in thousands):

	Three Months Ended March 31, 2021	Three Months Ended March 31, 2020
Cash paid for amounts included in the measurement of lease liabilities	$ 1,750	$ 1,854

Supplemental balance sheet information related to leases was as follows (in thousands):

	March 31, 2021	December 31, 2020
Operating leases:		
Operating lease right-of-use assets	$ 19,971	$ 17,768
Operating lease liabilities	$ 21,392	$ 19,308
Weighted Average Remaining Lease Term	4.71 years	3.52 years
Weighted Average Discount Rate	5.41 %	5.75 %

Maturities of lease liabilities for the next five fiscal years and thereafter are as follows (in thousands):

	Operating Leases
2021 (nine months)	$ 5,196
2022	5,882
2023	5,118
2024	3,745
2025	1,446
Thereafter	2,787
Total lease payments	24,174
Less: imputed interest	(2,782)
Lease liabilities at March 31, 2021	$ 21,392

NOTE 15 — RECENT ACCOUNTING PRONOUNCEMENTS

Recently adopted accounting guidance

In August 2020, the FASB issued ASU No. 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity, which simplifies accounting for convertible instruments by removing major separation models required under U.S. GAAP. This update also amends the guidance for the derivatives scope exception for contracts in an entity's own equity to reduce form-over-substance-based accounting conclusions and requires the application of the if-converted method for calculating diluted earnings per share. The update also requires entities to provide expanded disclosures about the terms and features of convertible instruments and how the instruments have been reported in the entity's financial statements. The guidance is effective for interim and annual periods beginning after December 15, 2021. Early adoption is permitted, but no earlier than January 1, 2021. The Company early adopted this guidance effective January 1, 2021 under the modified retrospective basis with the cumulative effect recognized through an adjustment to additional paid-in capital. Under this method, earnings per share amounts have not been restated in prior periods presented, but future earnings per share amounts will be impacted by the change to the if-converted method for calculating diluted earnings per share. The Company's adoption resulted in a decrease of approximately $42 million in additional paid in capital from the de-recognition of the bifurcated equity component and an increase of approximately $50 million in debt from the de-recognition of the discount associated with the bifurcated equity component. The Company wrote off the related deferred tax liabilities to additional paid in capital.

In December 2019, the FASB issued ASU No. 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes, which simplifies the accounting for income taxes by eliminating some exceptions to the general approach in ASC 740, Income Taxes. The guidance amended certain disclosure requirements that had become redundant, outdated or superseded. Additionally, this guidance includes provisions for investment company reporting modernization, amends accounting for the interim period effects of changes in tax laws or rates, and simplifies aspects of the accounting for franchise taxes. The guidance is effective for annual periods beginning after December 15, 2020, and is applicable for the Company in fiscal 2021. The Company adopted this guidance effective January 1, 2021 and it did not have a material impact on its consolidated financial statements.

Recent accounting guidance not yet adopted

Management does not believe that any recently issued, but not yet effective accounting pronouncements, if adopted, would have a material impact on the accompanying condensed financial statements.

NOTE 16 — SUBSEQUENT EVENT

On April 11, 2021, the Company entered into an Agreement and Plan of Merger (the Merger Agreement) with DiaSorin S.p.A., a società per azioni organized under the laws of the Republic of Italy (DiaSorin), and Diagonal Subsidiary Inc., a Delaware corporation and wholly owned subsidiary of DiaSorin (Merger Subsidiary), providing for the merger of Merger Subsidiary with and into the Company (the Merger), with the Company surviving the Merger as a wholly owned subsidiary of DiaSorin. At the effective time of the proposed Merger (the Effective Time), each share of common stock, par value $0.001 per share, of the Company issued and outstanding as of immediately prior to the Effective Time (other than dissenting shares or shares of the Company's common stock held by the Company as treasury stock or owned by DiaSorin, Merger Subsidiary or any subsidiary of the Company or DiaSorin) will be cancelled and cease to exist and automatically convert into the right to receive cash in an amount equal to $37.00, without interest (the Merger Consideration).

In connection with the Merger, DiaSorin has signed a Senior Facilities Agreement with a syndicate of banks (consisting of BNP Paribas, Citi, Mediobanca and UniCredit), the aggregate proceeds of which, together with cash on hand, will be sufficient for Parent and Merger Subsidiary to pay the aggregate merger consideration and all related fees and expenses. The Senior Facilities Agreement provides for a term loan of $1.1 billion due 2026 and a bridge loan of $500 million due within 12 months, with extension options (exercisable at Parent's option) for an additional 12 months. The transaction is not subject to a financing condition.

Consummation of the Merger is subject to customary closing conditions, including, without limitation, the absence of certain legal impediments, the expiration or termination of the required waiting periods under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, receipt of antitrust approval in Germany, receipt of approval from the Committee on Foreign Investment in the United States, submission of a foreign investment filing with the French Ministry of Economy, and approval by the holders of a majority of the voting power of the outstanding shares of the Company's common stock entitled to vote on such matter.

The Merger Agreement contains certain termination rights for the Company and DiaSorin. Upon termination of the Merger Agreement under specified circumstances, the Company will be required to pay DiaSorin a termination fee of approximately $59.22 million. In addition to the foregoing termination right, and subject to certain limitations, (i) the Company or DiaSorin may terminate the Merger Agreement if the Merger is not consummated by October 11, 2021 and (ii) the Company and DiaSorin may mutually agree to terminate the Merger Agreement.

The Company incurred transaction-related costs of approximately $0.4 million for the three months ended March 31, 2021 related to the Merger.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following information should be read in conjunction with the condensed consolidated financial statements and the accompanying notes included in Part I, Item 1 of this Quarterly Report on Form 10-Q, and the "Risk Factors" included in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2020 (the 2020 10-K), as updated by Part II, Item 1A of this Quarterly Report on Form 10-Q.

SAFE HARBOR CAUTIONARY STATEMENT

This Quarterly Report on Form 10-Q contains statements that are forward-looking statements under the Private Securities Litigation Reform Act of 1995. Forward-looking statements provide our current expectations of forecasts of future events. All statements other than statements of current or historical fact contained in this Quarterly Report on Form 10-Q, including statements regarding our future financial position, business strategy, impact of the reimbursement landscape, products including ARIES, VERIGENE, NxTAG, Muse, Guava, easyCyte, InCyte, Amnis, ImageStream, FlowSight and CellStream, assay sales, consumable sales patterns and bulk purchases, budgets, system sales, anticipated gross margins, liquidity, cash flows, projected costs and expenses, taxes, deferred tax assets, regulatory approvals or the impact of laws or regulations applicable to us, plans and objectives of management for future operations, and impact of prior acquisitions or future acquisitions, integration and the expected benefit of our acquisitions are all forward-looking statements. The words “anticipate,” “believe,” “continue,” “should,” “estimate,” “expect,” “intend,” “may,” “plan,” “projects,” “will” and similar expressions as they relate to us, are intended to identify forward-looking statements. These statements are based on our current plans and actual future activities, and our financial condition and results of operations may be materially different from those set forth in the forward-looking statements as a result of known or unknown risks and uncertainties, including, among other things:

- risks and uncertainties related to our proposed acquisition by DiaSorin S.p.A;
- the ongoing uncertainty caused by the COVID-19 pandemic, including uncertainty regarding its extent, duration and impact, the uncertainty regarding the long-term impacts of the COVID-19 pandemic on our and our customers’, suppliers’, partners’ and other business relations’ business, prospects, financial condition, operating results, liquidity and personnel, as well as its impacts on capital markets and general economic conditions, and the actions by government officials at the federal, state or local level in connection with the COVID-19 pandemic;
- concentration of our revenue in a limited number of direct customers and strategic partners, some of which may be experiencing decreased demand for their products utilizing or incorporating our technology, budget or finance constraints in the current economic environment, or periodic variability in their purchasing patterns or practices as a result of internal resource planning challenges;
- risks and uncertainties relating to market demand and acceptance of our products and technologies, including ARIES, MultiCode, xMAP, xMAP INTELLIFLEX, VERIGENE, VERIGENE II, Guava, Muse, Amnis, and NxTAG products;
- timing of and process for regulatory approvals;
- our ability to scale manufacturing operations (particularly with respect to our products that recently received U.S. Food and Drug Administration (FDA) Emergency Use Authorization (EUA) clearance) and manage operating expenses, gross margins and inventory levels;
- potential shortages, or increases in costs, of components or other disruptions to our manufacturing operations;
- our ability to obtain and enforce intellectual property protections on our products and technologies;
- our ability to successfully develop and launch new products in a timely manner;
- competition and competitive technologies utilized by our competitors;
- dependence on strategic partners for development, commercialization and distribution of products;
- reliance upon the accuracy and completeness of the information received from strategic partners to determine the appropriate financial reporting;
- risks and uncertainties associated with implementing our acquisition strategy, and our challenge to identify acquisition targets, including our ability to obtain financing on acceptable terms;
- our ability to integrate acquired companies or selected assets into our consolidated business operations, and the ability to fully realize the benefits of our acquisitions;

- fluctuations in quarterly results due to a lengthy and unpredictable sales cycle, fluctuations in bulk purchases of consumables, fluctuations in product mix and the seasonal nature of some of our assay products;
- our ability to comply with applicable laws, regulations, policies and procedures;
- the impact of the ongoing uncertainty in global finance markets and changes in governmental and governmental agency funding, including its effects on the capital spending policies of our partners and end users and their ability to finance purchases of our products;
- changes in principal members of our management staff;
- our increasing dependency on information technology to enable us to improve the effectiveness of our operations and to monitor financial accuracy and efficiency;
- implementation, including any modification, of our strategic operating plans;
- uncertainty regarding the outcome or expense of any litigation brought against or initiated by us;
- risks relating to our foreign operations, including fluctuations in exchange rates, tariffs, customs and other barriers to importing/exporting materials and products in a cost-effective and timely manner; difficulties in accounts receivable collections; our ability to monitor and comply with foreign and international laws and treaties; and our ability to comply with changes in international taxation policies;
- budget or finance constraints in the current economic environment, or periodic variability in customer purchasing patterns or practices as a result of material resource planning challenges; and
- reliance on third party distributors for distribution of specific Luminex-developed and manufactured assay products; and
- risks related to the issuance of the Notes and with respect to the Convertible Note Hedge Transactions.

Many of these risks, uncertainties and other factors are beyond our control and are difficult to predict. Any or all of our forward-looking statements in this Quarterly Report on Form 10-Q may turn out to be inaccurate. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. New factors could also emerge from time to time that could adversely affect our business. The forward-looking statements herein can be affected by inaccurate assumptions we might make or by known or unknown risks, uncertainties and assumptions, including the risks, uncertainties and assumptions outlined above and described in the 2020 10-K (as updated by Part II, Item 1A of this Quarterly Report on Form 10-Q). In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Quarterly Report on Form 10-Q may not occur and actual results could differ materially from those anticipated or implied in the forward-looking statements. When you consider these forward-looking statements, you should keep in mind these risk factors and other cautionary statements in this Quarterly Report on Form 10-Q including in this "Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations" and in our other annual and periodic reports.

Our forward-looking statements speak only as of the date made. We undertake no obligation to publicly update or revise forward-looking statements, whether as a result of new information, future events or otherwise. All subsequent written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements contained in this Quarterly Report on Form 10-Q.

Unless the context requires otherwise, references in this Quarterly Report on Form 10-Q to "Luminex," the "Company," "we," "us" and "our" refer to Luminex Corporation and its subsidiaries.

Amnis®, ARIES®, CellStream®, easyCheck™, easyCyte™, Flex®, FLEXMAP 3D®, FlowCellect®, FlowSight®, Guava®, GuavaSoft™, Guava Express®, Guava Nexin®, IDEAS®, ImageStream®, InCyte™, INSPIRE™, LumAvidin®, Luminex®, Luminex 100™, Luminex 200™, SD™, MAGPIX®, MagPlex®, MagPlex-TAG™, MicroPlex®, MultiCode®, Muse®, NxTAG®, SeroMAP™, SpeedBead®, SYNCT™, VERIGENE®, ViaCount™, xMAP®, xMAP INTELLIFLEX™, xPONENT®, xTAG®, and XYP™ are trademarks of Luminex Corporation or one of its subsidiaries. This report also refers to trademarks, service marks and trade names of other organizations. Our use or display of other parties' trademarks, trade dress or products in this Quarterly Report does not imply that we have a relationship with, or the endorsement or sponsorship of, the trademark or trade dress owners.

OVERVIEW

We develop, manufacture and sell proprietary biological testing technologies and products with applications throughout the life sciences industries, including diagnostics, pharmaceuticals and research. These industries depend on a broad range of tests, called assays, to perform diagnostic testing, conduct life science research and perform pharmaceutical testing.

We primarily serve the life sciences industries by marketing products, including our specific testing equipment, called systems, and assays, to various types of testing laboratories. We have a large base of installed systems that has grown primarily from the following:

- placements made by customers within our Licensed Technologies Group, which customers either:
  - license our xMAP technology and develop products that incorporate our xMAP technology into products that they then sell to end users, or
  - purchase our proprietary xMAP laboratory instruments and our proprietary xMAP microspheres and sell xMAP-based assays and/or xMAP-based testing services, which run on the xMAP instruments, and pay a royalty to us
- a direct sales force that focuses on the sale of molecular diagnostic assays that run on our systems.

As of March 31, 2021, Luminex had 82 strategic partners, of which 56 have released commercialized reagent-based products utilizing our technology. Our remaining partners are in various stages of development and commercialization of products that incorporate our technology. Luminex and these partners have sold approximately 18,200 xMAP-based instruments in laboratories worldwide as of March 31, 2021 (some of which may be retired or otherwise not in use). Our remaining LTG customers are in various stages of development and commercialization of products incorporating our technology.

Luminex has a number of forms of revenue that result from our business model:

- System revenue is generated from the sale of our xMAP multiplexing analyzers and peripherals, our VERIGENE readers and processors and our flow cytometers and cellular analysis instruments.
- Consumable revenue is generated from the sale of our dyed polystyrene microspheres, along with sheath and drive fluid. Our larger commercial and development partners often purchase these consumables in bulk to minimize the number of incoming qualification events and to allow for longer development and production runs.
- Royalty revenue is generated when a partner sells our proprietary microspheres to an end user, when a partner sells a kit incorporating our proprietary microspheres to an end user or when a partner utilizes a kit to provide a testing result to an end user. End users can be facilities such as testing labs, development facilities and research facilities that buy prepared kits and have specific testing needs or testing service companies that provide assay results to pharmaceutical research companies or physicians.
- Assay revenue is generated primarily from four sources: (i) sale of our branded kits, which are a combination of chemical and biological reagents and our proprietary xMAP bead technology used to perform diagnostic and research assays on samples, (ii) real-time Polymerase Chain Reaction (PCR) and multiplexed PCR assays using our proprietary MultiCode technology, (iii) ARIES cassettes designed to run a fully automated, sample-to-answer molecular assay on the ARIES System, and (iv) VERIGENE test cartridges, a sample-to-answer molecular assay designed to target infections in the bloodstream, respiratory tract, and gastrointestinal tract on the VERIGENE System.

- Service revenue is generated when a partner or other owner of a system purchases a service contract from us after the standard warranty has expired or pays us for our time and materials to service instruments. Service contract revenue is amortized over the life of the contract and the costs associated with those contracts are recognized as incurred.

- Other revenue consists of items such as training, shipping, parts sales, license revenue, grant revenue, contract research and development fees, milestone revenue, amounts paid to global purchasing organizations (which are accounted for as a reduction in revenue) and other items that individually amounted to less than 9% of total revenue in 2021.

First Quarter 2021 Highlights

- Consolidated revenue was $110.7 million for the quarter ended March 31, 2021, a 22% increase over the prior year quarter.

- Total systems sales increased to $16.8 million for the quarter ended March 31, 2021, a 39% increase over the prior year quarter.

- Total consumable sales increased to $16.0 for the quarter ended March 31, 2021, a 25% increase over the prior year quarter.

- Total assay revenue increased to $47.8 million for the quarter ended March 31, 2021, a 9% increase over the prior year quarter.

- Sample-to-answer assay revenue increased to $24.6 million for the quarter ended March 31, 2021, a 5% increase over the prior year quarter.

- Received an additional $11.3 million BARDA award in February, 2021 which supports the rapid development and validation of a respiratory panel combining Flu A/B & RSV targets with the SARS-CoV-2 target that can be run on all ARIES Systems.

- Received FDA EUA and CE Mark for Expanded NxTAG® Respiratory Panel Test including SARS-CoV-2 in the first quarter of 2021.

Pending Acquisition by DiaSorin S.p.A.

On April 11, 2021, the Company entered into an Agreement and Plan of Merger (the Merger Agreement) with DiaSorin S.p.A., a società per azioni organized under the laws of the Republic of Italy (DiaSorin), and Diagonal Subsidiary Inc., a Delaware corporation and wholly owned subsidiary of DiaSorin (Merger Subsidiary), providing for the merger of Merger Subsidiary with and into the Company (the Merger), with the Company surviving the Merger as a wholly owned subsidiary of DiaSorin. At the effective time of the Merger (the Effective Time), each share of common stock, par value $0.001 per share, of the Company issued and outstanding as of immediately prior to the Effective Time (other than dissenting shares or shares of the Company's common stock held by the Company as treasury stock or owned by DiaSorin, Merger Subsidiary or any subsidiary of the Company or DiaSorin) will be cancelled and cease to exist and automatically convert into the right to receive cash in an amount equal to $37.00, without interest (the Merger Consideration).

In connection with the Merger, DiaSorin has signed a Senior Facilities Agreement with a syndicate of banks (consisting of BNP Paribas, Citi, Mediobanca and UniCredit), the aggregate proceeds of which, together with cash on hand, will be sufficient for Parent and Merger Subsidiary to pay the aggregate merger consideration and all related fees and expenses. The Senior Facilities Agreement provides for a term loan of $1.1 billion due 2026 and a bridge loan of $500 million due within 12 months, with extension options (exercisable at Parent's option) for an additional 12 months. The transaction is not subject to a financing condition.

Consummation of the Merger is subject to customary closing conditions, including, without limitation, the absence of certain legal impediments, the expiration or termination of the required waiting periods under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, receipt of antitrust approval in Germany, receipt of approval from the Committee on Foreign Investment in the United States, submission of a foreign investment filing with the French Ministry of Economy, and approval by the holders of a majority of the voting power of the outstanding shares of the Company's common stock entitled to vote on such matter.

The Company made representations and warranties in the Merger Agreement and agreed to covenants regarding the operation of the business of the Company and the Company's subsidiaries prior to the Effective Time. The Company is also subject to customary restrictions on its ability to solicit alternative acquisition proposals from third parties and to provide non-public information to, and participate in discussions and engage in negotiations with, third parties regarding alternative acquisition proposals, with customary exceptions for superior proposals.

The Merger Agreement contains certain termination rights for the Company and DiaSorin. Upon termination of the Merger Agreement under specified circumstances, the Company will be required to pay DiaSorin a termination fee of approximately $59.22 million. In addition to the foregoing termination right, and subject to certain limitations, (i) the Company or DiaSorin may terminate the Merger Agreement if the Merger is not consummated by October 11, 2021 and (ii) the Company and DiaSorin may mutually agree to terminate the Merger Agreement.

The Merger Agreement contains representations and warranties by each of DiaSorin, Merger Subsidiary and the Company. These representations and warranties were made solely for the benefit of the parties to the Merger Agreement and:

- should not be treated as categorical statements of fact, but rather as a way of allocating the risk to one of the parties if those statements prove to be inaccurate;
- may have been qualified in the Merger Agreement by disclosures that were made to the other party in connection with the negotiation of the Merger Agreement;
- may apply contractual standards of "materiality" that are different from "materiality" under applicable securities laws; and
- were made only as of the date of the Merger Agreement or such other date or dates as may be specified in the Merger Agreement.

The foregoing description of the Merger Agreement and the transactions contemplated thereby does not purport to be complete and is subject to, and qualified in its entirety by reference to, the full text of the Merger Agreement, which is attached as an exhibit to our Current Report on Form 8-K filed with the SEC on April 12, 2021.

COVID-19 Considerations

Since December 2019, COVID-19 (caused by a novel strain of coronavirus) has spread rapidly, with most countries and territories worldwide with confirmed cases, and a high concentration of cases in the United States and many other countries in which we operate. The rapid spread has resulted in authorities around the world implementing numerous measures to contain the virus, such as travel bans and restrictions, quarantines, shelter-in-place orders and business shutdowns. The pandemic and these containment measures have had, and are expected to continue to have, a substantial negative impact on businesses around the world and on global, regional and national economies.

Our priorities during the COVID-19 pandemic have been, among others, protecting the health and safety of our employees; providing multiple solutions to the marketplace, including our recent Emergency Use Authorized SARS-CoV-2 tests; and ramping up manufacturing to help our customers meet and overcome the current challenges.

As of March 31, 2021, the COVID-19 pandemic was the primary driver behind our 22% increase in revenue as compared to the prior year quarter. We experienced an overall 9% increase in assay revenue, with our combined ARIES and NxTAG COVID-19-related products providing the majority of the increase as a result of the use of these products for testing related to the pandemic. Initially, and prior to obtaining EUA status for these products, our customers used them to rule out respiratory illnesses other than COVID-19. However, upon receipt of EUAs for these COVID-19 molecular diagnostic tests, the volume shifted towards our COVID-19-specific products.

System sales increased in 2021, primarily driven by higher placements of multiplexing systems, partially offset by lower sales of sample-to-answer systems as compared to the prior year. Multiplexing sales were higher primarily driven by an increase in our xMAP system sales, while sample-to-answer sales declined as compared to 2020. We sold 253 multiplexing analyzers in the quarter ended March 31, 2021, as compared to 223 multiplexing analyzers sold in the comparable period in 2020. In addition, royalty revenue from our partners increased in 2021, primarily driven by an increase in end user sales.

Given the increased demand for certain of our assay products in 2020 and 2021, the pandemic has not negatively impacted the Company's liquidity position to date. As of March 31, 2021, we believe that we have the cash necessary to meet our short-term liquidity needs. We also have not observed any material impairments of our assets or a significant change in the fair market value of our assets due to the COVID-19 pandemic.

Our additional research and development efforts related to our recent EUA SARS-CoV-2 tests were partially funded by two BARDA contracts awarded to the Company for the development, testing and submission of these tests. In September, 2020, we were awarded two additional BARDA contracts related to completing a 510(k) filing for Luminex's expanded NxTAG Respiratory Pathogen Panel (RPP), which includes the SARS-CoV-2 virus for COVID-19 testing and to support the enhancement of the company's xMAP SARS-CoV-2 Multi-Antigen IgG Assay. In February, 2021, we were awarded an additional $11.3 million BARDA contract which will support the rapid development and validation of a respiratory panel combining Flu A/B & RSV targets with the SARS-CoV-2 target that can be run on all ARIES Systems. Please refer to "BARDA Contracts" below for further discussion.

During the quarter ended March 31, 2021, we focused our energies on continued increases in manufacturing capacity. Our ability to continue to operate without any significant negative operational impact from the COVID-19 pandemic will, in part, depend on our ability to protect our employees and maintain our supply chain. Continued rapid expansion of capacity may be constrained by long lead-time purchased items and capital equipment needs. The Company continues to endeavor to follow the recommended actions of government and health authorities to protect our employees, with particular measures in place for employees who manufacture our products. For the quarter ended March 31, 2021, we maintained the consistency of our operations with minimal interruptions despite the impact of the COVID-19 pandemic. Although we intend to continue to take appropriate measures to ensure that any disruptions to our operations remain minimal during the pandemic, the complications resulting from the pandemic could result in unforeseen disruptions to our workforce and supply chain, including any potential interruptions in our ability to source, transport and supply materials to the Company that are necessary for continued operations, that could negatively impact our operations.

We believe the extent of the COVID-19 pandemic's impact on our operating results and financial condition will be driven by many factors, most of which are beyond our control and ability to forecast. Such factors include, but are not limited to, the severity and duration of the pandemic, our ability to timely develop, commercialize and manufacture solutions related to the pandemic, the extent and the effectiveness of responsive actions taken by authorities of impacted countries, the impact of these and other factors on our employees, customers and suppliers, as well as any resulting impact of the economic uncertainty and volatility that could affect demand for our products. Because of these and other uncertainties, we cannot estimate the length or extent of the impact of the pandemic on our business. For additional information on risk factors that could impact our results, please refer to "Risk Factors" included in Part I, Item 1A of the 2020 10-K, as updated by Part II, Item 1A of this Quarterly Report on Form 10-Q.

BARDA Contracts

In March 2020, BARDA awarded the Company two milestone-based contracts, with a value of $642,450 each, funding approximately 36% of the overall cost of development, testing and submission for two EUAs to provide rapid answers to patients believed to have COVID-19. Luminex funded the remaining 64% of the total program costs, representing $1.1 million each. In March 2021, the Company received FDA EUA for its new NxTAG CoV Extended Panel, a high-throughput test for detecting SARS-CoV-2 that provides results for up to 96 samples in approximately four hours. The NxTAG CoV Extended Panel runs on Luminex's easy-to-use, compact MAGPIX System. In April 2020, the Company received FDA EUA for its new ARIES SARS-CoV-2 Assay, which is designed to provide rapid answers to patients believed to have COVID-19, generating results in approximately two hours.

In September 2020, BARDA awarded the Company two additional milestone-based contracts valued at $5,389,813 and $683,500, respectively, related to completing a 510(k) filing for Luminex's expanded NxTAG RPP, which includes the SARS-CoV-2 virus for COVID-19 testing, and to support the enhancement of the company's xMAP SARS-CoV-2 Multi-Antigen IgG Assay. The Company intends to submit this enhanced serology assay for an EUA when this project is completed. The Company recorded government contract revenue of $1.2 million for the quarter ended March 31, 2021 as two of the milestones were completed for these two BARDA contracts.

In February 2021, BARDA awarded the Company an additional $11.3 million milestone-based contract. This contract will support the rapid development and validation of a respiratory panel combining Flu A/B & RSV targets with the SARS-CoV-2 target that can be run on all ARIES Systems. The Company recorded government contract revenue of $4.6 million for the quarter ended March 31, 2021 as three of the milestones were completed for this BARDA contract.

FDA Matters

On June 26, 2020, the Company received a warning letter (the Warning Letter) from the FDA relating to the operations of the Company's Austin, Texas and Northbrook, Illinois facilities (the Facilities) and the Company's VERIGENE Processor SP System. The Warning Letter resulted from inspections held at the Facilities from February 10, 2020 to February 14, 2020. The company submitted a comprehensive response to each of those inspections. The subsequently issued Warning Letter primarily relates to the Company's VERIGENE SP instrument and its hybridization heater in connection with certain FDA requirements under the Quality System Regulation (21 C.F.R. Part 820) and the regulation of Medical Device Corrections and Removals (21 C.F.R. Part 806).

The Company timely submitted a response and corrective action plan to the FDA regarding the issues raised in the Warning Letter, as requested by the FDA, and continues working diligently and expeditiously to resolve the issues raised by the FDA. The Warning Letter did not restrict the manufacture, production or shipment of any of the Company's products, nor require the withdrawal of any product from the marketplace. The Company believes it has taken, and is continuing to take, appropriate measures to address the items identified by the FDA with respect to the VERIGENE SP instrument and its hybridization heater, and the Company included communication of these measures in its response to the Warning Letter. Specifically, we recalled affected product from the field and replaced them with new units. Additionally, we executed a field action to re-calibrate all VERIGENE SP instruments deployed in the field with in-house built and verified temperature verification fixtures. In addition, the Company continues to evaluate what further corrective or preventive action may be required.

The Company has responded to the FDA's concerns raised in the Warning Letter but cannot give assurances that the FDA will be satisfied with its response to the Warning Letter or that such actions will sufficiently resolve the issues identified in the Warning Letter. Failure to promptly and fully address the issues raised in the Warning Letter to the FDA's satisfaction or to comply with U.S. medical device regulatory requirements in general could result in further regulatory and enforcement actions being initiated by the FDA. These actions could result in, among other things, product recalls, product seizures, injunctions, civil monetary penalties, further delays in obtaining marketing authorization for products, an impact on federal contracts, limitations on our ability to export products, and criminal enforcement action. Any such actions could disrupt our ongoing business and operations and potentially have an adverse effect on our business, financial condition and results of operations.

The Company submitted an EUA application to the FDA for a new multi-analyte respiratory panel that combined Flu A/B & RSV targets with the SARS-CoV-2 target into one panel to be used on ARIES Systems. The submission represented completion of a key milestone in a funding award from BARDA. However, after discussions with the FDA regarding the submission, the FDA declined to review the EUA application due to its shift in EUA review priorities to a focus on home and point-of-care assays. The Company intends to re-file an application to approve this assay per a 510(k) submission.

Consumables Sales and Royalty Revenue Trends

We have experienced significant fluctuations in consumable revenue over the past several years. Overall, the fluctuations were partially due to periodic changes in volume from our largest purchasing customers. On a quarterly basis, our largest customers account for approximately 75% of our total consumable sales volume. We expect these fluctuations to continue as the ordering patterns and inventory levels of our largest bulk purchasing partners remain variable. Additionally, even though we experience variability in consumable revenue, the key indicator of the success of our partners' commercialization efforts is the rising level of royalties and reported royalty-bearing sales.

Growth in Inventory

Our inventory has increased from $78.6 million as of March 31, 2020 to $132.1 as of March 31, 2021 primarily as a result of increases in COVID-19 assay raw materials, instrument inventory to support significant increases in demand and in anticipation of new product launches. Inventory levels are expected to remain constant or decrease slightly in 2021.

Future Operations

We expect our areas of focus over the next twelve months to be:

- delivering on our revenue growth goals;
- maintenance and improvement of our existing products and the timely development, completion and successful commercial launch of our pipeline products;
- completing development and commercialization of the next generation sample-to-answer system, VERIGENE II, our next generation xMAP System and xMAP INTELLIFLEX;
- accelerating development and commercialization of the assays on our sample-to-answer diagnostic systems;
- monitoring and mitigating the effect of the ongoing uncertainty and volatility in global finance markets and changes in government funding on planned purchases by end users;
- improvement of ARIES and VERIGENE gross margins;
- placements of our VERIGENE and ARIES Systems, our sample-to-answer platforms and assays;
- development and commercialization of SARS-CoV-2-related diagnostic and serology tests, as well as support of partner activities focused on testing, treatment and vaccines for SARS-CoV-2;
- increasing the growth of our LTG revenue through enrichment of our existing partner relationships and the addition of new partners;
- adoption and use of our platforms and consumables by our customers for their testing services; and
- expansion and enhancement of our installed base of systems and our market position within our identified target market segments.

We anticipate continued revenue concentration in our higher margin items (assays, consumables and royalties). Additionally, we believe that a sustained investment in research and development is necessary in order to meet the needs of our marketplace and provide a sustainable new product pipeline. We may experience volatility in research and development expenses as a percentage of revenue on a quarterly basis as a result of the timing of development expenses, clinical validation and clinical trials in advance of the commercial launch of our new products.

CRITICAL ACCOUNTING POLICIES

The discussion and analysis of our financial condition and results of operations are based upon our condensed consolidated financial statements, which have been prepared in accordance with United States generally accepted accounting principles for interim financial statements. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Estimates and assumptions are reviewed periodically. Actual results may differ from these estimates under different assumptions or conditions.

Management believes there have been no significant changes during the quarter ended March 31, 2021 to the items that we disclosed as our critical accounting policies and estimates in Management's Discussion and Analysis of Financial Condition and Results of Operations in the 2020 10-K.

KEY PERFORMANCE INDICATORS

We present certain key performance indicators (KPIs) that management uses when assessing our results. We intend for this Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) to provide the reader with information that will assist in better understanding our financial condition and results of operations. Management uses these KPIs for decisions about the allocation of resources, and we believe they are useful to investors because they provide additional information about our underlying operational performance and trends. These KPIs may not be defined or calculated in the same way as similar KPIs used by other companies. Throughout this MD&A, we commonly discuss the following performance metrics:

- Revenues, disaggregated by revenue source, into the following primary categories:
  - Systems sales revenue. System sales revenue is generated from the sale of our xMAP multiplexing analyzers and peripherals, our VERIGENE readers and processors, our ARIES systems and our flow cytometers and cellular analysis instruments. We believe growth in system sales revenue and the number of units sold (some of which may be retired or otherwise not in use) is useful to investors because we depend upon the placement of units as a basis for growth in each of the other revenue categories.
  - Consumables sales revenue. Consumable sales revenue is generated from the sale of our dyed polystyrene microspheres, along with sheath and drive fluid. Our larger commercial and development partners often purchase consumables in bulk orders to minimize the number of incoming qualification events and to allow for longer development and production runs. We believe growth in consumables sales revenue is an indicator of the use of our technology in both our customers' current products and the development of new products in their pipelines.
  - Royalty revenue. Royalty revenue is generated when a partner sells our proprietary microspheres to an end user; when a partner sells a kit incorporating our proprietary microspheres to an end user; or when a partner utilizes a kit to provide a testing result to an end user. We believe royalty revenue is a key indicator of the success of our partners' commercialization efforts.
  - Assay revenue. Assay revenue is generated primarily from four sources: (i) sale of our branded kits, which are a combination of chemical and biological reagents and our proprietary xMAP bead technology used to perform diagnostic and research assays on samples, (ii) real-time PCR and multiplexed PCR assays using our proprietary MultiCode technology, (iii) ARIES cassettes designed to run a fully automated, sample-to-answer molecular assay on the ARIES System, and (iv) VERIGENE test cartridges. We believe assay revenue is a key indicator of our success in addressing current assay market needs in a manner that is cost competitive.

We believe that analyzing the revenue by source is a useful indicator of the trends affecting our different types of customers, the progression to more automated technologies, and the acceptance and success of our products in the market.

- Gross margin (gross profit as a percentage of total revenue) and how it is impacted by the mix of revenues. The concentration of sales in our higher margin items (royalties, consumables, and non-automated assays) drives fluctuation in our gross margin and related gross profit primarily as a result of variability in consumable and system purchases and seasonality effects inherent in our assay revenue. Our gross margins can also be impacted by the absorption of acquired businesses, the loss of high margin sales to major customers and the increase in sample to answer assay revenue, which historically carries a lower gross margin.

- Research and development expense and the volatility of expenses driven by the projects in our pipeline and the stage of each of these projects in their development. Large fluctuations in our research and development expense can occur due to volatility in the costs and expenses of direct materials used in development, outside services and the timing of clinical trials.

- The Company's ability to meet anticipated product development timelines and to deliver on our planned commercial product launches.

The Company's management uses these KPIs to evaluate its results of operations and the Company believes that these KPIs provide additional perspective and insight to investors when analyzing the operating performance of the Company from period to period and help identify trends in its historical operating results.

RESULTS OF OPERATIONS

THREE MONTHS ENDED MARCH 31, 2021 COMPARED TO THREE MONTHS ENDED MARCH 31, 2020

Selected consolidated financial data for the three months ended March 31, 2021 and 2020 is as follows:

	Three Months Ended March 31,			
	2021	2020	Variance	Variance (%)
	(dollars in thousands)			
Revenue	$ 110,688	$ 90,424	$ 20,264	22 %
Gross profit	$ 66,461	$ 50,346	$ 16,115	32 %
Gross margin percentage	60 %	56 %	4 %	N/A
Operating expenses	$ 53,002	$ 48,705	$ 4,297	9 %
Income (loss) from operations	$ 13,459	$ 1,641	$ 11,818	720 %
Net income	$ 9,082	$ 654	$ 8,428	1,289 %

Total revenue increased by 22% to $110.7 million for the three months ended March 31, 2021 from $90.4 million for the comparable period in 2020. The Company experienced increases in all sources of revenue compared to the prior year period. Increases in our molecular diagnostic revenue were attributable to the Company's expeditious response to the needs of our customers at the onset of the pandemic, and increases in our life science revenue streams are attributable to the beginning of recovery from the pandemic. Gross margins improved as a result of a number of key factors during a global pandemic, including economies of scale within our factories, firm control over operating expenses and sustained company-wide support operations; all coupled with expanded production capabilities. Revenue increases, coupled with margin expansion and cost control, all provided for the significant increase in profitability.

The following table presents our revenues disaggregated by revenue source for the three months ended March 31, 2021 and 2020 as follows:

	Three Months Ended March 31,			
	2021	2020	Variance	Variance (%)
	(dollars in thousands)			
System sales	$ 16,807	$ 12,050	$ 4,757	39 %
Consumable sales	15,988	12,798	3,190	25 %
Royalty revenue	14,095	13,259	836	6 %
Assay revenue	47,753	43,723	4,030	9 %
Service revenue	6,257	5,521	736	13 %
Other revenue	9,788	3,073	6,715	219 %
	$ 110,688	$ 90,424	$ 20,264	22 %

We continue to have revenue concentration in a limited number of customers. Five customers accounted for 28% of total revenue in the first quarter of 2021, up from 25% in the first quarter of 2020. In particular, our two largest customers by revenue accounted for 15% of revenue in the first quarter of 2021 (10% and 5%, respectively), an increase from 16% of revenue from the first quarter of 2020 (12% and 4%, respectively). No other customer accounted for more than 5% of first quarter total revenue in 2021 or 2020.

Revenue from the sale of systems and peripheral components increased 39% to $16.8 million for the three months ended March 31, 2021, from $12.1 million for the three months ended March 31, 2020. This increase primarily resulted from a change in sales mix, with lower sales of sample-to-answer and FLEXMAP 3D instruments and higher sales of flow cytometry and LX systems. While LX system sales were driven in part by timing of purchases from our partners, instrument sales, in particular MAGPIX within the research market which was initially impacted by the global social distancing restrictions implemented as a result of the COVID-19 pandemic; however, we are beginning to see those restrictions lifted. We anticipate continued growth in flow cytometry sales in the second quarter of 2021 as well as increased sales in MAGPIX systems with the FDA EUA for the NxTAG CoV Extended Panel. We sold 253 multiplexing analyzers in the three months ended March 31, 2021, as compared to 223 multiplexing analyzers sold in the comparable period in 2020. As of March 31, 2021, total multiplexing analyzer shipments since inception is approximately 18,200, some of which may be retired or otherwise not in use. For the three months ended March 31, 2021, our five highest selling partners accounted for 207 systems, or 82%, of total multiplexing analyzers sold, whereas, our five highest selling partners in the comparable period in 2020 accounted for 189, or 85%, of total multiplexing analyzers sold.

Consumable sales, comprised of microspheres and sheath fluid, increased 25%, or $3.2 million, to $16.0 million in the three months ended March 31, 2021 from $12.8 million in the comparable period in 2020. During the first quarter of 2021, we had 19 bulk purchases of consumables totaling $12.0 million (75% of total consumable revenue), ranging from $0.1 million to $4.0 million, as compared with 20 bulk purchases totaling approximately $9.6 million (75% of total consumable revenue) in the comparable period in 2020. The increase in revenue from bulk purchases in the first quarter of 2021 was the primary driver of the increase in consumable revenue from the prior year quarter. We expect fluctuations in consumable sales on an ongoing basis. Partners who reported royalty-bearing sales accounted for $9.6 million, or 60%, of consumable sales for the three months ended March 31, 2021 compared to $7.3 million, or 57%, of the total consumable sales for the three months ended March 31, 2020.

Royalty revenue, which results from our partners selling products or testing services that incorporate our technology, increased 6% to $14.1 million for the three months ended March 31, 2021, from $13.3 million for the three months ended March 31, 2020, primarily attributable to higher base royalties in the current quarter. We expect modest fluctuations in the royalties submitted quarter to quarter, based upon the varying contractual terms, differing reporting and payment requirements, and the addition of new partners. Our partners' end user sales may reflect volatility from quarter to quarter and, therefore, that same volatility is reflected in our reported royalty revenues on a quarterly basis.

Assay revenue increased 9% to $47.8 million for the three months ended March 31, 2021, from $43.7 million in the comparable period in 2020, primarily driven by increased demand for respiratory and related products stemming from the COVID-19 pandemic. The seasonal flu impact that we have historically experienced has not materialized, but has been more than offset by the COVID-19 related sales. As we progress through the year, the balance between, and volumes of, COVID-19-related sales and other respiratory-related sales is unclear. Our sample-to-answer assay revenue, which consists of VERIGENE and ARIES assay sales, grew 5% to $24.6 million for the three months ended March 31, 2021, from $23.5 million on March 31, 2020. Similarly, our non-automated testing assays increased by 14% to $22.5 million in the three months ended March 31, 2021, from $19.7 million in the three months ended March 31, 2020. No customer accounted for more than 8% of total assay revenue during the three months ended March 31, 2021 and 6% during the comparable period in 2020. We believe our current backlog of pandemic-related orders may lead to further assay revenue growth for the second quarter of 2021.

Service revenue, comprised of extended warranty contracts earned ratably over the term of a contract and time and materials for billable service work not under an extended warranty contract, increased 13% to $6.3 million during the three months ended March 31, 2021, from $5.5 million in the three months ended March 31, 2020. On March 31, 2021, we had approximately 5,300 Luminex systems covered under extended service agreements and $11.6 million in deferred revenue related to those contracts. On March 31, 2020, we had approximately 3,200 Luminex systems covered under extended service agreements and $9.8 million in deferred revenue related to those contracts.

Other revenue, which includes training revenue, shipping revenue, miscellaneous part sales, amortized license fees, milestone payments and revenue from agreements with U.S. government agencies, increased 219% to $9.8 million for the three months ended March 31, 2021 compared to $3.1 million for the three months ended March 31, 2020. This increase was primarily due to completion of several milestones under two BARDA awards, totaling $5.8 million of revenue recognized in the first quarter of 2021 compared with $0.6 million recognized in the first quarter of 2020, in addition to increases in both parts and shipping revenue in the first quarter of 2021, as compared to the first quarter of 2020.

Gross Profit. Gross profit increased 32% to $66.5 million for the three months ended March 31, 2021, as compared to $50.3 million for the three months ended March 31, 2020. Gross margin (gross profit as a percentage of total revenue) increased to 60% for the three months ended March 31, 2021 from 56% for the three months ended March 31, 2020, This increase in gross margin was primarily attributable to the economies of scale realized in manufacturing, in addition to a favorable sales mix in the first quarter of 2021. The concentration of sales in our higher margin items (royalties, consumables, and non-automated assays), represented 38% of revenue for the three months ended March 31, 2021. We anticipate fluctuation in gross margin and related gross profit primarily as a result of variability in consumable and system purchases and seasonality effects inherent in our assay revenue.

Research and Development Expense. Research and development expenses increased to $13.9 million, or 13% of total revenue, for the three months ended March 31, 2021, from $11.9 million, or 13% of total revenue, in the comparable period in 2020. The increase in research and development expenses reflects higher direct material and outside service expenses stemming primarily from VERIGENE II assay development. Research and development expenses in the current quarter were related to the development and testing of our NxTAG RPP Assay, which includes the SARS-CoV-2 virus for COVID-19 testing, and a respiratory panel combining Flu A/B & respiratory targets with the SARS-CoV-2 target that can be run on our ARIES Systems. These development efforts were partially funded under the BARDA contracts awarded in September 2020 and February 2021. Research and development headcount as of March 31, 2021 was 216, as compared to 216 as of March 31, 2020. The focus of our research and development activities is our ongoing efforts around the development and commercialization of the VERIGENE II System and associated assays, the development of the xMAP INTELLIFLEX System, and the expansion of our portfolio of COVID-19 solutions.

Selling, General and Administrative Expense. Selling, general and administrative expenses, excluding the amortization of acquired intangible assets, increased to $36.2 million for the three months ended March 31, 2021, from $33.9 million for the comparable period in 2020. The increase over the prior year quarter was primarily attributable to higher sales and marketing personnel costs, in addition to related higher commission expense in the current quarter as compared to the first quarter of 2020 and the $0.4 million of merger-related expenses in the current quarter. Selling, general and administrative headcount at March 31, 2021 was 507, as compared to 482 on March 31, 2020. As a percentage of revenue, selling, general and administrative expenses, excluding the amortization of acquired intangible assets, was 33% for the three months ended March 31, 2021.

Income taxes. Our effective tax rate for the three months ended March 31, 2021 was 18%, or $2.0 million, as compared to 36%, or $0.4 million, for the three months ended March 31, 2020. Absent significant discrete items, we expect our consolidated full-year annualized effective tax rate for 2021 to be between 20% to 30%, which is reduced compared to our estimate of the full-year annualized effective tax rate in the first quarter of 2020 due to the Company's ability to claim greater income tax benefits pursuant to the provisions of the 2017 Tax Reform Act and increased earnings in certain jurisdictions. We continue to assess our business model and its impact in various tax jurisdictions.

LIQUIDITY AND CAPITAL RESOURCES

	March 31, 2021	December 31, 2020
	(in thousands)	
Cash and cash equivalents	$ 271,560	$ 309,407

On March 31, 2021, we held cash and cash equivalents of $271.6 million and had working capital of $424.2 million. On December 31, 2020, we held cash and cash equivalents of $309.4 million and had working capital of $421.6 million. Cash and cash equivalents decreased by $37.8 million during the three months ended March 31, 2021. The decrease in cash and cash equivalents from December 31, 2020 is primarily attributable to net cash used by operating activities of $21.6 million, purchases of property, plant and equipment of $13.3 million and dividends of $4.7 million, partially offset by proceeds from the issuance of common stock of $4.6 million.

We have funded our operations to date primarily through cash generated from operations and the issuance of equity securities (in conjunction with an initial public offering in 2000, subsequent option exercises, and our follow-on public offering in 2008) and debt securities (in conjunction with the Notes offering). Our cash reserves are held directly or indirectly in a variety of short-term, interest-bearing instruments, including non-government sponsored debt securities. We do not have any investments in asset-backed commercial paper, auction rate securities, or mortgage backed or sub-prime style investments.

Cash used in operations, investing and financing activities was $21.6 million, $13.4 million and $3.3 million, respectively for the three months ended March 31, 2021.

Our future capital requirements will depend on a number of factors, including our success in developing and expanding markets for our products, payments under possible future strategic arrangements, continued progress of our research and development of potential products, the timing and outcome of regulatory approvals, the need to acquire licenses to new technologies, costs associated with strategic acquisitions including acquisition and integration costs and assumed liabilities, the status of competitive products and potential costs associated with both protecting and defending our intellectual property. Additionally, actions taken as a result of the ongoing internal evaluation of our business could result in expenditures not currently contemplated in our estimates for 2021.

Our short-term projects that are expected to require significant capital to complete include (i) our current in-process research and development VERIGENE II platform and the associated upcoming clinical trials, (ii) maintenance and improvement of our existing products and the timely development, completion and successful commercial launch of our pipeline products, (iii) accelerated development and commercialization of the assays on our sample-to-answer diagnostic systems, and (iv) development and commercialization of SARS-CoV-2-related diagnostic and serology tests, as well as support of partner activities focused on testing, treatment and vaccines for SARS-CoV-2. The Company is currently targeting the commercial launch of the VERIGENE II System in 2021 and believes the xMAP INTELLIFLEX will launch commercially in the second quarter of 2021. In addition, we closed on the purchase of the building in Northbrook, Illinois in the first quarter of 2021 for approximately $8.0 million. We believe that our existing cash and cash equivalents are sufficient to fund our operating expenses, capital equipment requirements and other expected liquidity requirements for the coming twelve months. Factors that could affect our capital requirements, in addition to those listed above, include, without limitation: (i) continued collections of accounts receivable consistent with our historical experience; (ii) our ability to manage our inventory levels consistent with past practices; (iii) volatility in our key partners' consumable purchasing patterns; (iv) execution of partnership agreements that include significant up-front license fees; (v) execution of our stock repurchase and dividend programs from time to time and (vi) executing strategic investment or acquisition agreements requiring significant cash consideration. See also the "Safe Harbor Cautionary Statement" included in this report and the risk factors in the 2020 10-K and our other filings with the Securities and Exchange Commission (SEC).

In February 2017, the Board of Directors initiated a cash dividend program to pay a regular quarterly cash dividend. The timing and amount of future dividends and stock repurchases will vary based on a number of factors, including future capital requirements for strategic transactions, the availability of financing on acceptable terms, debt service requirements, changes to applicable tax laws and corporate laws, changes to our business model and periodic determination by our Board of Directors that cash dividends are in the best interests of stockholders and are in compliance with applicable laws and agreements of the Company. On February 8, 2021, we announced that our Board of Directors declared a quarterly cash dividend of $0.10 per share of common stock which was paid to shareholders of record as of the close of business on March 25, 2021 on April 15, 2021.

We hold cash and cash equivalents at various foreign subsidiaries. As a result of reductions to the U.S. taxation of dividends from foreign subsidiaries under the Tax Cuts and Jobs Act of 2017 and continued profitability of our Canadian subsidiary, in the near-term and future years we may repatriate earnings of our Canadian subsidiary. The cash and cash equivalents held by this subsidiary may be more readily available to meet domestic cash requirements in the next year, but will continue to be subject to foreign withholding tax that would be incurred upon repatriation. We anticipate that cash and cash equivalents held by all other foreign subsidiaries will continue to be permanently reinvested and may not be readily available to meet domestic cash requirements.

We believe that our cash provided by operations and our cash and cash equivalents will be sufficient to meet our anticipated capital needs for at least the next twelve months. However, any projections of future cash flows and capital requirements are subject to substantial uncertainty, including as a result of the risks, uncertainties and assumptions described in Item 1A "Risk Factors." To the extent our capital resources are insufficient to meet future capital requirements, we will have to raise additional funds to continue the development and deployment of our technologies, or to supplement our position through strategic acquisitions. There can be no assurance that debt or equity funds will be available on favorable terms, if at all. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of those securities could result in dilution to our stockholders. Moreover, incurring debt financing could result in a substantial portion of our operating cash flow being dedicated to the payment of principal and interest on such indebtedness, could render us more vulnerable to competitive pressures and economic downturns and could impose restrictions on our operations. If adequate funds are not available, we may be required to curtail operations significantly or to obtain funds through entering into agreements on unattractive terms.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk. Our interest income is sensitive to changes in the general level of domestic interest rates. A 50 basis point fluctuation from average investment returns at March 31, 2021 would yield a less than 0.5% variance in overall investment return, which would not have a material adverse effect on our financial condition.

Foreign Currency Risk. Our international business is subject to risks, including, but not limited to: foreign exchange rate volatility, differing tax structures, unique economic conditions, other regulations and restrictions and changes in political climate. Accordingly, our future results could be materially and adversely impacted by changes in these and other factors.

As of March 31, 2021, as a result of our foreign operations, we have costs, assets and liabilities that are denominated in foreign currencies, primarily Canadian dollars and to a lesser extent the Euro, Renminbi and Yen. For example, some fixed asset purchases and certain expenses are denominated in Canadian dollars while sales of products are primarily denominated in U.S. dollars. All transactions in our Netherlands and Japanese subsidiaries are denominated in Euros and Yen, respectively. All transactions, with the exception of our initial capital investment, in our Chinese subsidiary are denominated in Renminbi. As a consequence, movements in exchange rates could cause our foreign currency denominated expenses to fluctuate as a percentage of net revenue, affecting our profitability and cash flows. A significant majority of our revenues are denominated in U.S. dollars. The impact of foreign exchange on foreign denominated balances will vary in relation to changes between the U.S. dollar, Canadian dollar, Euro, Yen and Renminbi exchange rates. A 10% change in all of these exchange rates in relation to the U.S. dollar would result in a statement of comprehensive income impact of approximately $1.5 million on foreign currency denominated asset and liability balances as of March 31, 2021. As a result of our efforts to expand globally, in the future we will be exposed to additional foreign currency risk in multiple currencies; however, at this time, our exposure to foreign currency fluctuations is not material. We regularly assess the market to determine if additional strategies are appropriate to mitigate future risks.

In addition, the indirect effect of fluctuations in interest rates and foreign currency exchange rates could have a material adverse effect on our business financial condition and results of operations. For example, currency exchange rate fluctuations could affect international demand for our products. In addition, interest rate fluctuations could affect our customers' buying patterns. Furthermore, interest rate and currency exchange rate fluctuations may broadly influence the United States and foreign economies resulting in a material adverse effect on our business, financial condition and results of operations. As a result, we cannot give any assurance as to the effect that future changes in foreign currency rates will have on our consolidated financial position, results of operations or cash flows. Our aggregate foreign currency transaction loss was approximately $437,000 for the quarter ended March 31, 2021.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures, as defined in Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended (Exchange Act), which are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. We carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on the evaluation and criteria of these disclosure controls and procedures, the Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective at a reasonable assurance level and designed to ensure that material information relating to the Company and its subsidiaries would be made known to such officers on a timely basis.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting identified in connection with the evaluation required by Exchange Act Rule 13a-15(d) during the quarter ended March 31, 2021 that have materially affected or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

When and if it appears probable in management's judgment, and based upon consultation with outside counsel, that we will incur monetary damages or other costs in connection with any claims or proceedings, and such costs can be reasonably estimated, we record the estimated liability in the financial statements. If only a range of estimated losses can be estimated, we record an amount within the range that, in management's judgment, reflects the most likely outcome; if none of the estimates within that range is a better estimate than any other amount, we record the liability at the low end of the range of estimates. Any such accrual would be charged to expense in the appropriate period. We disclose significant contingencies when the loss is not probable and/or the amount of the loss is not estimable, when we believe there is at least a reasonable possibility that a loss has been incurred. We recognize costs associated with legal proceedings in the period in which the services were provided. No material legal proceedings are known to be pending as of March 31, 2021.

ITEM 1A. RISK FACTORS

The risk factors described in Part I, Item 1A. "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2020, as supplemented below, should be carefully considered, together with the other information contained or incorporated by reference in this Quarterly Report on Form 10-Q and in our other filings with the SEC, in connection with evaluating the Company, our business, and the forward-looking statements contained in this Quarterly Report on Form 10-Q. Other risks that we do not presently know about or that we presently believe are not material could also adversely affect us. The risk factors described below update the risk factors disclosed in Part I, Item 1A. in our 2020 10-K to include additional information, and should be read in conjunction with the risk factors in our Annual Report on Form 10-K for the year ended December 31, 2020.

If the Merger contemplated by the Merger Agreement does not occur, it could have a material adverse effect on our business, results of operations, financial condition and stock price.

On April 11, 2021, we entered into the Merger Agreement with DiaSorin. Completion of the proposed Merger is subject to the satisfaction of various conditions, including the receipt of approvals from our stockholders and from government or regulatory agencies. There is no assurance that all of the various conditions will be satisfied, or that the Merger will be completed on the proposed terms, within the expected timeframe, or at all. The proposed Merger gives rise to inherent risks that include:

- the amount of the cash to be paid under the Merger agreement is fixed and will not be adjusted for changes in our business, assets, liabilities, prospects, outlook, financial condition or results of operations or in the event of any change in the market price of, analyst estimates of, or projections relating to, our common stock;

- legal or regulatory proceedings, including regulatory approvals from governmental entities (including any conditions, limitations or restrictions placed on these approvals) and the risk that one or more governmental entities may delay or deny approval, or other matters that affect the timing or ability to complete the transaction as contemplated;

- the ability of DiaSorin to obtain the necessary funds to complete the Merger;

- the possibility of disruption to our business, including increased costs and diversion of management time and resources;

- difficulties maintaining business and operational relationships, including relationships with clients, vendors, suppliers, distributors, resellers and other business partners;

- the inability to attract and retain key personnel pending consummation of the proposed Merger;

- potential stockholder litigation relating to the Merger could prevent or delay the Merger or otherwise negatively impact our business and operations;

- the inability to pursue alternative business opportunities or make changes to our business pending the completion of the proposed Merger;

- the requirement to pay a termination fee of $59.2 million if we terminate the Merger Agreement under certain circumstances;

• developments beyond our control including, but not limited to, changes in domestic or global economic conditions that may affect the timing or success of the proposed Merger; and

• the risk that if the proposed Merger is not completed, the market price of our common stock could decline, investor confidence could decline, stockholder litigation could be brought against us, relationships with clients, suppliers and other business partners may be adversely impacted, we may be unable to retain key personnel, and profitability may be adversely impacted due to costs incurred in connection with the proposed Merger.

Our bylaws, as amended, designate the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees or agents.

Our bylaws, as amended, provide that, unless the Company consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer, employee or stockholder (including a beneficial owner) of the Company to the Company or the Company's stockholders, (iii) any action asserting a claim against any director, officer, employee or stockholder (including a beneficial owner) of the Company arising under any provision of the Delaware General Corporation Law ("DGCL") or the bylaws or the certificate of incorporation of the Company, or (iv) any action asserting a claim governed by the internal affairs doctrine shall, to the fullest extent permitted by law, be the Court of Chancery of the State of Delaware (or if the Court of Chancery for the State of Delaware does not have jurisdiction, a state court located within the State of Delaware or, if no state court located within the State of Delaware has subject matter jurisdiction, the federal district court for the District of Delaware). In addition, our bylaws provide that unless the Company consents in writing to the selection of an alternative forum, the federal district courts of the United States shall be the exclusive forum for the resolution of any claim or cause of action arising under the Securities Act of 1933, as amended. This provision does not apply to claims brought pursuant to the Securities Exchange Act of 1934, as amended, or the rules and regulations promulgated thereunder, or any other claim for which the U.S. federal courts have exclusive jurisdiction. Any person or entity purchasing or otherwise acquiring or holding any interest in any security of the Corporation will be deemed to have notice of and consented to these provisions. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation or bylaws has been challenged in legal proceedings and there is uncertainty as to whether a court would enforce such provisions. In addition, investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. This choice-of-forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, employees or agents, which may discourage such lawsuits against us and such persons. Alternatively, if a court were to find these provisions of our bylaws inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition or operating results.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

The stock repurchase activity for the first quarter of 2021 was as follows:

ISSUER PURCHASES OF EQUITY SECURITIES

Period	Total Number of Shares Purchased[1]	Average Price Paid per Share ($)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
1/1/2021 - 1/31/2021	2,243	$ 24.34	—	$ —
2/1/2021 - 2/28/2021	—	—	—	—
3/1/2021 - 3/31/2021	83,086	$ 32.60	—	—
Total First Quarter	85,329	$ 32.38	—	$ —

[1] Total shares purchased includes shares attributable to the withholding of shares by Luminex to satisfy the payment of tax obligations related to the vesting of restricted shares.

ITEM 6. EXHIBITS

The following exhibits are filed herewith:

EXHIBIT NUMBER	DESCRIPTION OF DOCUMENT
3.1	Restated Certificate of Incorporation of the Company (Previously filed as Exhibit 3.1 to the Company's Registration Statement on Form S-1 (File No. 333-96317), filed February 7, 2000, as amended).
3.2	Amended and Restated Bylaws of the Company (Previously filed as an Exhibit to the Company's Current Report on Form 8-K (File No. 000-30109), filed March 11, 2015).
3.3	Amendment to the Amended and Restated Bylaws of the Company (Previously filed as an Exhibit to the Company's Current Report on Form 8-K (File No. 000-30109), filed April 12, 2021).
31.1	Certification by CEO pursuant to Securities and Exchange Act Rules 13a-14(a) and 15d - 14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by CFO pursuant to Securities and Exchange Act Rules 13a-14(a) and 15d - 14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification by CEO pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification by CFO pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following materials from Luminex Corporation's Quarterly Report on Form 10-Q for the three months ended March 31, 2021, formatted in Inline XBRL: (i) Condensed Consolidated Balance Sheets; (ii) Condensed Consolidated Statements of Comprehensive Income; (iii) Condensed Consolidated Statement of Cash Flows; (iv) Condensed Consolidated Statements of Changes in Stockholders' Equity; and (v) Notes to Condensed Consolidated Financial Statements.
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2021, formatted in Inline XBRL (included in Exhibit 101).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: May 5, 2021

LUMINEX CORPORATION
By: /s/ Harriss T. Currie
Harriss T. Currie
Chief Financial Officer, Senior Vice President of Finance
(Principal Financial Officer)

Exhibit 31.1

CERTIFICATION

I, Nachum Shamir, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Luminex Corporation;

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

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

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

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

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

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

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

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

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

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

Date: May 5, 2021

By: /s/ Nachum Shamir
Nachum Shamir
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Harriss T. Currie, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Luminex Corporation;

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

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

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

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

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

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

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

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

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

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

Date: May 5, 2021

By: /s/ Harriss T. Currie
Harriss T. Currie
Chief Financial Officer, Senior Vice President of Finance

Exhibit 32.1

CERTIFICATION 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 Luminex Corporation (the "Company") on Form 10-Q for the period ended March 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Nachum Shamir, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the dates and for the periods indicated.

/s/ Nachum Shamir
Nachum Shamir
President and Chief Executive Officer
May 5, 2021

A SIGNED ORIGINAL OF THIS WRITTEN STATEMENT REQUIRED BY SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002 HAS BEEN PROVIDED TO LUMINEX CORPORATION AND WILL BE RETAINED BY LUMINEX CORPORATION AND FURNISHED TO THE SECURITIES AND EXCHANGE COMMISSION OR ITS STAFF UPON REQUEST.

Exhibit 32.2

CERTIFICATION 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 Luminex Corporation (the "Company") on Form 10-Q for the period ended March 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Harriss T. Currie, Chief Financial Officer, Senior Vice President of Finance of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the dates and for the periods indicated.

/s/ Harriss T. Currie
Harriss T. Currie
Chief Financial Officer, Senior Vice President of Finance
May 5, 2021

A SIGNED ORIGINAL OF THIS WRITTEN STATEMENT REQUIRED BY SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002 HAS BEEN PROVIDED TO LUMINEX CORPORATION AND WILL BE RETAINED BY LUMINEX CORPORATION AND FURNISHED TO THE SECURITIES AND EXCHANGE COMMISSION OR ITS STAFF UPON REQUEST.