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

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2024
OR

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

For the transition period from to
Commission File Number: 001-38720

Twist Bioscience Corporation
(Exact Name of Registrant as Specified in its Charter)

Delaware	**46-2058888**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

681 Gateway Blvd, South San Francisco, CA 94080
(Address of principal executive offices and zip code)
(800) 719-0671
(Registrant's telephone number, including area code)

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	TWST	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. (Check one):

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 ☒

APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PRECEDING FIVE YEARS:

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Section 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court. Yes ☐ No ☐

APPLICABLE ONLY TO CORPORATE ISSUERS

Indicate the number of shares outstanding of each of the issuer’s classes of common stock, as of the latest practicable date.

The number of shares of the Registrant’s common stock outstanding as of April 29, 2024, was 58,225,999.

TWIST BIOSCIENCE CORPORATION
QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTER ENDED MARCH 31, 2024

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Forward-looking statements

This Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, or Form 10-Q, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements relate to, among other matters, plans for product development and licensing to third parties, plans and timeframe for the commercial development of DNA data storage capabilities, expectations regarding market penetration, anticipated customer conversions to our products, plans to expand in the international markets, and identification and development of potential antibody candidates. Forward-looking statements are also identified by the words “believe,” “will,” “may,” “estimate,” “continue,” “anticipate,” “intend,” “should,” “plan,” “expect,” “predict,” “could,” “potentially” and variations of such words and similar expressions. You should not rely upon forward-looking statements as predictions of future events. Such statements are based on management’s expectations as of the date of this filing and involve many risks and uncertainties that could cause our actual results, events or circumstances to differ materially from those expressed or implied in our forward-looking statements. Such risks and uncertainties include:

- our ability to increase our revenue and our revenue growth rate;
- our ability to accurately estimate capital requirements and our needs for additional financing; our estimates of the size of our market opportunities;
- our ability to increase DNA production, reduce turnaround times and drive cost reductions for our customers;
- our ability to effectively manage our growth;
- our ability to successfully enter new markets and manage our international expansion;
- our ability to develop and commercialize additional products in the synthetic biology, biologic drug and data storage industries, including our Express Genes product;
- our ability to leverage our investment in our manufacturing facility in Wilsonville, Oregon;
- our ability to protect our intellectual property, including our proprietary DNA synthesis platform;
- costs associated with defending intellectual property infringement and other claims;
- the effects of increased competition in our business;
- our ability to keep pace with changes in technology and our competitors;
- our ability to successfully identify, evaluate and manage any future acquisitions of businesses, solutions or technologies;
- the success of our marketing efforts;
- a significant disruption in, or breach in security of our information technology systems and resultant interruptions in service and any related impact on our reputation;
- our ability to attract and retain qualified employees and key personnel;
- the effects of natural or man-made catastrophic events or public health emergencies;
- the effectiveness of our internal controls;
- changes in government regulation affecting our business;
- uncertainty as to economic and market conditions and the impact of adverse economic conditions; and
- other risk factors included under the section titled “Risk factors” contained in Item 1A of our Annual Report on Form 10-K filed with the SEC on November 21, 2023, our Quarterly Report on Form 10-Q filed with the SEC on February 2, 2024 and this Quarterly Report on Form 10-Q.

You should not rely upon forward-looking statements as predictions of future events. Such statements are based on management's expectations as of the date of this filing and involve many risks and uncertainties that could cause our actual results, events or circumstances to differ materially from those expressed or implied in our forward-looking statements.

Readers are urged to carefully review and consider all of the information in this Form 10-Q and in other documents we file from time to time with the Securities and Exchange Commission, or SEC. We undertake no obligation to update any forward-looking statements made in this Form 10-Q to reflect events or circumstances after the date of this filing or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

When we use the terms "Twist," "Twist Bioscience," the "Company," "we," "us" or "our" in this report, we are referring to Twist Bioscience Corporation and its consolidated subsidiaries unless the context requires otherwise. Sequence space and the Twist logo are trademarks of Twist Bioscience Corporation. All other company and product names may be trademarks of the respective companies with which they are associated.

PART I. Financial information

Item 1. *Financial statements*

Twist Bioscience Corporation
Condensed Consolidated Balance Sheets (unaudited)

(In thousands except per share data)	March 31, 2024	September 30, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 243,348	$ 286,470
Short-term investments	49,994	49,943
Accounts receivable, net	35,993	44,064
Inventories	30,376	32,063
Prepaid expenses and other current assets	12,158	11,716
Total current assets	$ 371,869	$ 424,256
Property and equipment, net	121,339	131,830
Operating lease right-of-use assets	63,666	71,531
Goodwill	85,811	85,811
Intangible assets, net	51,898	54,483
Restricted cash, non-current	2,868	2,811
Other non-current assets	5,395	5,681
Total assets	$ 702,846	$ 776,403
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 7,703	$ 14,052
Accrued expenses	14,513	10,754
Accrued compensation	25,214	25,818
Current portion of operating lease liability	14,621	14,896
Other current liabilities	5,439	7,803
Total current liabilities	$ 67,490	$ 73,323
Operating lease liability, net of current portion	74,804	79,173
Other non-current liabilities	421	475
Total liabilities	$ 142,715	$ 152,971
Commitments and contingencies (Note 6)		
Stockholders' equity		
Common stock, $0.00001 par value —100,000 and 100,000 shares authorized at March 31, 2024 and September 30, 2023, respectively; 58,162 and 57,557 shares issued and outstanding at March 31, 2024 and September 30, 2023, respectively	$ —	$ —
Additional paid-in capital	1,682,473	1,657,222
Accumulated other comprehensive income	(660)	(756)
Accumulated deficit	(1,121,682)	(1,033,034)
Total stockholders' equity	$ 560,131	$ 623,432
Total liabilities and stockholders' equity	$ 702,846	$ 776,403

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

Twist Bioscience Corporation
Condensed Consolidated Statements of Operations and Comprehensive Loss (unaudited)

(In thousands, except per share data)	Three months ended March 31, 2024	Three months ended March 31, 2023	Six months ended March 31, 2024	Six months ended March 31, 2023
Revenues [1]	$ 75,302	$ 60,180	$ 146,800	$ 114,423
Operating expenses:				
Cost of revenues	$ 44,420	$ 41,669	$ 86,955	$ 71,111
Research and development	24,149	27,379	47,249	58,621
Selling, general and administrative	55,622	53,965	108,462	96,289
Change in fair value of contingent considerations and holdbacks	—	(1,196)	—	(5,331)
Total operating expenses	$ 124,191	$ 121,817	$ 242,666	$ 220,690
Loss from operations	$ (48,889)	$ (61,637)	$ (95,866)	$ (106,267)
Interest income	3,941	3,464	8,061	6,504
Interest expense	—	(2)	—	(3)
Other income (expense), net	(199)	(305)	(230)	(462)
Loss before income taxes	$ (45,147)	$ (58,480)	$ (88,035)	$ (100,228)
Income tax provision	(345)	(676)	(465)	(752)
Net loss attributable to common stockholders	$ (45,492)	$ (59,156)	$ (88,500)	$ (100,980)
Other comprehensive loss:				
Change in unrealized gain (loss) on investments	(57)	647	77	1,516
Foreign currency translation adjustment	(38)	73	19	438
Comprehensive loss	(45,587)	(58,436)	(88,404)	(99,026)
Net loss per share attributable to common stockholders—basic and diluted	$ (0.79)	$ (1.04)	$ (1.54)	$ (1.78)
Weighted average shares used in computing net loss per share attributable to common stockholders—basic and diluted	57,779	56,777	57,637	56,608

[1] During the three and six months ended March 31, 2024, the Company generated revenues from related parties totaling of $3.2 million and $5.6 million, respectively. During the three and six months ended March 31, 2023, the Company generated revenues from related parties totaling $2.2 million and $2.6 million, respectively.

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

Twist Bioscience Corporation
Condensed Consolidated Statements of Stockholders' Equity (unaudited)

	Three months ended March 31, 2024					
	Common stock		Additional paid-in capital	Accumulated Other comprehensive loss	Accumulated deficit	Total stockholders' equity
(In thousands)	**Shares**	**Amount**				
Balances as of December 31, 2023	57,779	$ —	$ 1,666,797	$ (565)	$ (1,076,190)	$ 590,042
Vesting of restricted stock units	229	$ —	$ —	$ —	$ —	$ —
Exercise of stock options	69	—	1,317	—	—	1,317
Issuance of shares under the employee stock purchase program	124	—	2,047	—	—	2,047
Repurchases of common stock for income tax withholding	(39)	—	(1,535)	—	—	(1,535)
Stock-based compensation	—	—	13,847	—	—	13,847
Other comprehensive income	—	—	—	(95)	—	(95)
Net loss	—	—	—	—	(45,492)	(45,492)
Balances as of March 31, 2024	58,162	$ —	$ 1,682,473	$ (660)	$ (1,121,682)	$ 560,131

	Three months ended March 31, 2023					
	Common stock		Additional paid-in capital	Accumulated Other comprehensive income	Accumulated deficit	Total stockholders' equity
(In thousands)	**Shares**	**Amount**				
Balances as of December 31, 2022	56,645	$ —	$ 1,617,174	$ (609)	$ (870,240)	$ 746,325
Vesting of restricted stock units	198	$ —	$ —	$ —	$ —	$ —
Exercise of stock options	22	—	250	—	—	250
Issuance of shares under the employee stock purchase program	132	—	2,537	—	—	2,537
Repurchases of common stock for income tax withholding	(64)	—	(1,262)	—	—	(1,262)
Issuance of shares from business acquisition	172	—	4,092	—	—	4,092
Stock-based compensation	—	—	10,426	—	—	10,426
Other comprehensive income	—	—	—	720	—	720
Net loss	—	—	—	—	(59,156)	(59,156)
Balances as of March 31, 2023	57,105	$ —	$ 1,633,217	$ 111	$ (929,396)	$ 703,932

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

(In thousands)	Common stock Shares	Common stock Amount	Additional paid-in capital	Accumulated Other comprehensive loss	Accumulated deficit	Total stockholders' equity
	Six months ended March 31, 2024					
Balances as of September 30, 2023	57,557	$ —	$ 1,657,222	$ (756)	$ (1,033,034)	$ 623,432
Impact of ASU 2016-13 adoption (Note 2)	—	$ —	$ —	$ —	$ (148)	$ (148)
Vesting of restricted stock units	489	—	—	—	—	—
Exercise of stock options	127	—	2,268	—	—	2,268
Issuance of shares under the employee stock purchase program	124	—	2,047	—	—	2,047
Repurchases of common stock for income tax withholding	(135)	—	(3,960)	—	—	(3,960)
Stock-based compensation	—	—	24,896	—	—	24,896
Other comprehensive income	—	—	—	96	—	96
Net loss	—	—	—	—	(88,500)	(88,500)
Balances as of March 31, 2024	58,162	$ —	$ 1,682,473	$ (660)	$ (1,121,682)	$ 560,131

(In thousands)	Common stock Shares	Common stock Amount	Additional paid-in capital	Accumulated Other comprehensive income	Accumulated deficit	Total stockholders' equity
	Six months ended March 31, 2023					
Balances as of September 30, 2022	56,523	$ —	$ 1,619,644	$ (1,843)	$ (828,416)	$ 789,385
Vesting of restricted stock units	322	$ —	$ —	$ —	$ —	$ —
Exercise of stock options	58	—	853	—	—	853
Issuance of shares under the employee stock purchase plan	132	—	2,537	—	—	2,537
Repurchases of common stock for income tax withholding	(102)	—	(2,261)	—	—	(2,261)
Issuance of shares from business acquisition	172		4,092			4,092
Stock-based compensation	—	—	8,352	—	—	8,352
Other comprehensive income	—	—	—	1,954	—	1,954
Net loss	—	—	—	—	(100,980)	(100,980)
Balances as of March 31, 2023	57,105	$ —	$ 1,633,217	$ 111	$ (929,396)	$ 703,932

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

Twist Bioscience Corporation
Condensed Consolidated Statements of Cash Flows (unaudited)

(in thousands)	Six months ended March 31, 2024	2023
Cash flows from operating activities		
Net loss	$ (88,500)	$ (100,980)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization	16,475	12,320
Non-cash lease expense	503	586
Stock-based compensation	24,844	7,934
Change in fair value of acquisition consideration	—	(5,331)
Other non-cash adjustments	293	578
Changes in assets and liabilities:		
Accounts receivable, net	7,401	(8,050)
Inventories	1,687	(606)
Prepaid expenses and other current assets	(420)	(1,591)
Other non-current assets	309	1,206
Accounts payable	(5,725)	(4,211)
Accrued expenses	3,859	2,893
Accrued compensation	(539)	(2,702)
Other liabilities	(2,583)	(404)
Net cash used in operating activities	$ (42,396)	$ (98,358)
Cash flows from investing activities		
Purchases of property and equipment	$ (2,109)	$ (20,877)
Purchases of investments	(28,966)	(50,434)
Proceeds from maturity of investments	30,000	105,500
Net cash (used in) provided by investing activities	$ (1,075)	$ 34,189
Cash flows from financing activities		
Proceeds from exercise of stock options	$ 2,268	$ 855
Proceeds from issuance of common stock under employee stock purchase plan	2,047	2,536
Repurchases of common stock for income tax withholding	(3,960)	(2,261)
Net cash provided by financing activities	$ 355	$ 1,130
Effect of exchange rates on cash, cash equivalents and restricted cash	$ 51	$ 341
Net decrease in cash, cash equivalents, and restricted cash	(43,065)	(62,698)
Cash, cash equivalents, and restricted cash at beginning of period	289,281	380,259
Cash, cash equivalents, and restricted cash at end of period	$ 246,216	$ 317,561
Supplemental disclosure of cash flow information		
Income taxes paid, net of refunds	339	137
Non-cash investing and financing activities		
Property and equipment additions included in accounts payable and accrued expenses	$ 49	$ 1,747
Issuance of common stock in connection with the business acquisition	$ —	$ 4,092
Tenant improvement allowance capitalized in property and equipment	$ 2,719	$ —

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

Twist Bioscience Corporation
Notes to Unaudited Condensed Consolidated Financial Statements

1. The Company

Twist Bioscience Corporation (the Company) was incorporated in the state of Delaware on February 4, 2013. The Company is a synthetic biology company that has developed a disruptive DNA synthesis platform. DNA is used in many applications across different industries: industrial chemicals/materials, academic, healthcare and food/agriculture. The Company's fiscal year ends on September 30.

The core of the Company's platform is a proprietary technology that pioneers a new method of manufacturing synthetic DNA by "writing" DNA on a silicon chip. The Company has combined this technology with proprietary software, scalable commercial infrastructure and an e-commerce platform to create an integrated technology platform that enables the Company to achieve high levels of quality, precision, automation, and manufacturing throughput at a significantly lower cost than its competitors. The Company is leveraging its unique technology to manufacture a broad range of synthetic DNA-based products, including synthetic genes, tools for next generation sample preparation, and antibody libraries for drug discovery and development.

The Company has a limited operating history and its prospects are subject to risks, expenses and uncertainties frequently encountered by companies in this industry. These risks include, but are not limited to, the uncertainty of availability of additional financing, market acceptance of its products, the ability to retain and attract new customers, and the uncertainty of achieving future profitability.

The Company has generated net losses in all periods since its inception. As of March 31, 2024, the Company had an accumulated deficit of $1,121.7 million and has not generated positive cash flows from operations since inception. Losses are expected to continue as the Company continues to invest in product development, manufacturing, and sales and marketing.

As of March 31, 2024, the Company had cash and cash equivalents and short-term investments of $293.3 million, which the management believes will be sufficient to fund operations for at least one year from the issuance of these consolidated financial statements. However, if the Company needs to obtain additional financing to fund operations beyond this period, there can be no assurance that it will be successful in raising additional financing on terms which are acceptable to the Company.

If the Company requires but is unable to obtain additional funding, the Company could be forced to delay, reduce or eliminate some or all of its research and development programs, product portfolio expansion or commercialization efforts, which could adversely affect its business prospects, or the Company may be unable to continue operations.

2. Summary of significant accounting policies

Basis of presentation and use of estimates

The accompanying unaudited condensed consolidated financial statements were prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) for interim financial information. Certain information and disclosures normally included in the consolidated financial statements prepared in accordance with GAAP have been condensed or omitted. Accordingly, these unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and the related notes included in the Annual Report on Form 10-K for the fiscal year ended September 30, 2023 (the Annual Report on Form 10-K) filed with the Securities and Exchange Commission on November 21, 2023. The condensed consolidated financial statements are unaudited and have been prepared on a basis consistent with that used to prepare the audited annual consolidated financial statements and include, in the opinion of management, all adjustments, consisting of normal and recurring items, necessary for the fair statement of the condensed consolidated financial statements. The condensed consolidated balance sheet at September 30, 2023 is derived from audited consolidated financial statements but does not include all disclosures required by GAAP. The operating results for the three and six months ended March 31, 2024 are not necessarily indicative of the results expected for the full year ending September 30, 2024 or any interim period.

The presentation of unaudited condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the condensed consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. The Company's unaudited condensed consolidated financial statements include its wholly owned subsidiaries. All intercompany balances and accounts are eliminated in consolidation.

The following table provides a reconciliation of the Company's cash and cash equivalents and non-current portion of restricted cash reported within the unaudited condensed consolidated balance sheets that sum to the total cash, cash equivalents and restricted cash shown in the Company's condensed consolidated statements of cash flows:

(in thousands)	March 31, 2024	September 30, 2023
Cash and cash equivalents	$ 243,348	$ 286,470
Restricted cash, non-current	2,868	2,811
Total cash, cash equivalents and restricted cash	$ 246,216	$ 289,281

Restricted cash represents cash held at financial institutions that are pledged as collateral for stand-by letters of credit for lease commitments and is included in non-current assets.

Significant accounting policies

There have been no material changes in the accounting policies from those disclosed in the audited consolidated financial statements and the related notes included in the Annual Report on Form 10-K other than disclosed below.

Allowance for Credit Losses

The Company maintains an allowance for credit losses for expected uncollectible accounts receivable and contract assets, which is recorded as an offset to accounts receivable or contract assets and provisions for credit losses are recorded in general and administrative expense in the consolidated statements of income. Under the application of Accounting Standards Codification ("ASC") Topic 326-20, Financial Instruments—Credit Losses ("ASC 326"), the allowance for current expected credit losses is based on a review of customer accounts and considers historical credit loss information that is adjusted for current economic and business conditions and anticipated future economic events that may impact collectability. In developing its expected credit loss estimate, the Company evaluated the appropriate grouping of accounts receivable and contract assets based upon its evaluation of risk characteristics, including consideration of region and industries of the customers. The allowance for credit losses is reviewed on a quarterly basis to assess the adequacy of the allowance. Allowance for credit losses was $0.7 million as of March 31, 2024.

Short-term investments

The Company invests in various types of securities, including United States government, commercial paper, and corporate debt securities. The Company classifies its investments as available-for-sale and records them at fair value based upon market prices at period end. For available-for-sale debt securities in an unrealized loss position, the Company evaluates whether a current expected credit loss exists based on available information relevant to the credit rating of the security, current economic conditions and reasonable and supportable forecasts. The allowance for credit loss is recorded in other income (expense), net, on the consolidated statements of income, not to exceed the amount of the unrealized loss. Any excess unrealized loss other than the credit loss is recognized in accumulated other comprehensive income or loss in the stockholders' equity section of the consolidated balance sheets. The cost of securities sold is based on the specific identification method and realized gains and losses are included in other income (expense), net. Dividend and interest income are recognized when earned. The Company may sell these securities at any time for use in current operations. There was no allowance for credit losses relating to the short-term investments recognized as of March 31, 2024.

Revenue

The Company had contract assets of $2.7 million and contract liabilities of $2.5 million as of March 31, 2024. The Company had contract assets of $2.8 million and contract liabilities of $3.0 million as of September 30, 2023. For the three and six months ended March 31, 2024, the Company recognized revenue of $0.9 million and $2.2 million, respectively, from the amount that was included in the contract liability balance at the beginning of each period. For the three and six months ended March 31, 2023, the Company recognized revenue of $1.4 million and $2.7 million, respectively, from the amount that was included in the contract liability balance at the beginning of each period. In addition, for all periods presented, there was no revenue recognized in a reporting period from performance obligations satisfied in previous periods. The aggregate amount of the transaction price allocated to the performance obligations that are unsatisfied as of March 31, 2024 was $5.9 million. The Company expects to recognize revenue over the next twelve months relating to performance obligations unsatisfied as of March 31, 2024.

Based on the nature of the Company's contracts with customers, which are recognized over a term of less than 12 months, the Company has elected to use the practical expedient whereby costs to obtain a contract are expensed as they are incurred.

The Company states its revenues net of any taxes collected from customers that are required to be remitted to various government agencies. The amount of taxes collected from customers and payable to governmental entities is included on the balance sheet as part of “Accrued expenses and other current liabilities.”

Recent accounting pronouncements

Changes to GAAP are established by the Financial Accounting Standards Board (“FASB”) in the form of accounting standards updates (“ASUs”) to the FASB’s ASC. The Company considered the applicability and impact of all recent ASUs. ASUs not listed below were assessed and determined to be not applicable to the Company’s consolidated financial position and results of operations.

Recent accounting pronouncements adopted

In June 2016, FASB issued ASU No. 2016-13 “Financial Instruments-Credit Losses: Measurement of Credit Losses on Financial Instruments” and has since modified the standard with several ASUs (collectively, “Topic 326”). Topic 326 requires measurement and recognition of expected credit losses for financial assets. The ASU replaced previous incurred loss impairment guidance and established a single expected credit losses allowance framework for financial assets carried at amortized cost. It also eliminated the concept of other-than-temporary impairment and requires credit losses related to certain available-for-sale debt securities to be recorded through an allowance for credit losses. On October 1, 2023, the Company adopted this standard using a modified retrospective approach, which requires a cumulative-effect adjustment to the opening balance of retained earnings to be recognized on the date of adoption and, accordingly, recorded a net increase of $0.1 million to accumulated deficit as of the beginning of fiscal 2024. In connection with the adoption of Topic 326, the Company made an accounting policy election to not measure an allowance for credit losses for accrued interest receivable.

Recently issued accounting pronouncement not yet adopted

In December 2023, the FASB issued ASU No. 2023-09 "Income Taxes (Topic 740)". The amendments in this ASU require that public business entities on an annual basis (1) disclose specific categories in the rate reconciliation and (2) provide additional information for reconciling items that meet a quantitative threshold. The amendments in this update are effective for annual periods beginning after December 15, 2024. The standard is not expected to have a material impact to the Company's condensed consolidated financial statements.

In November 2023, the FASB issued ASU No. 2023-08 "Segment Reporting (Topic 280)". The amendments in this ASU improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. The amendments in this update are effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted. The standard is not expected to have a material impact to the Company's condensed consolidated financial statements.

The Company has evaluated other recently issued accounting pronouncements and has concluded that the impact of recently issued standards that are not yet effective will not have a material impact on the Company’s financial position or results of operations upon adoption.

3. Fair value measurement

The Company assesses the fair value of financial instruments based on the provisions of ASC 820, *Fair Value Measurements*. ASC 820 defines fair value 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. ASC 820 also establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

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

Level 2—Observable inputs other than Level 1 prices 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.

In determining fair value, the Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible as well as considering counterparty credit risk in its assessment of fair value.

The following table sets forth the cash and cash equivalents, short-term investments and equity securities as of March 31, 2024:

(in thousands)	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Cash and cash equivalents	$ 243,348	$ —	$ —	$ 243,348
Short-term investments:				
U.S. government treasury bills	50,002	11	(19)	49,994
Non-current assets - investment in equity securities	3,711	—	—	3,711
Total	$ 297,061	$ 11	$ (19)	$ 297,053

The following table sets forth the cash and cash equivalents, short-term investments and equity securities as of September 30, 2023:

(in thousands)	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Cash and cash equivalents	$ 286,470	$ —	$ —	$ 286,470
Short-term investments:				
Corporate bonds	14,918	—	(29)	14,889
U.S. government treasury bills	35,111	—	(57)	35,054
Non-current assets - investment in equity securities	3,711	—	—	3,711
Total	$ 340,210	$ —	$ (86)	$ 340,124

As of March 31, 2024, financial assets and liabilities measured and recognized at fair value are as follows:

(in thousands)	Level 1	Level 2	Level 3	Fair value
Assets				
Money market funds	$ 213,232	$ —	$ —	$ 213,232
U.S. government treasury bills	49,994	—	—	49,994
Non-current assets - investment in equity securities	—	—	3,711	3,711
Total	$ 263,226	$ —	$ 3,711	$ 266,937
Total financial liabilities	$ —	$ —	$ —	$ —

As of September 30, 2023, financial assets and liabilities measured and recognized at fair value are as follows:

(in thousands)	Level 1		Level 2		Level 3		Fair value	
Assets								
Money market funds	$	245,654	$	—	$	—	$	245,654
Corporate bonds		—		14,889		—		14,889
U.S. government treasury bills		35,054		—		—		35,054
Non-current assets - investment in equity securities		—		—		3,711		3,711
Total financial assets	$	280,708	$	14,889	$	3,711	$	299,308
Total financial liabilities	$	—	$	—	$	—	$	—

Contractual maturities of all the investments, as of March 31, 2024, were less than 12 months. The Company does not intend to sell the money market funds and short-term investments and it is not more likely than not that the Company will be required to sell the investments before recovery of their amortized cost basis. The Company's short-term investments have been in a continuous unrealized loss position for less than 12 months. Accrued interest receivable balances included in the prepaid expenses and other current assets within the condensed consolidated balance sheets were $1.1 million and $1.2 million as of March 31, 2024 and September 30, 2023, respectively. As of March 31, 2024, the gross unrealized losses on short-term investments are related to market interest rate changes and not attributable to credit.

During 2021 and as amended in 2022, the Company entered into convertible promissory note agreements with a privately held company (“Borrower”) pursuant to which the Company agreed to loan to the Borrower $3.5 million in a series of loan installments, evidenced by a convertible promissory note having a maturity date of May 1, 2023 (“Convertible Note”). The Convertible Note included an option to convert the Convertible Note into the Borrower’s equity at the Borrower’s next round of equity financing, and accrued interest at a rate of 4% per annum. In April 2023, the Company exercised the option and the Borrower issued to the Company ordinary shares which represent a 15% equity interest. As of March 31, 2024, the Company’s equity investments were categorized as Level 3 within the fair value hierarchy.

The equity investment held by the Company is a VIE, but the Company is not the primary beneficiary. The Company does not have the power to direct the activities that most significantly impact the economic performance of the investee. The Company’s maximum exposure to loss from this VIE consist of an equity investment of $3.7 million. Equity investments held by the Company lack readily determinable fair values and therefore the securities are measured at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or similar equity securities of the same issuer. The Company reviews the carrying value of its equity investments for impairment whenever events or changes in business circumstances indicate the carrying amount of such asset may not be fully recoverable. Impairments, if any, are based on the excess of the carrying amount over the recoverable amount of the asset. There were no such impairments during the three months ended March 31, 2024 and March 31, 2023.

As of March 31, 2024 and September 30, 2023, there were no financial liabilities categorized as level 3 within the fair value hierarchy. There were no transfers between Level 1, Level 2 and Level 3 in the periods presented.

The following table provides a reconciliation of beginning and ending balances of the Level 3 financial assets during the three months ended March 31, 2024:

(in thousands)	Equity investments		Total	
Balance as of September 30, 2023	$	3,711	$	3,711
Change in fair value		—		—
Additions during the year		—		—
Balance as of March 31, 2024	$	3,711	$	3,711

4. Balance sheet components

Inventories consist of the following:

(in thousands)	March 31, 2024	September 30, 2023
Raw materials	$ 21,788	$ 27,024
Work-in-process	2,814	1,113
Finished goods	5,774	3,926
	$ 30,376	$ 32,063

There is no consigned inventory balance as of March 31, 2024 and September 30, 2023.

Property and Equipment, net consists of the following:

(in thousands)	March 31, 2024	September 30, 2023
Laboratory equipment	$ 106,791	$ 104,508
Furniture, fixtures and other equipment	3,468	3,484
Vehicles	129	85
Computer equipment	3,120	3,103
Computer software	8,903	5,507
Leasehold improvements	60,023	57,271
Construction in progress	3,436	8,528
	$ 185,870	$ 182,486
Less: Accumulated depreciation	(64,531)	(50,656)
	$ 121,339	$ 131,830

As of March 31, 2024, the construction in progress mainly represents equipment costs and software development costs. For the three and six months ended March 31, 2024, the total depreciation expense was $7.0 million and $13.9 million, respectively. For the three and six months ended March 31, 2023 the total depreciation expense was $5.7 million and $9.9 million, respectively.

The other current liabilities consist of the following:

(in thousands)	March 31, 2024	September 30, 2023
Income and other taxes payable	$ 2,105	$ 4,374
Contract liabilities	2,542	2,999
Other current liabilities	792	430
	$ 5,439	$ 7,803

5. Goodwill and intangible assets

There were no changes to the carrying value of goodwill during the six months ended March 31, 2024.

The goodwill balance is presented below:

(in thousands)	March 31, 2024	September 30, 2023
Balance at beginning of period/year	$ 85,811	$ 85,811
Balance at end of period/year	$ 85,811	$ 85,811

The intangible assets balances are presented below:

(in thousands, except for years)	Weighted average Amortization period in years	Gross carrying amount	Accumulated amortization	Net book value
	March 31, 2024			
Developed Technology	15	$ 50,020	$ (9,266)	$ 40,754
Customer Relationships	11	15,210	(4,267)	10,943
Tradenames & Trademarks	3	900	(699)	201
Total finite-lived intangible assets		$ 66,130	$ (14,232)	$ 51,898

(in thousands, except for years)	Weighted average Amortization period in years	Gross carrying amount	Accumulated amortization	Net book value
	September 30, 2023			
Developed Technology	15	$ 50,020	$ (7,636)	$ 42,384
Customer Relationships	11	15,210	(3,461)	11,749
Tradenames & Trademarks	3	$ 900	$ (550)	$ 350
Total finite-lived intangible assets		$ 66,130	$ (11,647)	$ 54,483

Total amortization expense related to finite-lived intangible assets was $1.3 million for the three months ended March 31, 2024 and $1.3 million for the three months ended March 31, 2023. Total amortization expense related to finite-lived intangible assets was $2.6 million for the six months ended March 31, 2024 and $2.7 million for the six months ended March 31, 2023.

6. Commitments and contingencies

Legal proceedings

The Company may be subject to litigation, claims and disputes in the ordinary course of business. There is an inherent risk in any litigation or dispute and no assurance can be given as to the outcome of any claims.

Securities Class Action

On December 12, 2022, a putative securities class action lawsuit captioned Peters v. Twist Bioscience Corporation, et al., Case No. 22-cv-08168 (N.D. Cal.) ("Securities Class Action") was filed in federal court in the Northern District of California ("Court") against the Company, its Chief Executive Officer, and its Chief Financial Officer (the "Defendants") alleging violations of federal securities laws. The Securities Class Action's claims are based in large part on allegations made in a report issued on November 15, 2022 by Scorpion Capital ("Scorpion Report") concerning, among other things, the Company's DNA chip technology and accounting practices. The initial complaint filed in the Securities Class Action alleges that various statements that the defendants made between December 13, 2019 and November 14, 2022 were materially false and misleading in light of the allegations in the Scorpion Report. The plaintiff who initiated the lawsuit sought to represent a class of shareholders who acquired shares of the Company's common stock between December 13, 2019 and November 14, 2022 and sought damages as well as certain other costs. On July 28, 2023, the Court appointed a new plaintiff, not the original plaintiff who filed the case, as lead plaintiff in the case and appointed a new law firm as lead counsel. On October 11, 2023, the lead plaintiff filed an amended complaint. The amended complaint is purportedly brought on behalf of all persons other than the Defendants who acquired the Company's securities between December 20, 2018 and November 15, 2022. The amended complaint alleges that certain statements regarding, among other things, the Company's DNA products and accounting practices were false and misleading.

This case remains in the preliminary stage. Given the inherent uncertainty of litigation and the legal standards that must be met, including class certification and success on the merits, the Company cannot express an opinion on the likelihood of an unfavorable outcome or on the amount or range of any potential loss. The Company and the other defendants intend to vigorously defend themselves against the claims asserted against them, and filed a motion to dismiss the amended complaint on December 6, 2023, which the Court has taken under submission.

Derivative Action

On September 25, 2023, a shareholder derivative suit captioned Shumacher vs. Leproust et al., No. 1:23-cv-01048-UNA, was filed in the United States District Court for the District of Delaware against directors of the Company and an employee (the "Derivative Action"). The suit is based on substantially the same allegations in the Securities Class Action and seeks to recover, on behalf of the Company, damages to the Company arising from, among other things, the Securities Class Action. On November 13, 2023, the parties to the Derivative Action entered into a stipulation staying the Derivative Action pending resolution of the anticipated motion to dismiss the defendants have filed in the Securities Class Action.

Indemnifications

In the ordinary course of business, the Company enters into agreements that may include indemnification provisions. Pursuant to such agreements, the Company may indemnify, hold harmless and defend the indemnified parties for losses suffered or incurred by the indemnified party. Some of the provisions will limit losses to those arising from third-party actions. In some cases, the indemnification will continue after the termination of the agreement. The maximum potential amount of future payments the Company could be required to make under these provisions is not determinable. To date, the Company has not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. From time to time, the Company has entered into indemnification agreements with its directors and officers that requires it to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers to the fullest extent permitted by law. The Company also has directors' and officers' insurance.

Leases

The Company leases certain of its facilities under non-cancellable operating leases expiring at various dates through 2044. The Company is also responsible for utilities, maintenance, insurance, and property taxes under these leases. The Company's lease payments consist primarily of fixed rental payments for the right to use the underlying leased assets over the lease terms, as well as payments for common-area-maintenance and administrative services. The Company often receives customary incentives from its landlords, such as reimbursements for tenant improvements and rent abatement periods, which effectively reduce the total lease payments owed for these leases. Leases are classified as operating or financing at commencement. The Company does not have any material financing leases.

Certain leases include options to renew or terminate at the Company's discretion. The lease terms include periods covered by these options if it is reasonably certain the Company will renew or not terminate. The Company's lease agreements do not contain any material residual value guarantees or restrictive covenants.

Supplemental balance sheet information related to the Company's operating leases as of March 31, 2024 is as follows:

(in thousands)	**March 31, 2024**
Assets:	
Operating lease right-of-use asset	$ 63,666
Current liabilities:	
Current portion of operating lease liabilities	$ 14,621
Noncurrent liabilities:	
Operating lease liabilities, net of current portion	$ 74,804

Future minimum lease payments under all non-cancelable operating leases that have commenced as of March 31, 2024 are as follows:

(in thousands)	Operating leases
Years ending September 30:	
Remainder of 2024	$ 7,336
2025	14,814
2026	13,885
2027	8,371
2028	8,471
Thereafter	88,014
Total minimum lease payments	$ 140,891
Less: imputed interest	(51,466)
Total operating lease liabilities	$ 89,425
Less: current portion	(14,621)
Operating lease liabilities, net of current portion	$ 74,804

The statement of cash flows for the six months ended March 31, 2024 include changes in right-of-use assets and operating lease liabilities of $7.9 million and $4.6 million, respectively. For the six months ended March 31, 2023, changes in right-of-use assets and operating lease liabilities were $4.3 million and $3.7 million, respectively.

During the three and six months ended March 31, 2024, operating lease expense was $3.9 million and $7.9 million, respectively. Cash payments for amounts included in the measurement of operating lease liabilities were $3.6 million and $7.3 million for the three and six months ended March 31, 2024, respectively. During the three and six months ended March 31, 2023, operating lease expense was $4.1 million and $8.2 million, respectively. Cash payments for amounts included in the measurement of operating lease liabilities were $4.0 million and $7.6 million for the three and six months ended March 31, 2023, respectively. As of March 31, 2024, the weighted-average remaining lease term was 15.3 years and the weighted-average discount rate was 6.5%.

7. Related party transactions

During the three months ended March 31, 2024 and 2023, the Company purchased raw materials from a related party in the amount of $1.5 million and $1.5 million, respectively. During the six months ended March 31, 2024 and 2023, the purchases of raw materials from a related party were $2.8 million and $3.5 million, respectively. During the three and six months ended March 31, 2024, the Company had revenues from the related party in the amount of $3.2 million and $5.6 million, respectively. During the three and six months ended March 31, 2023, the Company generated revenues from the related party totaling $2.2 million and $2.6 million, respectively. As of March 31, 2024, payable balances and receivable balances with the related party were $0.3 million and $1.0 million, respectively. Receivable balances with the related party were $1.7 million as of September 30, 2023. Payable balances with the related parties were immaterial as of September 30, 2023.

8. Income taxes

In determining quarterly provisions for income taxes, the Company uses the annual estimated effective tax rate applied to the actual year-to-date profit or loss, adjusted for discrete items arising in that quarter. For the three and six months ended March 31, 2024, the Company recorded provisions for income taxes of $0.3 million and $0.5 million, respectively. For the three and six months ended March 31, 2023, the Company recorded provisions for income taxes of $0.7 million and $0.8 million, respectively.

9. Common stock

As of March 31, 2024, the Company had reserved sufficient shares of common stock, with a par value of $0.00001 per share, for issuance upon exercise of outstanding stock options. Each share of common stock is entitled to one vote. The holders of shares of common stock are also entitled to receive dividends whenever funds are legally available and when declared by the board of directors.

10. Stock-based compensation

The Company grants stock-based awards, consisting of stock options and restricted stock, to its employees, certain non-employee consultants and certain members of its board of directors. The Company measures stock-based compensation expense for restricted stock and stock options granted to its employees and directors on the date of grant and recognizes the corresponding compensation expense of those awards over the requisite service period, which is generally the vesting period of the respective award. The Company measures stock-based compensation expense for restricted stock and stock options granted to non-employee consultants on the date of grant and recognizes the corresponding compensation expense of those awards over the period in which the related services are received. The Company adjusts for actual forfeitures as they occur.

2018 Equity Incentive Plan

On September 26, 2018, the board of directors adopted the 2018 Equity Incentive Plan (the “2018 Plan”) as a successor to the 2013 Stock Plan (the “2013 Plan”). Any shares subject to outstanding awards under the 2013 Plan that are canceled or repurchased subsequent to the 2018 Plan’s effective date are returned to the pool of shares reserved for issuance under the 2018 Plan. Awards granted under the 2018 Plan may be non-statutory stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, and performance units.

Inducement Equity Incentive Plan

On August 22, 2023, the board of directors adopted an inducement equity incentive plan (the “Inducement Plan”). The maximum aggregate number of shares that may be issued under the Inducement Plan is 700,000 of the Company's common stock. The Inducement Plan permits the grant of non-statutory stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares. The shares issuable under the Inducement Plan are registered pursuant to a registration statement on Form S-8 filed with the Securities and Exchange Commission on August 25, 2023.

Restricted Stock Units

Restricted stock consists of restricted stock unit awards (“RSUs”) which have been granted to employees and non-employee directors. The value of an RSU award is based on the Company’s stock price on the date of grant. Employee grants generally vest over four years and non-employee director grants generally vest over one year. Forfeitures of RSUs are recognized as they occur. The shares underlying the RSU awards are not issued until the RSUs vest. Upon vesting, each RSU converts into one share of the Company’s common stock.

Activity with respect to the Company’s restricted stock units during the six months ended March 31, 2024 was as follows:

(in thousands, except per share data)	**Shares**	**Weighted average grant date fair value per share**
Nonvested shares at September 30, 2023	1,620	$ 40.73
Granted	1,281	24.49
Vested/Issued	(382)	40.37
Forfeited	(148)	44.98
Nonvested shares at March 31, 2024	2,371	$ 31.78

As of March 31, 2024, there was $69.6 million of total unrecognized compensation cost related to these awards that is expected to be recognized over a weighted average period of 2.7 years. The total grant date fair value of RSUs awarded during the six months ended March 31, 2024 was $31.4 million.

Performance Stock Units

Performance stock unit awards (“PSUs”) granted to certain employees will vest upon achievement of operational milestones related to the Wilsonville facility, and to Company executives will vest upon achievement of revenue, gross profit and cash balance metrics as determined by the board of directors, and to certain non-employee consultants will vest upon achievement of operational milestones. Stock compensation expense for PSUs is recorded over the vesting period based on the grant date fair value of the awards and probability of the achievement of specified performance targets. The grant date fair value is equal to the closing share price of the Company’s common stock on the date of grant. For employees, PSUs generally vest over a one to three-year service period following the grant date, provided that the recipient is a Company employee at the time of vesting and the performance targets applicable to each award are achieved. For non-employees, PSUs generally vest over a one to three-year service period following the grant date, provided that the performance targets applicable to each award are achieved. The percentage of PSUs that vest will depend on the achievement of specified performance targets at the end of the performance period and can range from 0% to 150% of the number of units granted. Any PSUs that are unvested at the end of the performance period are forfeited. Forfeitures of PSUs are recognized as they occur.

Activity under the PSUs during the six months ended March 31, 2024 is summarized below:

(in thousands, except per share data)	Shares	Weighted average grant date fair value per share
Nonvested shares at September 30, 2023	932	$ 36.82
Granted	615	18.60
Vested/Issued	(84)	80.67
Forfeited	(33)	35.40
Nonvested shares at March 31, 2024	1,430	$ 26.44

As of March 31, 2024, the unrecognized compensation costs related to these awards was $23.2 million based on the maximum achievement of the performance targets. The Company expects to recognize those costs over a weighted average period of 1.5 years. The total grant date fair value of PSUs awarded during the six months ended March 31, 2024 was $11.4 million.

Options

Options are generally granted to employees and were granted to non-employee directors until FY 2020. Stock options entitle the holder to purchase, at the end of the vesting term, a specified number of shares of Company common stock at an exercise price per share equal to the closing market price of the common stock on the date of grant. Stock options have a contractual life from the date of the grant and a vesting schedule as established by the board of directors. The maximum term of stock options granted under the 2018 Plan is 10 years and the awards generally vest over a four-year period. Forfeitures of options are recognized as they occur. The fair value of each service based stock option grant is estimated on the date of grant using the Black-Scholes option-pricing model. The Company has not granted any stock options during the three and six months ended March 31, 2024 or 2023.

Options activity during the six months ended March 31, 2024 is summarized below:

(in thousands, except per share data)	Shares	Weighted average exercise price per share	Weighted average remaining contractual term (years)	Aggregate intrinsic value
Outstanding at September 30, 2023	2,119	$ 24.18	5.25	$ 6,715
Forfeited	(107)	37.22	—	—
Exercised	(127)	17.88	—	1,661
Outstanding at March 31, 2024	1,885	$23.87	4.68	$ 24,249
Nonvested at March 31, 2024	9	95.36	7.03	—
Exercisable at March 31, 2024	1,876	$ 23.52	4.66	$ 24,249

As of March 31, 2024, the unrecognized compensation costs related to these awards was $0.5 million. The Company expects to recognize those costs over a weighted average period of 1.2 years. The Company did not grant any options during the six months ended March 31, 2024.

Performance Stock Options

On September 1, 2020, the board of directors approved the implementation of a revised annual equity award program for executive officers, senior level employees and consultants to be granted as performance-based stock options ("PSOs") under the 2018 Plan. The PSOs issued to executive officers and senior level employees vested in prior years. The number of PSOs ultimately earned under the awards to a consultant is calculated based on the achievement of certain operational milestones. The maximum term of performance stock options granted under the 2018 Plan is 10 years for both employees and non-employees. The awards generally vest over a two-year period for executive officers and senior level employees. Awards to non-employees generally vest over a five-year period.

The provisions of the PSOs are considered a performance condition, and the effects of that performance condition are not reflected in the grant date fair value of the awards. The Company used the Black-Scholes method to calculate the fair value at the grant date without regard to the vesting condition and will recognize compensation cost for the options that are expected to vest. Forfeitures of PSOs are recognized as they occur. The Company reassesses the probability of the performance condition at each reporting period and adjusts the compensation cost based on the probability assessment. As of March 31, 2024, the Company determined that 30,000 shares are expected to vest based on the probability of the performance condition that will be achieved under this equity award program.

Activity under the PSOs during the six months ended March 31, 2024 is summarized below:

(in thousands, except per share data)	Shares	Weighted average exercise price per share	Weighted average remaining contractual term (years)	Aggregate intrinsic value
Outstanding at September 30, 2023	289	$ 60.82	7.37	$ —
Nonvested at September 30, 2023	30	$ 31.29	8.57	$ —
Exercisable at September 30, 2023	259	64.24	7.23	—
Forfeited	(12)	$ 67.85	—	$ —
Exercisable at March 31, 2024	247	$ 64.07	6.74	$ 136
Nonvested at March 31, 2024	30	31.29	8.07	91
Outstanding at March 31, 2024	277	$ 60.53	6.88	$ 227

As of March 31, 2024, the unrecognized compensation costs related to these awards was $0.2 million. The Company expects to recognize those costs over a weighted average period of 1.1 years.

Total stock-based compensation expense/(credit) recognized was as follows:

	Three months ended March 31,		Six months ended March 31,	
(in thousands)	2024	2023	2024	2023
Cost of revenues	$ 1,049	$ 1,469	$ 1,973	$ 2,612
Research and development	3,376	3,090	6,214	7,508
Selling, general and administrative	9,399	5,700	16,657	(2,186)
Total stock-based compensation	$ 13,824	$ 10,259	$ 24,844	$ 7,934

During the three and six months ended March 31, 2023, stock-based compensation decreased primarily as a result of departing employee share forfeitures, and a stock-based credit related to a business combination due to non-achievement of a performance condition. An immaterial amount of stock-based compensation was capitalized to inventories attributable to employees who support the manufacturing of the Company's products for the three and six months ended March 31, 2024 and 2023. An immaterial amount of stock-based compensation was capitalized to property and equipment related to capitalized software development costs for the three and six months ended March 31, 2024. The stock-based compensation of $0.2 million and $0.4 million was capitalized to property and equipment related to the capitalized software development costs for the three and six months ended March 31, 2023.

2018 Employee Stock Purchase Plan

On September 26, 2018, the board of directors adopted the 2018 Employee Stock Purchase Plan (the "2018 ESPP"). The number of shares reserved for issuance under the 2018 ESPP upon approval was 275,225 shares of the Company’s common stock, and it increases automatically on the first day of each fiscal year, following the fiscal year in which the 2018 ESPP became effective, by a number equal to the least of 249,470 shares, 1% of the shares of common stock outstanding at that time, or such number of shares determined by the Company’s board of directors. The number of shares reserved for issuance at March 31, 2024 was as follows:

(In thousands)	Shares available
Outstanding at September 30, 2023	539
Additional shares authorized	249
Shares issued during the period	(124)
Outstanding at March 31, 2024	664

Subject to any plan limitations, the 2018 ESPP allows eligible service providers (through qualified and non-qualified offerings) to contribute, normally through payroll deductions, up to 15% of their earnings for the purchase of the Company's common stock at a discounted price per share. The offering periods begin in February and August of each year, except the initial offering period which commenced with the initial public offering in October 2018 and ended on August 20, 2019.

Unless otherwise determined by the board of directors, the Company's common stock will be purchased for the accounts of employees participating in the 2018 ESPP at a price per share that is the lesser of 85% of the fair market value of the Company's common stock on the first trading day of the offering period or 85% of the fair market value of the Company's common stock on the last trading day of the offering period. During the three and six months ended March 31, 2024 ESPP expenses of $0.5 million and $0.8 million, respectively was recognized. During the three and six months ended March 31, 2023, activity under the 2018 ESPP was immaterial.

401(k) Savings Plan

During 2018, the Company adopted a 401(k) savings plan for the benefit of its employees. In January 2022, the Company modified its plan to include an employer matching contribution. The Company is required to make matching contributions to the 401(k) plan equal to 50% of the first 6% of wages deferred by each participating employee. The Company incurred expenses for employer matching contributions of $0.7 million and $1.4 million for the three and six months ended March 31, 2024, respectively. The Company incurred expenses for employer matching contributions of $0.7 million and $1.4 million for the three and six months ended March 31, 2023, respectively.

Abveris Acquisition

At September 30, 2022, management determined that the achievement of the performance condition relating to the equity awards granted in connection with the Abveris acquisition awards was probable, and cumulative stock-based compensation expense of $9.9 million was recognized during the year ended September 30, 2022. At December 31, 2022, management determined that the performance condition was not achieved, and therefore the cumulative stock-based compensation expense recognized to date was reversed, resulting in a reduction of stock compensation expense of $9.9 million in the three months ended December 31, 2022.

11. Net loss per share attributable to common stockholders

The following table sets forth the computation of the Company's basic and diluted net loss per share attributable to common stockholders:

	Three months ended March 31,		Six months ended March 31,	
(in thousands, except per share data)	**2024**	**2023**	**2024**	**2023**
Numerator:				
Net loss attributable to common stockholders	$ (45,492)	$ (59,156)	$ (88,500)	$ (100,980)
Denominator:				
Weighted average shares used in computing net loss per share, basic and diluted	57,779	56,777	57,637	56,608
Net loss per share attributable to common stockholders, basic and diluted	$ (0.79)	$ (1.04)	$ (1.54)	$ (1.78)

The potentially dilutive common shares that were excluded from the calculation of diluted net loss per share because their effect would have been antidilutive for the periods presented are as follows:

(in thousands)	Three and six months ended March 31, 2024	2023
Shares subject to options (including performance options) to purchase common stock	2,162	2,636
Unvested restricted stock units and performance stock units	3,801	2,632
Shares subject to employee stock purchase plan	77	135
Total	6,040	5,403

12. Geographic, product and industry information

The table below sets forth revenues by geographic region, based on ship-to destinations. Americas consists of the United States of America, Canada, Mexico and South America; EMEA consists of Europe, the Middle East, and Africa; and APAC consists of Japan, China, South Korea, India, Singapore, Malaysia, Australia New Zealand, Thailand and Taiwan.

	Three months ended March 31,		Six months ended March 31,	
(in thousands)	2024	2023	2024	2023
Americas	$ 45,873	$ 34,925	$ 89,832	$ 68,571
EMEA	22,263	18,780	43,483	35,111
APAC	7,166	6,475	13,485	10,741
Total	$ 75,302	$ 60,180	$ 146,800	$ 114,423

The table below sets forth revenues by products.

	Three months ended March 31,		Six months ended March 31,	
(in thousands)	2024	2023	2024	2023
Synthetic genes	$ 22,356	$ 18,011	$ 42,083	$ 34,186
Oligo pools	3,940	3,315	8,129	7,015
DNA libraries	3,531	2,826	6,470	4,662
Antibody discovery	4,701	7,034	9,927	15,205
NGS tools	40,774	28,994	80,191	53,355
Total	$ 75,302	$ 60,180	$ 146,800	$ 114,423

The table below sets forth revenues by industry.

	Three months ended March 31,		Six months ended March 31,	
(in thousands)	2024	2023	2024	2023
Industrial chemicals/materials	$ 20,264	$ 14,410	$ 36,542	$ 27,985
Academic research	13,722	11,120	27,495	21,135
Healthcare	40,934	33,764	81,815	63,777
Food/agricultural	382	886	948	1526
Total	$ 75,302	$ 60,180	$ 146,800	$ 114,423

13. 2023 Restructuring and other costs

On May 3, 2023, the Company’s Board of Directors approved a strategic restructuring plan to reduce costs, build a leaner organization and increase operating efficiencies. The restructuring plan included a reduction in force which affected approximately 270 employees worldwide, representing approximately 25% of the Company’s total workforce. The majority of these employees separated from the Company by September 30, 2023. The reduction in force is subject to local regulatory requirements. Furthermore, as part of the plan the Company removed the duplication of synthetic biology production across its South San Francisco, California and Wilsonville, Oregon facilities. The plan was implemented beginning in May 2023 and was substantially completed by the end of fiscal year 2023. Total restructuring and other costs of $16.2 million was incurred by the Company during the year ended September 30, 2023 and included employee severance and related benefit costs of $8.5 million, restructuring and non-restructuring related impairment of property and equipment of $6.8 million, and other costs associated with restructuring of $0.9 million.

* * * * *

Item 2. Management's discussion and analysis of financial condition and results of operations

You should read the following discussion and analysis of our financial condition and results of operations together with the unaudited condensed consolidated financial statements and related notes that are included elsewhere in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the fiscal year ended September 30, 2023 filed with the U.S. Securities and Exchange Commission, or the SEC, on November 21, 2023, or our Annual Report on Form 10-K. This discussion contains forward-looking statements based upon current plans, expectations and beliefs that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including, but not limited to, those discussed in the section entitled "Risk Factors" and elsewhere in this Quarterly Report on Form 10-Q. In preparing this MD&A, we presume that readers have access to and have read the MD&A in our Annual Report on Form 10-K, pursuant to Instruction 2 to paragraph (b) of Item 303 of Regulation S-K.

Overview

We are an innovative synthetic biology and genomics company that has developed a scalable DNA synthesis platform to industrialize the engineering of biology. The core of our platform is a proprietary technology that pioneers a new method of manufacturing synthetic DNA by "writing" DNA on a silicon chip. We have miniaturized traditional chemical DNA synthesis reactions to write over one million short pieces of DNA on each silicon chip, approximately the size of a large mobile phone. We have combined this technology with proprietary software, scalable commercial infrastructure, and an e-commerce platform to create an integrated technology platform that enables us to achieve high levels of quality, precision, automation, and manufacturing throughput at a significantly lower cost than our competitors. We are leveraging our unique technology to manufacture a broad range of synthetic DNA based products, including synthetic genes, tools for next-generation sample preparation, and antibody libraries for drug discovery and development.

Additionally, we believe our platform will enable new value-added opportunities, such as discovery partnerships for biologic drugs, and will enable new applications for synthetic DNA, such as digital data storage. We sell our synthetic DNA and synthetic DNA-based products to a customer base of approximately 3,450 customers annually across a broad range of industries.

We launched the first application of our platform, synthetic genes and oligo pools, in April 2016 to disrupt the gene synthesis market and make legacy DNA synthesis methods obsolete.

We have grown rapidly and generated revenues of $75.3 million and $60.2 million in the three months ended March 31, 2024 and 2023, respectively, while incurring net losses of $45.5 million and $59.2 million for the three months ended March 31, 2024 and 2023, respectively. Since our inception, we have incurred significant operating losses and have accumulated net deficit of $1,121.7 million. To support our growth, we have resized our number of employees and increased investment in our manufacturing capabilities. Our ability to generate product revenue sufficient to achieve profitability will depend heavily on the success of our existing products and the development and commercialization of additional products in the synthetic biology, biologic drug and data storage industries, including our Express Genes which we launched in the fall of 2023, as well as leveraging our investment in our manufacturing facility in Wilsonville, Oregon.

For the three months ended March 31, 2024 and 2023, the number of customers who purchased products from us were approximately 2,253 and 2,100 customers, respectively.

Highlights from three months ended March 31, 2024 compared with three months ended March 31, 2023 include:

- Revenue growth of 25% to $75.3 million from $60.2 million, primarily due to order growth in NGS tools and synthetic genes;
- The number of our genes shipped increased to 193,000 from 152,000; and
- The gross profit as a percentage of revenue (gross margin) increased to 41% from 31%.

For the six months ended March 31, 2024, the net cash used in operating activities decreased to $42.4 million from $98.4 million for the six months ended March 31, 2023.

We have built a scalable commercial platform that enables us to reach a diverse customer base in a variety of industries including industrial chemicals/materials, academic research, healthcare, food, agriculture and data storage. To address this diverse customer base, we have employed a multichannel strategy comprised of a direct sales force targeting synthetic DNA customers, international distributors, and an e-commerce platform. Launched in fiscal 2018, our e-commerce platform allows customers to design, validate and place on-demand orders of customized DNA online. This is a key component of our strategy to address and support our diverse and growing customer base, as well as support commercial productivity, enhance the customer experience, and promote loyalty.

Financial overview

The following table summarizes certain selected historical financial results:

(in thousands)	Three months ended March 31, 2024	Three months ended March 31, 2023	Six months ended March 31, 2024	Six months ended March 31, 2023
Revenues	$ 75,302	$ 60,180	$ 146,800	$ 114,423
Loss from operations	(48,889)	(61,637)	(95,866)	(106,267)
Net loss attributable to common stockholders	(45,492)	(59,156)	(88,500)	(100,980)

Revenues

We generate revenue from sales of synthetic genes, oligo pools, NGS tools, DNA libraries and antibody discovery services. Our ability to increase our revenues will depend on our ability to further penetrate the domestic and international markets, generate sales through our direct sales force, distributors and over time from our e-commerce digital platform and launch new products.

Revenues by geography

We have one reportable segment from the manufacturing of synthetic DNA products. The following table shows our revenues by geography, based on our customers' shipping addresses. Americas consists of United States, Canada, Mexico and South America; EMEA consists of Europe, Middle East and Africa; and APAC consists of Japan, China, South Korea, India, Singapore, Malaysia, Australia, New Zealand, Thailand and Taiwan.

(in thousands, except percentages)	Three months ended March 31, 2024	%	2023	%	Six months ended March 31, 2024	%	2023	%
Americas	$ 45,873	61 %	$ 34,925	58 %	$ 89,832	61 %	$ 68,571	60 %
EMEA	22,263	30 %	18,780	31 %	43,483	30 %	35,111	31 %
APAC	7,166	9 %	6,475	11 %	13,485	9 %	10,741	9 %
Total revenues	$ 75,302	100 %	$ 60,180	100 %	$ 146,800	100 %	$ 114,423	100 %

Revenues by product

The table below sets forth revenues by product:

(in thousands, except percentages)	Three months ended March 31, 2024	%	2023	%	Six months ended March 31, 2024	%	2023	%
Synthetic genes	$ 22,356	29 %	$ 18,011	30 %	$ 42,083	28 %	$ 34,186	30 %
Oligo pools	3,940	6 %	3,315	5 %	8,129	6 %	7,015	6 %
DNA libraries	3,531	5 %	2,826	5 %	6,470	4 %	4,662	4 %
Antibody discovery	4,701	6 %	7,034	12 %	9,927	7 %	15,205	13 %
NGS tools	40,774	54 %	28,994	48 %	80,191	55 %	53,355	47 %
Total revenues	$ 75,302	100 %	$ 60,180	100 %	$ 146,800	100 %	$ 114,423	100 %

Revenues by industry

The table below sets forth revenues by industry:

(in thousands, except percentages)	Three months ended March 31, 2024	%	2023	%	Six months ended March 31, 2024	%	2023	%
Industrial chemicals/materials	$ 20,264	27 %	$ 14,410	24 %	$ 36,542	25 %	$ 27,985	24 %
Academic research	13,722	18 %	11,120	19 %	27,495	18 %	21,135	19 %
Healthcare	40,934	54 %	33,764	56 %	81,815	56 %	63,777	56 %
Food/agriculture	382	1 %	886	1 %	948	1 %	1,526	1 %
Total revenues	$ 75,302	100 %	$ 60,180	100 %	$ 146,800	100 %	$ 114,423	100 %

Product shipments including synthetic genes

Shipments of all products and number of genes shipped in the three months ended March 31, 2024, December 31, 2023, September 30, 2023, June 30, 2023, March 31, 2023, December 31, 2022, September 30, 2022, and June 30, 2022 were as follows:

(in thousands)	Three months ended March 31, 2024	December 31, 2023	September 30, 2023	June 30, 2023	March 31, 2023	December 31, 2022	September 30, 2022	June 30, 2022
Number of genes shipped	193	171	177	171	152	134	146	163
Number of shipments	20	18	17	17	15	14(1)	20	15

(1) Previously reported number of shipments have been updated to conform to the current period presentation.

Comparison of the three months ended March 31, 2024 and 2023

Revenues

(in thousands, except percentages)	Three months ended March 31, 2024	2023	Change	%
Revenues	$ 75,302	$ 60,180	$ 15,122	25 %

In the three months ended March 31, 2024, revenues increased to $75.3 million from $60.2 million in the three months ended March 31, 2023. The increase in revenue reflects growth in NGS tools revenue of $11.8 million, growth in synthetic genes revenue of $4.3 million, growth in oligo pools of $0.6 million and growth in DNA libraries revenue of $0.7 million. This increase was partially offset by a decrease in revenue from antibody discovery of $2.3 million. The growth in NGS tools revenue is primarily attributable to an increase in revenue from our top customers in the healthcare,industrial chemicals/materials and academic research industries. Our synthetic genes revenue grew mainly due to an increase in revenue from our top customers and an increase in customers in the industrial chemicals/materials, academic research and healthcare industries as well as an improved turnaround time inclusive of the full launch of Express Genes. In the three months ended March 31, 2024, we shipped approximately 193,000 genes compared to approximately 152,000 genes in the three months ended March 31, 2023, an increase of 27%. Our oligo pools revenue grew mainly due to an increase in revenue from our top customers in the industrial chemicals/materials industries. Our DNA libraries revenue grew mainly due to an increase in revenue from our top customers in the healthcare and academic research industries.

Cost of revenues

(in thousands, except percentages)	Three months ended March 31, 2024	2023	Change	%
Cost of revenues	$ 44,420	$ 41,669	$ 2,751	7 %

In the three months ended March 31, 2024, cost of revenues increased to $44.4 million from $41.7 million in the three months ended March 31, 2023. The increase is attributable to an increase in material costs of $2.4 million due to higher sales volume, and an increase in depreciation and amortization expense of $1.4 million, primarily due to the ongoing capital investment to increase capacity. This was partially offset by a decrease in personnel costs, including stock-based compensation of $1.2 million due to the reduction of headcount related to the 2023 restructuring plan.

Research and development expenses

	Three months ended March 31,			
(in thousands, except percentages)	**2024**	**2023**	**Change**	**%**
Research and development	$ 24,149	$ 27,379	$ (3,230)	(12)%

In the three months ended March 31, 2024, research and development expenses decreased to $24.1 million from $27.4 million in the three months ended March 31, 2023. The decrease is primarily due to decreases in personnel costs of $1.7 million due to the reduction of headcount related to the 2023 restructuring plan and lab supplies of $2.8 million. The decrease was partially offset by a lack of grant reimbursement in 2024 where we received $1.4 million in 2023, which are netted against the research and development expenses.

Selling, general and administrative

	Three months ended March 31,			
(in thousands, except percentages)	**2024**	**2023**	**Change**	**%**
Selling, general and administrative	$ 55,622	$ 53,965	$ 1,657	3 %

In the three months ended March 31, 2024, selling, general and administrative expenses increased to $55.6 million from $54.0 million in the three months ended March 31, 2023. The increase is primarily due to increases in personnel costs of $6.1 million, including stock-based compensation of $3.8 million, IT services costs of $1.5 million, facilities costs of $1.1 million and marketing expenses of $1.7 million. These increases were partially offset by the decrease in the Wilsonville manufacturing facility pre-commercialization costs of $6.2 million, which was completed when the Wilsonville facility began shipping product in the three months ended March 31, 2023, and a decrease in outside services costs of $2.7 million.

Change in fair value of contingent consideration and holdbacks

	Three months ended March 31,			
(in thousands, except percentages)	**2024**	**2023**	**Change**	**%**
Change in fair value of contingent consideration and holdbacks	$ —	$ (1,196)	$ 1,196	(100)%

There was no change in fair value of contingent consideration and holdbacks for the three months ended March 31, 2024 as the contingent consideration and holdbacks liabilities were settled in the prior year. In the three months ended March 31, 2023, we recognized a change in fair value of holdbacks of $1.2 million related to the acquisition of Abveris primarily as a result of the change in fair value of our stock price as of March 31, 2023.

Interest and other income (expense), net

	Three months ended March 31,			
(in thousands, except percentages)	**2024**	**2023**	**Change**	**%**
Interest income	$ 3,941	$ 3,464	$ 477	14 %
Interest expense	—	(2)	2	(100)%
Other expense	(199)	(305)	106	(35)%
Total interest and other income (expense), net	$ 3,742	$ 3,157	$ 585	19 %

In the three months ended March 31, 2024, interest income was $3.9 million compared to $3.5 million in the three months ended March 31, 2023, resulting from increased interest rates on our short-term investments.

Income tax provision

	Three months ended March 31,			
(in thousands, except percentages)	2024	2023	Change	%
Income tax provision	$ (345)	$ (676)	$ 331	(49)%

We recorded an income tax provision of $0.3 million and $0.7 million in the three months ended March 31, 2024 and March 31, 2023, respectively.

Comparison of the six months ended March 31, 2024 and 2023

Revenues

	Six months ended March 31,			
(in thousands, except percentages)	2024	2023	Change	%
Revenues	$ 146,800	$ 114,423	$ 32,377	28 %

In the six months ended March 31, 2024, revenues increased to $146.8 million from $114.4 million in the six months ended March 31, 2023. The increase in revenue reflects growth in NGS tools revenue of $26.8 million, growth in synthetic genes revenue of $7.9 million, growth in oligo pools revenue of $ $1.1 million and growth in DNA libraries revenue of $1.8 million. The increase was partially offset by a decrease in revenue from antibody discovery of $5.3 million. The growth in NGS tools revenue is primarily attributable to an increase in revenue from our top customers in the healthcare, industrial chemicals/materials and academic research industries. Our synthetic genes revenue grew mainly due to an increase in revenue from our top customers and an increase in customers in the industrial chemicals/materials, healthcare and academic research industries, as well as an improved turnaround time inclusive of the full launch of Express Genes. In the six months ended March 31, 2024, we shipped approximately 364,000 genes, compared to approximately 286,000 genes in the six months ended March 31, 2023, an increase of 27%. Our oligo pools revenue grew mainly due to an increase in revenue from our top customers in the industrial chemicals/materials and academic research industries. Our DNA libraries revenue grew mainly due to an increase in revenue from our top customers in the healthcare and academic research industries.

Cost of revenues

	Six months ended March 31,			
(in thousands, except percentages)	2024	2023	Change	%
Cost of revenues	$ 86,955	$ 71,111	$ 15,844	22 %

In the six months ended March 31, 2024, cost of revenues increased to $87.0 million from $71.1 million in the six months ended March 31, 2023. The increase is primarily attributable to an increase in material costs of $9.8 million, due to higher sales volume, and an increase in depreciation and amortization expense of $4.1 million primarily due to the ongoing capital investment to increase capacity. The remaining increase is attributable to an increase in personnel costs, including stock-based compensation of $0.9 million and an increase in outside services of $0.8 million.

Research and development expenses

	Six months ended March 31,			
(in thousands, except percentages)	2024	2023	Change	%
Research and development	$ 47,249	$ 58,621	$ (11,372)	(19)%

In the six months ended March 31, 2024, research and development expenses decreased to $47.2 million from $58.6 million in the six months ended March 31, 2023. The decrease is primarily due to decreases in personnel costs of $7.0 million, including stock-based compensation of $1.3 million, due to the reduction of headcount related to the 2023 restructuring plan, lab supplies of $4.9 million, depreciation expense of $0.4 million, facilities costs of $0.2 million and traveling expenses of $0.2 million. The decrease was partially offset by a lack of grant reimbursement in 2024 where we received $1.9 million in 2023, which are netted against the research and development expenses.

Selling, general and administrative

	Six months ended March 31,			
(in thousands, except percentages)	**2024**	**2023**	**Change**	**%**
Selling, general and administrative	$ 108,462	$ 96,289	$ 12,173	13 %

In the six months ended March 31, 2024, selling, general and administrative expenses increased to $108.5 million from $96.3 million in the six months ended March 31, 2023. The increase is attributable to higher stock-based compensation of $19.2 million, primarily due to the reversal of stock-based compensation expense of $15.9 million in the first quarter of 2023 because of employee stock forfeitures related to an acquisition performance condition not being met and the remaining increase due to stock base awards to existing and new employees . Further, the increase is attributable to an increase in personnel costs of $4.4 million, facilities costs of $2.8 million, IT-related service costs of $2.5 million, marketing costs of $1.9 million and depreciation of $0.8 million. These increases were partially offset by the decrease in the Wilsonville manufacturing facility pre-commercialization costs of $17.4 million, which was completed when the Wilsonville facility began shipping product in the three months ended March 31, 2023, and a decrease in outside services costs of $1.9 million.

Change in fair value of contingent consideration and holdbacks

	Six months ended March 31,			
(in thousands, except percentages)	**2024**	**2023**	**Change**	**%**
Change in fair value of contingent consideration and holdbacks	$ —	$ (5,331)	$ 5,331	(100)%

There was no change in fair value of contingent consideration and holdbacks for the six months ended March 31, 2024 as the contingent consideration and holdbacks liabilities were settled in the prior year. In the six months ended March 31, 2023, we recognized a change in fair value of the contingent consideration and holdbacks of $4.9 million and $0.4 million related to the acquisitions of Abveris and iGenomX, as a result of not achieving the Abveris revenue target for calendar year 2022 and a change in fair value of our stock price as of March 31, 2023.

Interest and other income (expense), net

	Six months ended March 31,			
(in thousands, except percentages)	**2024**	**2023**	**Change**	**%**
Interest income	$ 8,061	$ 6,504	$ 1,557	24 %
Interest expense	—	(3)	3	(100)%
Other expense	(230)	(462)	232	(50)%
Total interest and other income (expense), net	$ 7,831	$ 6,039	$ 1,792	30 %

In the six months ended March 31, 2024, interest income was $8.1 million compared to $6.5 million in the six months ended March 31, 2023, resulting from increased interest rates on our short-term investments.

Income tax provision

(in thousands, except percentages)	Six months ended March 31, 2024	2023	Change	%
Income tax provision	$ (465)	$ (752)	$ 287	(38)%

We recorded an income tax provision of $0.5 million and $0.8 million in the six months ended March 31, 2024 and March 31, 2023, respectively.

Liquidity and capital resources

Sources of liquidity

To date, we have financed our operations principally through public equity raises, private placements of our convertible preferred stock, borrowings from credit facilities and revenue from our commercial operations.

Since our inception on February 4, 2013 and through March 31, 2024, we have received an aggregate of $1,333.7 million in net proceeds from the issuance of equity securities in public offerings and an aggregate of $13.8 million from debt issuances. At March 31, 2024, we had a balance of $243.3 million of cash and cash equivalents and $50.0 million in short-term investments.

Operating capital requirements

Our primary uses of capital are, and we expect will continue to be for the near future, compensation and related expenses, manufacturing costs, laboratory and related supplies, legal and other regulatory expenses and general overhead costs and the capital expenditures for our facility expansion including our manufacturing facility located in Wilsonville, Oregon. We had $1.0 million million in commitments for capital expenditures as of March 31, 2024.

Cash flows

The following table summarizes our sources and uses of cash and cash equivalents:

(in thousands)	Six months ended March 31, 2024	2023
Net cash used in operating activities	$ (42,396)	$ (98,358)
Net cash provided by (used in) investing activities	(1,075)	34,189
Net cash provided by financing activities	355	1,130

Operating activities

Net cash used in operating activities was $42.4 million in the six months ended March 31, 2024 and consisted primarily of a net loss of $88.5 million adjusted for non-cash items including depreciation and amortization expenses of $16.5 million, stock-based compensation expense of $24.8 million, non-cash lease expense of $0.5 million and a net change in operating assets and liabilities of $4.0 million. The change in operating assets and liabilities was mainly due to decreases in accounts receivable of $7.4 million, inventories of $1.7 million, other non-current assets of $0.3 million, accounts payable of $5.7 million, accrued compensation of $0.5 million and other liabilities of $2.6 million offset by an increase in prepaid expenses of $0.4 million and accrued expenses of $3.9 million.

Net cash used in operating activities was $98.4 million in the six months ended March 31, 2023 and consisted primarily of a net loss of $101.0 million adjusted for non-cash items including depreciation and amortization expenses of $12.3 million, stock-based compensation expense of $7.9 million, non-cash lease expense of $0.6 million, change in fair value of contingent consideration and holdbacks of $5.3 million, and a net change in operating assets and liabilities of $13.5 million. The change in operating assets and liabilities was mainly due to an increase in accounts receivable of $8.1 million, inventories of $0.6 million, prepaid expenses of $1.6 million and accrued expenses of $2.9 million offset by a decrease in accounts payable of $4.2 million, other non-current assets of $1.2 million and accrued compensation of $2.7 million.

Investing activities

In the six months ended March 31, 2024, our investing activities used net cash of $1.1 million, which was comprised of the purchases of laboratory property, equipment and computers of $2.1 million offset by the proceeds from the net impact of purchases and maturity of investments of $1.0 million.

In the six months ended March 31, 2023, our investing activities generated net cash of $34.2 million. The net cash was generated primarily from the net impact of purchases, sale and maturity of investments of $55.1 million and purchases of laboratory property, equipment and computers of $20.9 million.

Financing activities

Net cash provided by financing activities was $0.4 million in the six months ended March 31, 2024, which consisted of $2.3 million from the exercise of stock options and $2.0 million proceeds from issuance of shares under the 2018 ESPP offset by $4.0 million in repurchases of common stock for income tax withholdings.

Net cash provided by financing activities was $1.1 million in the six months ended March 31, 2023, which consisted of $0.9 million from the exercise of stock options and $2.5 million of proceeds from issuance of shares under the 2018 ESPP, offset by $2.3 million in repurchases of common stock for income tax withholdings.

Off-balance sheet arrangements

We do not have any off-balance sheet arrangements.

Contractual obligations and other commitments

Our contractual obligations have not materially changed from those reported in our Annual Report on Form 10-K.

Critical accounting policies and significant management estimates

The preparation of our Condensed Consolidated Financial Statements in accordance with generally accepted accounting principles in the United States of America requires management to make estimates and judgments that affect the reported amounts in the financial statements and related disclosures. On an ongoing basis, we evaluate our significant accounting policies and estimates. We base our estimates on historical experience and on various market-specific and other relevant assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Estimates are assessed each period and updated to reflect current information. Actual results may differ significantly from these estimates. A summary of our critical accounting policies and estimates is presented in Part II, Item 7 of our Annual Report on Form 10-K for the year ended September 30, 2023. There were no material changes to our critical accounting policies and estimates during the six months ended March 31, 2024.

Recent issued accounting pronouncements

For a description of accounting changes and recent accounting pronouncements, including the expected dates of adoption and estimated effects, if any, on our condensed consolidated financial statements, see Note 2, “Summary of significant accounting policies” in Item 1 of Part I of this Quarterly Report on Form 10-Q.

Item 3. ***Quantitative and qualitative disclosures about market risk***

Interest rate sensitivity

We are exposed to market risk related to changes in interest rates. We had cash, cash equivalents, and marketable securities of $293.3 million and $336.4 million as of March 31, 2024 and September 30, 2023, respectively, which consisted primarily of money market funds and marketable securities, largely composed of investment grade, short to intermediate term fixed income securities.

The primary objective of our investment activities is to preserve capital to fund our operations. We also seek to maximize income from our investments without assuming significant risk. To achieve our objectives, we maintain a portfolio of investments in a variety of securities of high credit quality and short-term duration, according to our board-approved investment policy. Our investments are subject to interest rate risk and could fall in value if market interest rates increase. A hypothetical 10% relative change in interest rates during any of the periods presented would not have a material impact on our condensed consolidated financial statements.

Foreign currency sensitivity

The majority of our transactions occur in U.S. dollars. However, we do have certain transactions that are denominated in currencies other than the U.S. dollar, primarily the Euro, Chinese Yuan, and British Pound, and we therefore are subject to foreign exchange risk. The fluctuation in the value of the U.S. dollar against other currencies affects the reported amounts of expenses, assets and liabilities primarily associated with a limited number of manufacturing activities.

We do not use derivative financial instruments for speculative trading purposes, nor do we hedge foreign currency exchange rate exposure in a manner that entirely offsets the effects of changes in foreign currency exchange rates. The counterparties to these forward foreign currency exchange contracts are creditworthy multinational commercial banks, which minimizes the risk of counterparty nonperformance. We regularly review our exposure and may, as part of this review, make changes to it.

Inflation risk

While we have experienced increased operating costs in recent periods, which we believe are due in part to the recent growth in inflation, we do not believe that inflation has had a material effect on our business, financial condition or results of operations. If our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could adversely affect our business, financial condition and results of operations.

Item 4. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of our disclosure controls and procedures (as that term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of March 31, 2024, which is the end of the period covered by this Quarterly Report. Based on this evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the Company’s disclosure controls and procedures to ensure that information required to be disclosed by the Company in reports we file or submit under the Exchange Act is (i) recorded, processed, summarized, evaluated and reported, as applicable, within the time periods specified in the SEC’s rules and forms and (ii) accumulated and communicated to the Company’s management, including the Company’s Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosures were not effective as of March 31, 2024 due to the material weakness in internal control over financial reporting described in Part II, Item 9A of the Annual Report on Form 10-K for the fiscal year ended September 30, 2023.

Notwithstanding the material weakness, the Company performed additional analysis and other post-closing procedures to determine its condensed consolidated financial statements are prepared in accordance with generally accepted accounting principles. Accordingly, management believes that the unaudited condensed consolidated financial statements contained in this Quarterly Report on Form 10-Q fairly present, in all material respects, our financial condition, results of operations and cash flows for the periods presented in conformity with accounting principles generally accepted in the United States of America.

Because of the inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Previously Identified Material Weaknesses

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of annual or interim financial statements would not be prevented or detected on a timely basis.

Refer to the management report on internal control over financial reporting in Part II, Item 9A of our Annual Report on Form 10-K for a discussion of the material weakness existing as of September 30, 2023, which continued to exist as of March 31, 2024.

Remediation Plan of Material Weaknesses

As previously described in Part II, Item 9A of our Annual Report on Form 10-K, we are continuing to enhance our overall control environment and are devoting substantial effort by enhancing our manual and automated controls to remediate the identified material weakness. For a more comprehensive discussion of the remedial measures which are being undertaken to address these material weaknesses, or the Remediation Plan, refer to Part II, Item 9A, "Remediation of Material Weaknesses," of our Annual Report on Form 10-K.

Additional changes and improvements may be identified and adopted as we continue to evaluate and implement our Remediation Plan. These material weaknesses will not be considered remediated until the applicable controls operate for a sufficient period of time and management has concluded, through testing, that the enhanced control is operating effectively.

Changes in Internal Control over Financial Reporting

Except for actions taken under the Remediation Plan described above, there were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended March 31, 2024, 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***

For a description of material pending legal proceedings, see Note 6 "Commitments and Contingencies - Legal Matters" of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q, which is incorporated herein by reference. In addition, we are subject to various legal proceedings and claims arising in the ordinary course of business. Although occasional adverse decisions or settlements may occur, management believes that the final disposition of such matters will not have a material adverse effect on our business, financial position, results of operations or cash flows.

Item 1A. ***Risk factors***

In addition to the other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the risk factors and other cautionary statements described under the heading "Item 1A. Risk Factors" included in our Annual Report on Form 10-K filed with the SEC on November 21, 2023, as updated and supplemented in Part II, "Item 1A. Risk Factors" in our Quarterly Report on Form 10-Q filed with the SEC on February 2, 2024, which could materially affect our business, financial condition or future results. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially and adversely affect our business, financial condition or future results. There have been no material changes in our risk factors from those described in our Annual Report on Form 10-K, and our Quarterly Report on Form 10-Q filed with the SEC on February 2, 2024. We may disclose changes to risk factors or additional risk factors from time to time in our future filings with the SEC.

Item 2. ***Unregistered sales of equity securities and use of proceeds***

Sales of unregistered securities

None.

Item 3. ***Defaults upon senior securities***

None.

Item 4. ***Mine safety disclosures***

Not applicable.

Item 5. ***Other information***

Rule 10b5-1 Trading Plans

On February 26, 2024, William Banyai, the Company's Senior Vice President of Advanced Development and General Manager of Data Storage, adopted a trading plan intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) under the Exchange Act (a “10b5-1 Plan”). Dr. Banyai's 10b5-1 Plan provides for the potential sale of up to 279,027 shares of the Company’s common stock and will expire on the earlier of May 30, 2025 and the date when all shares under the 10b5-1 Plan are sold.

›Item 6. *Exhibits*

Exhibit Number	Description	Filed / Furnished / Incorporated from Form
31.1	Certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, Rule 13(a)-14(a)/15d-14(a), by Chief Executive Officer.	Filed herewith
31.2	Certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, Rule 13(a)-14(a)/15d-14(a), by Chief Financial Officer.	Filed herewith
32.1†	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, by Chief Executive Officer.	Furnished herewith
32.2†	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, by Chief Financial Officer.	Furnished herewith
10.1*	Amendment to Employment Agreement dated March 20, 2024 between Twist Bioscience Corporation and James Thorburn.	Filed herewith
101	The following materials from Twist Bioscience Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, formatted in iXBRL (inline eXtensible Business Reporting Language): (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statements of Operations and Comprehensive Loss, (iii) the Condensed Consolidated Balance Sheets, (iv) the Condensed Consolidated Statements of Stockholders' Equity, (v) the Condensed Consolidated Statements of Cash Flows, and (vi) Notes to Unaudited Condensed Consolidated Financial Statements, tagged as blocks of text.	Filed herewith
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, formatted in Inline XBRL (included in Exhibit 101).	Filed herewith

* Management contract or compensatory plan or arrangement.

† The certifications attached as Exhibits 32.1 and 32.2 that accompany this Quarterly Report on Form 10-Q are not deemed filed with the SEC and are not to be incorporated by reference into any filing of Twist Bioscience Corporation under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Quarterly Report on Form 10-Q, regardless of any general incorporation language contained in any filing.

SIGNATURES

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

May 2, 2024

Twist Bioscience Corporation

By: /s/ Adam Laponis

Adam Laponis
Chief Financial Officer
(Authorized officer)

AMENDMENT TO EMPLOYMENT AGREEMENT

This Amendment ("**Amendment**") to the Employment Agreement (the "**Agreement**") dated as of October 21, 2018 (the "**Effective Date**"), as it may have been amended from time-to-time (including on September 9, 2022), by and between Twist Bioscience Corporation, a Delaware corporation, with an address at 681 Gateway Boulevard, South San Francisco, CA 94080 ("**Twist**"), and James Thorburn, an individual ("**Employee**" or "**you**"), is entered into and made effective as of March 20, 2024 (the "**Amendment Effective Date**"). Twist and you shall be hereinafter referred to individually as a "**Party**" or collectively as the "**Parties**".

WHEREAS, Twist desires to continue employing you, and you desire to continue being employed by Twist, with modified terms of employment, and;

WHEREAS, the Parties now wish to amend the Agreement in accordance with the terms set forth below; and

NOW, **THEREFORE**, for and in consideration of the premises and mutual promises herein contained, the Parties hereby agree that the Agreement is amended as follows:

1. Section 1(a) shall be deleted in its entirety and replaced with the following:

   For the term of your employment under this Agreement (your "Employment"), the Company agrees to employ you in the position of Strategic Advisor. You shall report to the Company's President & Chief Operating Officer. You shall perform the duties and have the responsibilities and authority customarily performed and held by an employee in your position or as otherwise may be assigned or delegated to you by the Company's President & Chief Operating Officer. Your position shall continue to be "at will" pursuant to Section 3(a), but the terms and conditions of this Agreement shall in any event expire as of October 1, 2024.

2. The last sentence in Section 2(a) shall be deleted in its entirety and be replaced with the following:

   "Your Base Salary may be reviewed on an annual basis by the Company based upon available market data."

3. The following sentence shall be added to the end of Section 4(b):

   The Severance Period shall be reduced by one day for each day subsequent to March 31, 2024, such that the Severance Period shall equal zero days on or after October 1, 2024.

4. The following clause shall be deleted from Section 4(h), with subsections (ii), (iii) and (iv) renumbered to (i), (ii) and (iii) accordingly:

   "(i) A material diminution in your authority, duties or responsibilities;"

5. Except to the extent amended hereby, all other terms, provisions and conditions set forth in the Agreement shall remain unchanged and in full force and effect. The Agreement and this Amendment shall be read and construed together as a single agreement and the term "Agreement" used in the Agreement shall be deemed a reference to the Agreement as amended by this Amendment.

6. If this Amendment is entered into by electronic signatures by all Parties, each Party shall receive a fully electronically signed version as an electronic file (pdf format), each recognized as an original.

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by the Party's duly authorized representatives as of the Amendment Effective Date.

Twist Bioscience Corporation **James Thorburn**

By:___/s/ Emily Leproust, Ph.D.____ By:___/s/ James Thorburn______________
(Signature) (Signature)

Name: Emily Leproust, Ph.D.

Title: Chief Executive Officer

Date:__3/26/2024____________________ Date: __3/27/2024_____________________

Exhibit 31.1

Certification of Principal Executive Officer
pursuant to
Exchange Act Rules 13a-14(a) and 15d-14(a),
as adopted pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002

I, Emily M. Leproust, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Twist Bioscience Corporation for the quarter ended March 31, 2024;
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.
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 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.

/s/ Emily M. Leproust
Emily M. Leproust
Chief Executive Officer
(Principal Executive Officer)

Date: May 2, 2024

Exhibit 31.2

Certification of Principal Financial Officer
pursuant to
Exchange Act Rules 13a-14(a) and 15d-14(a),
as adopted pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002

I, Adam Laponis, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Twist Bioscience Corporation for the quarter ended March 31, 2024;
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.
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 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.

/s/ Adam Laponis
Adam Laponis
Chief Financial Officer

Date: May 2, 2024

Exhibit 32.1

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

In connection with the Quarterly Report of Twist Bioscience Corporation (the “Company”) on Form 10-Q for the quarterly period ended March 31, 2024, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Emily M. Leproust, 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, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 2, 2024

/s/ Emily M. Leproust
Emily M. Leproust
Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

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

In connection with the Quarterly Report of Twist Bioscience Corporation (the "Company") on Form 10-Q for the quarterly period ended March 31, 2024, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Adam Laponis, Chief Financial 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, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 2, 2024

/s/ Adam Laponis
Adam Laponis
Chief Financial Officer