UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended September 29, 2023

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 No.: 001-35083

NOVANTA INC.

(Exact name of registrant as specified in its charter)

New Brunswick, Canada	**98-0110412**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
125 Middlesex Turnpike, Bedford, Massachusetts, USA	**01730**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (781) 266-5700

N/A

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

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common shares, no par value	NOVT	The Nasdaq Global Select Market

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). YES ☒ NO ☐

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

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

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

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

As of October 30, 2023, there were 35,810,370 of the Registrant's common shares, no par value, issued and outstanding.

NOVANTA INC.

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PART I—FINANCIAL INFORMATION

Item 1. Financial Statements

NOVANTA INC.
CONSOLIDATED BALANCE SHEETS
(In thousands of U.S. dollars or shares)
(Unaudited)

	September 29, 2023	December 31, 2022
ASSETS		
Current assets		
Cash and cash equivalents	$ 75,961	$ 100,105
Accounts receivable, net of allowance of $1,307 and $995, respectively	143,086	137,697
Inventories	153,809	167,997
Prepaid income taxes and income taxes receivable	5,299	1,508
Prepaid expenses and other current assets	13,167	13,212
Total current assets	391,322	420,519
Property, plant and equipment, net	103,323	103,186
Operating lease assets	40,527	43,317
Deferred tax assets	24,714	15,113
Other assets	5,653	4,414
Intangible assets, net	151,096	175,766
Goodwill	477,642	478,897
Total assets	$ 1,194,277	$ 1,241,212
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Current portion of long-term debt	$ 4,736	$ 4,800
Accounts payable	63,983	75,225
Income taxes payable	7,223	13,660
Current portion of operating lease liabilities	8,072	7,793
Accrued expenses and other current liabilities	54,375	63,044
Total current liabilities	138,389	164,522
Long-term debt	347,879	430,662
Operating lease liabilities	38,577	40,808
Deferred tax liabilities	14,439	17,194
Income taxes payable	4,932	4,355
Other liabilities	5,205	6,085
Total liabilities	549,421	663,626
Commitments and contingencies (Note 14)		
Stockholders' equity:		
Preferred shares, no par value; Authorized shares: 7,000; No shares issued and outstanding	—	—
Common shares, no par value; Authorized shares: unlimited; Issued and outstanding: 35,810 and 35,711, respectively	423,856	423,856
Additional paid-in capital	63,362	55,155
Retained earnings	190,951	130,584
Accumulated other comprehensive loss	(33,313)	(32,009)
Total stockholders' equity	644,856	577,586
Total liabilities and stockholders' equity	$ 1,194,277	$ 1,241,212

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

NOVANTA INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands of U.S. dollars or shares, except per share amounts)
(Unaudited)

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Revenue	$ 221,503	$ 222,958	$ 670,093	$ 642,530
Cost of revenue	119,912	124,550	366,751	358,601
Gross profit	101,591	98,408	303,342	283,929
Operating expenses:				
Research and development and engineering	22,022	21,349	68,230	63,866
Selling, general and administrative	39,648	40,301	122,758	120,191
Amortization of purchased intangible assets	5,131	6,472	15,344	20,987
Restructuring, acquisition, and related costs	4,481	1,625	8,191	2,650
Total operating expenses	71,282	69,747	214,523	207,694
Operating income	30,309	28,661	88,819	76,235
Interest income (expense), net	(6,756)	(4,062)	(19,898)	(9,928)
Foreign exchange transaction gains (losses), net	(370)	2,086	(373)	2,307
Other income (expense), net	(189)	87	(546)	(390)
Income before income taxes	22,994	26,772	68,002	68,224
Income tax provision	1,771	4,282	7,635	9,435
Consolidated net income	$ 21,223	$ 22,490	$ 60,367	$ 58,789
Earnings per common share (Note 4):				
Basic	$ 0.59	$ 0.63	$ 1.68	$ 1.65
Diluted	$ 0.59	$ 0.63	$ 1.68	$ 1.64
Weighted average common shares outstanding—basic	35,856	35,729	35,839	35,625
Weighted average common shares outstanding—diluted	36,041	35,928	36,024	35,881

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

NOVANTA INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands of U.S. dollars)
(Unaudited)

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Consolidated net income	$ 21,223	$ 22,490	$ 60,367	$ 58,789
Other comprehensive income (loss):				
Foreign currency translation adjustments, net of tax [1]	(8,786)	(18,972)	(1,980)	(37,672)
Pension liability adjustments, net of tax [2]	515	710	676	1,611
Total other comprehensive income (loss)	(8,271)	(18,262)	(1,304)	(36,061)
Total consolidated comprehensive income	$ 12,952	$ 4,228	$ 59,063	$ 22,728

(1) The tax effect on this component of comprehensive income (loss) was nominal for all periods presented.
(2) The tax effect on this component of comprehensive income (loss) was nominal for all periods presented. See Note 3 to the Consolidated Financial Statements for the total amount of pension liability adjustments reclassified out of accumulated other comprehensive income (loss).

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

NOVANTA INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands of U.S. dollars or shares)
(Unaudited)

	Common Shares		Additional Paid-In	Retained	Accumulated Other	
	# of Shares	Amount	Capital	Earnings	Comprehensive Loss	Total
			Three Months Ended September 29, 2023			
Balance at June 30, 2023	35,808	$ 423,856	$ 57,488	$ 169,728	$ (25,042)	$ 626,030
Consolidated net income	—	—	—	21,223	—	21,223
Common shares issued under stock plans	3	—	—	—	—	—
Common shares withheld for taxes on vested stock awards	(1)	—	(163)	—	—	(163)
Share-based compensation	—	—	6,037	—	—	6,037
Other comprehensive income (loss), net of tax	—	—	—	—	(8,271)	(8,271)
Balance at September 29, 2023	35,810	$ 423,856	$ 63,362	$ 190,951	$ (33,313)	$ 644,856
			Nine Months Ended September 29, 2023			
Balance at December 31, 2022	35,711	$ 423,856	$ 55,155	$ 130,584	$ (32,009)	$ 577,586
Consolidated net income	—	—	—	60,367	—	60,367
Common shares issued under stock plans	167	—	—	—	—	—
Common shares withheld for taxes on vested stock awards	(68)	—	(10,171)	—	—	(10,171)
Share-based compensation	—	—	18,378	—	—	18,378
Other comprehensive income (loss), net of tax	—	—	—	—	(1,304)	(1,304)
Balance at September 29, 2023	35,810	$ 423,856	$ 63,362	$ 190,951	$ (33,313)	$ 644,856
			Three Months Ended September 30, 2022			
Balance at July 1, 2022	35,623	$ 423,856	$ 46,146	$ 92,832	$ (30,665)	$ 532,169
Consolidated net income	—	—	—	22,490	—	22,490
Common shares issued under stock plans	67	—	—	—	—	—
Common shares withheld for taxes on vested stock awards	(1)	—	(149)	—	—	(149)
Repurchases of common shares	—	—	—	—	—	—
Share-based compensation	—	—	5,954	—	—	5,954
Other comprehensive income (loss), net of tax	—	—	—	—	(18,262)	(18,262)
Balance at September 30, 2022	35,689	$ 423,856	$ 51,951	$ 115,322	$ (48,927)	$ 542,202
			Nine Months Ended September 30, 2022			
Balance at December 31, 2021	35,601	$ 423,856	$ 53,768	$ 56,533	$ (12,866)	$ 521,291
Consolidated net income	—	—	—	58,789	—	58,789
Common shares issued under stock plans	238	—	—	—	—	—
Common shares withheld for taxes on vested stock awards	(66)	—	(9,626)	—	—	(9,626)
Repurchases of common shares	(84)	—	(10,000)	—	—	(10,000)
Share-based compensation	—	—	17,809	—	—	17,809
Other comprehensive income (loss), net of tax	—	—	—	—	(36,061)	(36,061)
Balance at September 30, 2022	35,689	$ 423,856	$ 51,951	$ 115,322	$ (48,927)	$ 542,202

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

NOVANTA INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands of U.S. dollars)
(Unaudited)

	Nine Months Ended	
	September 29, 2023	September 30, 2022
Cash flows from operating activities:		
Consolidated net income	$ 60,367	$ 58,789
Adjustments to reconcile consolidated net income to net cash provided by operating activities:		
Depreciation and amortization	35,065	40,999
Provision for inventory excess and obsolescence	6,563	1,940
Impairment of assets	1,421	—
Share-based compensation	18,378	17,809
Deferred income taxes	(12,328)	(14,628)
Write-off of unamortized deferred financing costs	—	624
Other	1,289	(152)
Changes in assets and liabilities which (used)/provided cash, excluding effects from business acquisitions:		
Accounts receivable	(6,371)	(34,444)
Inventories	5,619	(46,552)
Prepaid income taxes, income taxes receivable, prepaid expenses and other current assets	(3,444)	(2,041)
Accounts payable, income taxes payable, accrued expenses and other current liabilities	(24,759)	29,393
Other non-current assets and liabilities	(717)	(1,570)
Net cash provided by operating activities	81,083	50,167
Cash flows from investing activities:		
Cash paid for business acquisitions, net of working capital adjustments	—	(21,565)
Purchases of property, plant and equipment	(13,741)	(15,385)
Payment of contingent consideration related to acquisition of technology assets	—	(1,470)
Other investing activities	—	137
Net cash used in investing activities	(13,741)	(38,283)
Cash flows from financing activities:		
Borrowings under revolving credit facilities	—	69,941
Repayments under term loan and revolving credit facilities	(82,047)	(37,791)
Payments of debt issuance costs	—	(2,492)
Payments of withholding taxes from share-based awards	(10,171)	(9,626)
Repurchases of common shares	—	(10,000)
Payments of contingent consideration related to acquisitions	(81)	(46,254)
Other financing activities	(484)	(447)
Net cash used in financing activities	(92,783)	(36,669)
Effect of exchange rates on cash and cash equivalents	1,297	(8,028)
Decrease in cash and cash equivalents	(24,144)	(32,813)
Cash and cash equivalents, beginning of the period	100,105	117,393
Cash and cash equivalents, end of the period	$ 75,961	$ 84,580
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 19,290	$ 8,962
Cash paid for income taxes	$ 28,684	$ 17,102
Income tax refunds received	$ 275	$ 164

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

NOVANTA INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
AS OF SEPTEMBER 29, 2023
(Unaudited)

1. Basis of Presentation

Novanta Inc. (“Novanta” or the “Company”) is a leading global supplier of core technology solutions that give medical and advanced industrial original equipment manufacturers (“OEMs”) a competitive advantage. Novanta combines deep proprietary technology expertise and competencies in precision medicine and manufacturing, medical solutions, and robotics and automation with a proven ability to solve complex technical challenges. This enables Novanta to engineer core components and sub-systems that deliver extreme precision and performance, tailored to the customers’ demanding applications.

The accompanying unaudited interim consolidated financial statements have been prepared by the Company in United States (“U.S.”) dollars and pursuant to the rules and regulations of the United States Securities and Exchange Commission (“SEC”), the instructions to Form 10-Q and the provisions of Regulation S-X pertaining to interim financial statements. Accordingly, certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the U.S. have been condensed or omitted. The interim consolidated financial statements and notes included in this report should be read in conjunction with the consolidated financial statements and notes included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2022. In the opinion of management, these interim consolidated financial statements include all adjustments and accruals of a normal and recurring nature necessary to fairly state the results of the interim periods presented. The results for interim periods are not necessarily indicative of results to be expected for the full year or for any future periods.

The Company’s unaudited interim consolidated financial statements are prepared for each quarterly period ending on the Friday closest to the end of the calendar quarter, with the exception of the fourth quarter which always ends on December 31.

During the first quarter of 2023, the Company changed the names of its reportable segments from “Photonics” to “Precision Medicine and Manufacturing”, from “Vision” to “Medical Solutions”, and from “Precision Motion” to “Robotics and Automation”, respectively. The segment name changes did not result in any change to the compositions of the Company's segments and therefore did not result in any change to historical results.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities as of the dates of the financial statements, and the reported amounts of revenue and expenses during the reporting periods. Estimates and assumptions are reviewed on an on-going basis and the effects of revisions are reflected in the period in which such revisions are deemed to be necessary. The Company evaluates its estimates based on historical experience, current conditions, and various other assumptions that it believes are reasonable under the circumstances. Actual results could differ significantly from these estimates.

Recent Accounting Pronouncements

Standard	Description	Effective Date	Effect on the Financial Statements or Other Significant Matters
In October 2023, the Financial Accounting Standards Board (the “FASB”) issued Accounting Standards Update (“ASU”) 2023-06, “Disclosure Improvements: Codification Amendments in Response to SEC’s Disclosure Update and Simplification Initiative.”	ASU 2023-06 clarifies or improves disclosure and presentation requirements of a variety of topics, which allow users to easily compare entities subject to the SEC’s existing disclosures with those entities that were not previously subject to the requirements and align the requirements in the FASB Accounting Standards Codification with the SEC’s regulations.	The effective date for each amendment in ASU 2023-06 will be the date on which the SEC’s removal of that related disclosure from Regulation S-X or Regulation S-K becomes effective, with early adoption prohibited.	The Company is currently evaluating the impact of ASU 2023-06 on its consolidated financial statements.

2. Revenue

The Company recognizes revenue when control of promised goods or services is transferred to customers. The transfer of control generally occurs upon shipment when title and risk of loss pass to the customer. The vast majority of the Company's revenue is generated from the sale of distinct products. Revenue is measured as the amount of consideration the Company expects to receive in exchange for such products, which is generally at contractually stated prices. Sales taxes and value added taxes collected concurrently with revenue generating activities are excluded from revenue.

Performance Obligations

Substantially all of the Company's revenue is recognized at a point in time, upon shipment, rather than over time.

At the request of its customers, the Company may perform professional services, generally for the maintenance and repair of products previously sold to those customers and for engineering services. Professional services for the maintenance and repair of products are typically short in duration, mostly less than one month, and generally involve a single distinct performance obligation. The related revenue is recognized at a point in time when control transfers to the customer upon completion of professional services. The consideration expected to be received in exchange for such services is typically the contractually stated amount. Certain engineering services are longer in duration and the related revenue is recognized over time. As the Company's right to payment from a customer is based on the value of engineering services performed, the Company recognizes revenue based on the corresponding value to the customer from the Company's performance completed to date. Revenue from engineering services aggregated to less than 3% of the Company's consolidated revenue during the nine months ended September 29, 2023 and September 30, 2022.

The Company occasionally sells separately priced non-standard/extended warranty services or preventative maintenance plans with the sale of products. The transfer of control over the service plans is over time. The Company recognizes the related revenue ratably over the terms of the service plans. The transaction price of a contract is allocated to each performance obligation based on its relative standalone selling price. Standalone selling prices are generally determined based on the prices charged to customers or using the expected cost plus a margin.

Shipping & Handling Costs

The Company accounts for shipping and handling activities that occur after the transfer of control over the related goods as fulfillment activities rather than performance obligations. Shipping and handling fees charged to customers are recognized as revenue and the related costs are recorded in cost of revenue at the time of transfer of control.

Warranties

The standard warranty periods for the Company's products are typically 12 months to 36 months. The Company recognizes estimated liabilities associated with standard warranty periods for its products in accordance with the provisions of ASC 450, "Contingencies," as the Company has the ability to ascertain the likelihood of the liabilities and can reasonably estimate the amount of the liabilities. A provision for the estimated cost related to standard warranties is recorded as cost of revenue at the time revenue is recognized. The Company's estimate of the costs to service the warranty obligations is based on historical experience and expectations of future conditions. To the extent that the Company's experience in warranty claims or costs associated with servicing those claims differ from the original estimates, revisions to the estimated warranty liabilities are recorded at that time, with offsetting adjustments to cost of revenue.

Practical Expedients and Exemptions

The Company expenses incremental direct costs of obtaining a contract when incurred because the expected amortization period is typically one year or less. These costs are recorded within selling, general and administrative expenses in the consolidated statement of operations.

The Company does not adjust the promised amount of consideration for the effects of a financing component because the transfer of a promised good to a customer and the customer's payment for that good are typically one year or less. The Company does not disclose the value of the remaining performance obligation for contracts with an original expected length of one year or less.

Contract Liabilities

Contract liabilities consist of deferred revenue and advance payments from customers, including amounts that are refundable. These contract liabilities are classified as either current or long-term liabilities in the consolidated balance sheet based on the timing of when the Company expects to recognize the related revenue. As of September 29, 2023 and December 31, 2022, contract liabilities were $6.8 million and $8.4 million, respectively, and are included in accrued expenses and other current liabilities and other liabilities in the accompanying consolidated balance sheets. The decrease in the contract liability balance during the nine months ended September 29, 2023 is primarily due to $6.2 million of revenue recognized during the period that was included in the contract liability balance as of December 31, 2022, partially offset by cash payments received in advance of satisfying performance obligations.

Disaggregated Revenue

See Note 15 for the Company's disaggregation of revenue by segment, geography and end market.

3. Accumulated Other Comprehensive Loss

Changes in accumulated other comprehensive loss were as follows (in thousands):

	Total Accumulated Other Comprehensive Loss	Cumulative Translation Adjustments	Pension Liability Adjustments
Balance at December 31, 2022	$ (32,009)	$ (24,427)	$ (7,582)
Other comprehensive income (loss)	(2,068)	(1,980)	(88)
Amounts reclassified from accumulated other comprehensive loss	764	—	764
Balance at September 29, 2023	$ (33,313)	$ (26,407)	$ (6,906)

The amounts reclassified from accumulated other comprehensive loss were included in other income (expense) in the consolidated statements of operations.

4. Earnings per Common Share

Basic earnings per common share is computed by dividing consolidated net income by the weighted average number of common shares outstanding during the period.

For diluted earnings per common share, the denominator includes the dilutive effect of outstanding common share equivalents. The dilutive effects of outstanding common share equivalents, including outstanding service-based restricted stock units, stock options and performance-based restricted stock units, are determined using the treasury stock method. Performance-based restricted stock units are considered contingently issuable shares, the vesting of which may be based on achievement of specified company performance conditions ("attainment-based PSUs"), certain market conditions ("market-based PSUs") or a hybrid of company performance conditions and market conditions ("hybrid PSUs"). The dilutive effects of market-based PSUs are included in the weighted average common share calculation based on the number of shares, if any, that would be issuable as of the end of the reporting period, assuming the end of the reporting period is also the end of the performance period. The dilutive effects of attainment-based and hybrid PSUs are included in the weighted average common share calculation based on the cumulative achievement against the performance targets only when the performance targets have been achieved as of the end of the reporting period.

The following table sets forth the computation of basic and diluted earnings per common share (amounts in thousands, except per share data):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Numerators:				
Consolidated net income	$ 21,223	$ 22,490	$ 60,367	$ 58,789
Denominators:				
Weighted average common shares outstanding— basic	35,856	35,729	35,839	35,625
Dilutive potential common shares	185	199	185	256
Weighted average common shares outstanding— diluted	36,041	35,928	36,024	35,881
Antidilutive potential common shares excluded from above	49	73	101	104
Earnings per Common Share:				
Basic	$ 0.59	$ 0.63	$ 1.68	$ 1.65
Diluted	$ 0.59	$ 0.63	$ 1.68	$ 1.64

For both the three and nine months ended September 29, 2023, 143 thousand shares of performance-based restricted stock units were excluded from the calculation of the denominator because they were attainment-based and hybrid contingently issuable shares and the related performance targets had not been achieved as of September 29, 2023.

For both the three and nine months ended September 30, 2022, 124 thousand shares of performance-based restricted stock units were excluded from the calculation of the denominator because they were attainment-based contingently issuable shares and the related performance targets had not been achieved as of September 30, 2022.

5. Fair Value Measurements

ASC 820, "Fair Value Measurements," establishes a fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the third is considered unobservable:

- Level 1: Quoted prices for identical assets or liabilities in active markets which the Company can access
- Level 2: Observable inputs other than those described in Level 1
- Level 3: Unobservable inputs

Current Assets and Liabilities

The Company's cash equivalents are highly liquid investments with original maturities of three months or less, which represent assets measured at fair value on a recurring basis. The Company determines the fair value of cash equivalents using a market approach based on quoted prices in active markets. The fair values of cash equivalents, accounts receivable, income taxes receivable, accounts payable, income taxes payable and accrued expenses and other current liabilities approximate their carrying values because of their short-term nature.

Foreign Currency Contracts

The Company addresses market risks from changes in foreign currency exchange rates through a risk management program that includes the use of derivative financial instruments to mitigate certain balance sheet foreign currency transaction exposures. The Company uses foreign currency forward contracts as a part of its strategy to manage exposures related to foreign currency denominated monetary assets and liabilities. The fair value of these foreign currency forward contracts is reported either in other current assets or in other current liabilities as of the end of the period.

Contingent Considerations

On July 31, 2019, the Company acquired ARGES GmbH (“ARGES”). Under the purchase and sale agreement for the ARGES acquisition, the former owner of ARGES is eligible to receive contingent consideration based on the achievement of certain revenue targets by the Company from August 2019 through December 2026. The undiscounted range of possible contingent consideration is zero to €10.0 million ($11.1 million). If the revenue targets are achieved, the contingent consideration would be payable annually with the first payment due in the first quarter of 2021. The estimated fair value of the contingent consideration of €7.1 million ($7.9 million) was determined based on the Monte Carlo valuation method and was recorded as part of the purchase price as of the acquisition date. Subsequent changes in the estimated fair value of the contingent consideration liability are recorded in the consolidated statement of operations in restructuring, acquisition, and related costs until the liability is fully settled. During 2020, the fair value of the contingent consideration was adjusted to €4.1 million ($5.1 million). During 2021, the Company made the first installment payment of €0.4 million ($0.4 million) in March 2021 and adjusted the fair value of the contingent consideration to €3.3 million ($3.8 million) as of December 31, 2021. During 2022, the Company made the second installment payment of €0.3 million ($0.4 million) in March 2022 and adjusted the fair value of the contingent consideration to €0.4 million ($0.4 million). During the nine months ended September 29, 2023, the Company made the third installment payment of €0.1 million ($0.1 million). The installment payments have been reported as cash outflows from financing activities in the consolidated statement of cash flows for the respective periods. Based on the revenue performance and revenue projections as of September 29, 2023, the Company did not make any adjustments to the fair value of the remaining contingent consideration during the nine months ended September 29, 2023.

Summary by Fair Value Hierarchy

The following table summarizes the fair values of the Company’s assets and liabilities measured at fair value on a recurring basis as of September 29, 2023 (in thousands):

	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Assets				
Cash equivalents	$ 1,724	$ 1,724	$ —	$ —
Prepaid expenses and other current assets:				
Foreign currency forward contracts	237	—	237	—
	$ 1,961	$ 1,724	$ 237	$ —
Liabilities				
Accrued expenses and other current liabilities:				
Contingent considerations - Current	$ 45	$ —	$ —	$ 45
Foreign currency forward contracts	23	—	23	—
Other liabilities:				
Contingent considerations - Long-term	296	—	—	296
	$ 364	$ —	$ 23	$ 341

The following table summarizes the fair values of the Company's assets and liabilities measured at fair value on a recurring basis as of December 31, 2022 (in thousands):

	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Assets				
Cash equivalents	$ 1,369	$ 1,369	$ —	$ —
Prepaid expenses and other current assets:				
Foreign currency forward contracts	391	—	391	—
	$ 1,760	$ 1,369	$ 391	$ —
Liabilities				
Accrued expenses and other current liabilities:				
Contingent considerations - Current	$ 124	$ —	$ —	$ 124
Foreign currency forward contracts	412	—	412	—
Other liabilities:				
Contingent considerations - Long-term	301	—	—	301
	$ 837	$ —	$ 412	$ 425

Changes in the fair value of Level 3 contingent considerations during the nine months ended September 29, 2023 were as follows (in thousands):

	Amount
Balance at December 31, 2022	$ 425
Payments	(81)
Fair value adjustments	—
Effect of foreign exchange rates	(3)
Balance at September 29, 2023	$ 341

See Note 9 to Consolidated Financial Statements for a discussion of the estimated fair value of the Company's outstanding debt.

6. Foreign Currency Contracts

The Company addresses market risks from changes in foreign currency exchange rates through a risk management program that includes the use of derivative financial instruments to mitigate certain foreign currency transaction exposures from future settlement of non-functional currency monetary assets and liabilities as of the end of a period. The Company does not enter into derivative transactions for speculative purposes. Gains and losses on derivative financial instruments substantially offset losses and gains on the underlying hedged exposures and are included in foreign exchange transaction gains (losses) in the consolidated statements of operations. Furthermore, the Company manages its exposures to counterparty risks on derivative instruments by entering into contracts with a diversified group of major financial institutions and by actively monitoring outstanding positions.

As of September 29, 2023, the aggregate notional amount and fair value of the Company's foreign currency forward contracts was $163.5 million and a net gain of $0.2 million, respectively. As of December 31, 2022, the aggregate notional amount and fair value of the Company's foreign currency forward contracts was $117.1 million and a net loss of less than $0.1 million, respectively.

The Company recognized an aggregate net loss of $0.2 million and aggregate net gain of $2.5 million for the three and nine months ended September 29, 2023, respectively. The Company recognized an aggregate net loss of $0.8 million and $2.3 million for the three and nine months ended September 30, 2022, respectively.

7. Goodwill and Intangible Assets

Goodwill

Goodwill is recorded when the consideration for a business combination exceeds the fair value of net tangible and identifiable intangible assets acquired. The Company tests its goodwill balances for impairment annually as of the beginning of the second quarter or more frequently if indicators are present or changes in circumstances suggest that an impairment may exist. The Company performed the most recent annual goodwill and indefinite-lived intangible asset impairment test as of the beginning of the second quarter of 2023 and noted no impairment.

The following table summarizes changes in goodwill during the nine months ended September 29, 2023 (in thousands):

Balance at beginning of the period	$ 478,897
Effect of foreign exchange rate changes	(1,255)
Balance at end of the period	$ 477,642

Goodwill by reportable segment as of September 29, 2023 was as follows (in thousands):

	Reportable Segment			
	Precision Medicine and Manufacturing	Medical Solutions	Robotics and Automation	Total
Goodwill	$ 208,110	$ 166,905	$ 253,856	$ 628,871
Accumulated impairment of goodwill	(102,461)	(31,722)	(17,046)	(151,229)
Total	$ 105,649	$ 135,183	$ 236,810	$ 477,642

Goodwill by reportable segment as of December 31, 2022 was as follows (in thousands):

	Reportable Segment			
	Precision Medicine and Manufacturing	Medical Solutions	Robotics and Automation	Total
Goodwill	$ 208,387	$ 167,891	$ 253,848	$ 630,126
Accumulated impairment of goodwill	(102,461)	(31,722)	(17,046)	(151,229)
Total	$ 105,926	$ 136,169	$ 236,802	$ 478,897

Intangible Assets

Intangible assets as of September 29, 2023 and December 31, 2022, respectively, are summarized as follows (in thousands):

	September 29, 2023			December 31, 2022		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Amortizable intangible assets:						
Patents and developed technologies	$ 184,246	$ (141,182)	$ 43,064	$ 184,589	$ (132,350)	$ 52,239
Customer relationships	221,706	(135,476)	86,230	222,173	(121,527)	100,646
Trademarks and trade names	23,297	(14,522)	8,775	23,311	(13,457)	9,854
Amortizable intangible assets	429,249	(291,180)	138,069	430,073	(267,334)	162,739
Non-amortizable intangible assets:						
Trade names	13,027	—	13,027	13,027	—	13,027
Total intangible assets	$ 442,276	$ (291,180)	$ 151,096	$ 443,100	$ (267,334)	$ 175,766

All definite-lived intangible assets are amortized either on a straight-line basis or an economic benefit basis over their remaining estimated useful life. Amortization expense for patents and developed technologies is included in cost of revenue in the accompanying consolidated statements of operations. Amortization expense for customer relationships and definite-lived trademarks, trade names and other intangibles is included in operating expenses in the accompanying consolidated statements of operations. Amortization expense was as follows (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Amortization expense – cost of revenue	$ 3,051	$ 3,247	$ 9,119	$ 10,004
Amortization expense – operating expenses	5,131	6,472	15,344	20,987
Total amortization expense	$ 8,182	$ 9,719	$ 24,463	$ 30,991

As of September 29, 2023, estimated amortization expense for each of the five succeeding years and thereafter was as follows (in thousands):

Year Ending December 31,	Cost of Revenue	Operating Expenses	Total
2023 (remainder of year)	$ 3,005	$ 5,065	$ 8,070
2024	9,771	16,998	26,769
2025	8,289	14,378	22,667
2026	6,933	12,227	19,160
2027	4,197	9,861	14,058
Thereafter	10,869	36,476	47,345
Total	$ 43,064	$ 95,005	$ 138,069

8. Supplementary Balance Sheet Information

The following tables provide the details of selected balance sheet items as of the periods indicated (in thousands):

Inventories

	September 29, 2023	December 31, 2022
Raw materials	$ 109,067	$ 118,292
Work-in-process	21,266	23,328
Finished goods	23,096	25,738
Demo and consigned inventory	380	639
Total inventories	$ 153,809	$ 167,997

Accrued Expenses and Other Current Liabilities

	September 29, 2023	December 31, 2022
Accrued compensation and benefits	$ 26,691	$ 35,501
Accrued warranty	5,498	5,127
Contract liabilities, current portion	6,576	8,128
Finance lease obligations	708	668
Other	14,902	13,620
Total	$ 54,375	$ 63,044

Accrued Warranty

	Nine Months Ended	
	September 29, 2023	September 30, 2022
Balance at beginning of the period	$ 5,127	$ 4,783
Provision charged to cost of revenue	1,837	2,091
Use of provision	(1,467)	(1,933)
Foreign currency exchange rate changes	1	(203)
Balance at end of the period	$ 5,498	$ 4,738

Other Long-Term Liabilities

	September 29, 2023	December 31, 2022
Finance lease obligations	$ 4,117	$ 4,652
Accrued contingent considerations and earn-outs	296	301
Other	792	1,132
Total	$ 5,205	$ 6,085

9. Debt

Outstanding debt consisted of the following (in thousands):

	September 29, 2023	December 31, 2022
Senior Credit Facilities – term loan	$ 4,763	$ 4,832
Less: unamortized debt issuance costs	(27)	(32)
Total current portion of long-term debt	$ 4,736	$ 4,800
Senior Credit Facilities – term loan	$ 72,400	$ 77,060
Senior Credit Facilities – revolving credit facility	279,423	358,413
Less: unamortized debt issuance costs	(3,944)	(4,811)
Total long-term debt	$ 347,879	$ 430,662
Total Senior Credit Facilities	$ 352,615	$ 435,462

Senior Credit Facilities

On December 31, 2019, the Company entered into an amended and restated credit agreement (the “Third Amended and Restated Credit Agreement”) with existing lenders for an aggregate credit facility of $450.0 million, consisting of a $100.0 million U.S. dollar equivalent euro-denominated (approximately €90.2 million) 5-year term loan facility and a $350.0 million 5-year revolving credit facility (collectively, the “Senior Credit Facilities”).

The outstanding principal balance under the term loan facility is payable in quarterly installments of €1.1 million that began in March 2020, with the remaining balance due upon maturity. The Company may make additional principal payments at any time, which will reduce the next quarterly installment payment due. Borrowings under the revolving credit facility may be repaid at any time until maturity. The Company made principal payments of €3.4 million ($3.6 million) towards its term loan and $78.4 million towards its revolving credit facility during the nine months ended September 29, 2023.

On March 27, 2020, the Company entered into an amendment (the “First Amendment”) to the Third Amended and Restated Credit Agreement and exercised a portion of the uncommitted accordion option. The First Amendment increased the revolving credit facility commitment under the Third Amended and Restated Credit Agreement by $145.0 million, from $350.0 million to $495.0 million, and reset the uncommitted accordion option to $200.0 million for potential future expansion.

On October 5, 2021, the Company entered into an amendment (the “Fourth Amendment”) to the Third Amended and Restated Credit Agreement to exercise the accordion option. The Fourth Amendment increased the revolving credit facility commitment under the Third Amended and Restated Credit Agreement by $200.0 million, from $495.0 million to $695.0 million, and reset the uncommitted accordion option to $200.0 million for potential future expansion.

On March 10, 2022, the Company entered into an amendment (the “Fifth Amendment”) to the Third Amended and Restated Credit Agreement to extend the maturity date from December 31, 2024 to March 10, 2027, update the pricing grid, replace LIBOR with SOFR as the reference rate for U.S. dollar borrowings, and increase the uncommitted accordion option from $200 million to $350 million. In connection with the Fifth Amendment, the Company capitalized $2.5 million deferred financing costs and recorded a $0.6 million loss from the write-off of a portion of the unamortized deferred financing costs.

The Company is required to satisfy certain financial and non-financial covenants under the Third Amended and Restated Credit Agreement. The Third Amended and Restated Credit Agreement also contains customary events of default. The Company was in compliance with these covenants as of September 29, 2023.

Liens

The Company’s obligations under the Senior Credit Facilities are secured, on a senior basis, by a lien on substantially all of the assets of Novanta Inc.

Fair Value of Debt

As of September 29, 2023 and December 31, 2022, the outstanding balance of the Company’s debt approximated its fair value based on current rates available to the Company for debt of similar maturities. The fair value of the Company’s debt is classified as Level 2 under the fair value hierarchy.

10. Leases

Most leases held by the Company expire between 2023 and 2036. In the U.K., where longer lease terms are more common, the Company has a land lease that extends through 2078. Certain leases include one or more options to renew, with renewal terms that can extend the lease term from one to ten years, and options to terminate the leases within one year. The exercise of lease renewal or termination options is at the Company’s sole discretion; therefore, the majority of renewal options to extend the lease terms are not included in the Company’s right-of-use assets and operating lease liabilities as they are not reasonably certain of being exercised. The Company regularly evaluates the renewal options and includes the renewal periods in the lease term when they are reasonably certain of being exercised. The depreciable lives of the right-of-use assets and leasehold improvements are limited to the expected lease terms.

The following table summarizes the components of lease costs (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Operating lease cost	$ 2,639	$ 2,544	$ 7,916	$ 7,936
Finance lease cost				
Amortization of right-of-use assets	150	150	452	451
Interest on lease liabilities	68	77	208	234
Variable lease cost	227	271	787	888
Total lease cost	$ 3,084	$ 3,042	$ 9,363	$ 9,509

The following table provides additional details of balance sheet information related to the Company's leases (in thousands, except lease term and discount rate):

	September 29, 2023	December 31, 2022
Operating leases		
Operating lease right-of-use assets	$ 40,527	$ 43,317
Current portion of operating lease liabilities	$ 8,072	$ 7,793
Operating lease liabilities	38,577	40,808
Total operating lease liabilities	$ 46,649	$ 48,601
Finance leases		
Property, plant and equipment, gross	$ 9,582	$ 9,582
Accumulated depreciation	(6,122)	(5,670)
Finance lease assets included in property, plant and equipment, net	$ 3,460	$ 3,912
Accrued expenses and other current liabilities	$ 708	$ 668
Other liabilities	4,117	4,652
Total finance lease liabilities	$ 4,825	$ 5,320
Weighted-average remaining lease term (in years):		
Operating leases	7.7	8.2
Finance leases	5.8	6.5
Weighted-average discount rate:		
Operating leases	4.84%	4.64%
Finance leases	5.54%	5.54%

The following table provides additional details of cash flow information related to the Company's leases (in thousands):

	Nine Months Ended	
	September 29, 2023	September 30, 2022
Cash paid for amounts included in lease liabilities:		
Operating cash flows from finance leases	$ 208	$ 234
Operating cash flows from operating leases	$ 5,916	$ 5,921
Financing cash flows from finance leases	$ 484	$ 447
Supplemental non-cash information:		
Right-of-use assets obtained in exchange for new operating lease liabilities	$ 3,893	$ 4,621

Future minimum lease payments under operating and finance leases expiring subsequent to September 29, 2023, including operating leases associated with facilities that have been vacated as a result of the Company's restructuring actions, are summarized as follows (in thousands):

Year Ending December 31,	Operating Leases	Finance Leases
2023 (remainder of year)	$ 2,426	$ 238
2024	9,617	954
2025	9,386	954
2026	7,945	979
2027	7,066	1,003
Thereafter	20,832	1,505
Total minimum lease payments	57,272	5,633
Less: Interest	(10,623)	(808)
Present value of lease liabilities	$ 46,649	$ 4,825

11. Preferred and Common Shares and Share-Based Compensation

Preferred Shares

In May 2021, the Company's shareholders approved a special resolution to amend the Company's articles to authorize up to 7.0 million preferred shares for future issuance. The Company's Board of Directors is authorized to designate and issue one or more series of preferred shares, fix the rights, preferences and designation, as deemed necessary or advisable, relating to the preferred shares, provided that no shares of any series may be entitled to more than one vote per share. As of September 29, 2023, no preferred shares had been issued and outstanding.

Common Share Repurchases

In February 2020, the Company's Board of Directors approved a new share repurchase plan (the "2020 Repurchase Plan"), authorizing the repurchase of $50.0 million worth of the Company's common shares. During the nine months ended September 30, 2022, the Company repurchased 4 thousand shares under the 2020 Repurchase Plan for an aggregate purchase price of $0.5 million and an average price of $116.95 per share. During the nine months ended September 29, 2023, the Company did not repurchase any shares. As of September 29, 2023, the Company had $49.5 million available for future share repurchases under the 2020 Repurchase Plan.

Share-Based Compensation Expense

The table below summarizes share-based compensation expense recorded in the consolidated statements of operations (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Selling, general and administrative	$ 5,229	$ 4,649	$ 15,631	$ 13,906
Research and development and engineering	510	586	1,495	1,780
Cost of revenue	298	719	1,252	2,123
Total share-based compensation expense	$ 6,037	$ 5,954	$ 18,378	$ 17,809

Share-based compensation expense reported in selling, general and administrative expenses included expenses related to restricted stock units and deferred stock units granted to the members of the Company's Board of Directors of $1.2 million and $1.1 million during the nine months ended September 29, 2023 and September 30, 2022, respectively.

Restricted Stock Units and Deferred Stock Units

The Company's restricted stock units ("RSUs") have generally been issued with vesting periods ranging from zero to five years and vest based solely on service conditions. Accordingly, the Company recognizes compensation expense on a straight-line basis over the requisite service period. The Company reduces the compensation expense by an estimated forfeiture rate which is based on anticipated forfeitures and historical forfeiture experience.

Deferred stock units ("DSUs") are granted to the members of the Company's Board of Directors (the "Board"). Compensation expense associated with the DSUs is recognized in full on the date of grant, as the DSUs are fully vested and non-forfeitable upon grant. Outstanding DSUs are converted into common shares upon Board members' resignation or retirement from the Board. There were 41 thousand and 38 thousand DSUs outstanding as of September 29, 2023 and December 31, 2022, respectively. Outstanding DSUs are included in the calculation of weighted average basic shares outstanding for the respective periods.

The table below summarizes activities relating to RSUs and DSUs issued and outstanding under the Company's Amended and Restated 2010 Incentive Plan during the nine months ended September 29, 2023:

	Shares (In thousands)	Weighted Average Grant Date Fair Value
Unvested at December 31, 2022	238	$ 128.26
Granted	91	$ 156.47
Vested	(102)	$ 122.48
Forfeited	(24)	$ 139.50
Unvested at September 29, 2023	203	$ 142.72
Expected to vest as of September 29, 2023	185	

The total fair value of RSUs and DSUs that vested during the nine months ended September 29, 2023 was $15.2 million based on the market price of the underlying shares on the date of vesting.

Performance Stock Units

The Company typically grants performance-based restricted stock unit awards ("PSUs") that are based on the Company's financial metrics, market conditions, or a hybrid of financial metrics and market conditions. These performance stock unit awards generally cliff vest on the first day following the end of the specified performance period.

The number of common shares to be issued upon settlement following vesting of attainment-based PSUs is determined based on the Company's financial metrics over the specified performance period against the targets established by the Company's Board of Directors at the time of grant and will be in the range of zero to 200% of the target number of shares. The Company recognizes compensation expense ratably over the performance period based on the number of shares that are deemed probable of vesting at the end of the specified performance period. This probability assessment is performed quarterly and the cumulative effect of a change in the estimated compensation expense, if any, is recognized in the consolidated statement of operations in the period in which such determination is made.

The number of common shares to be issued upon settlement following vesting of market-based PSUs is determined based on the relative market performance of the Company's common stock compared to the Russell 2000 Index over the specified performance period using a payout formula established by the Company's Board of Directors at the time of grant and will be in the range of zero to 200% of the target number of shares. The Company recognizes the related compensation expense based on the fair value of the market-based PSUs, determined using the Monte-Carlo valuation model as of the grant date, on a straight-line basis from the grant date to the end of the specified performance period. Compensation expense on market-based PSUs will not be affected by the number of shares that will ultimately vest at the end of the specified performance period.

The number of common shares to be issued upon settlement following vesting of PSU awards that are based on the achievement of a hybrid of financial metrics and market conditions ("Hybrid PSUs") is determined based on the Company's financial metrics achieved over the specified performance period against the targets established by the Company's Board of Directors at the time of grant with a market condition multiplier and will be in the range of zero to 260% of the target number of shares. The Company determines the fair value of these Hybrid PSUs using the Monte-Carlo valuation model as of the grant date. The Company recognizes compensation expense associated with the Hybrid PSUs ratably over the performance period based on the fair value of the PSUs as of the grant date and the number of shares that are deemed probable of vesting at the end of the specified performance period. The probability assessment is performed quarterly and the cumulative effect of a change in the estimated compensation expense, if any, is recognized in the consolidated statement of operations in the period in which such determination is made.

The table below summarizes the activities relating to the performance-based awards issued and outstanding under the Company's Amended and Restated 2010 Incentive Plan during the nine months ended September 29, 2023:

	Shares (In thousands)	Weighted Average Grant Date Fair Value
Unvested at December 31, 2022	216	$ 144.16
Granted	57	$ 179.15
Performance adjustments[1]	20	$ 122.24
Vested	(70)	$ 116.56
Forfeited	(16)	$ 168.97
Unvested at September 29, 2023	207	$ 160.40
Expected to vest as of September 29, 2023	246	

[1] The amount shown represents performance adjustments related to the performance-based awards granted on February 20, 2020. These performance-based awards vested at a blended payout of 142% during the nine months ended September 29, 2023 based on the achievement of cumulative Non-GAAP EPS and applicable relative TSR performance conditions, respectively, over the performance period of fiscal years 2020 through 2022.

The unvested PSUs are shown at target payout levels in the table above. As of September 29, 2023, the maximum number of common shares that could be earned under these PSU grants was approximately 369 thousand shares.

The total fair value of PSUs that vested during the nine months ended September 29, 2023 was $9.9 million based on the market price of the underlying common shares on the date of vesting.

The grant-date fair value of the hybrid PSUs granted during the nine months ended September 29, 2023 was estimated using the Monte Carlo valuation method with the following assumptions:

	Nine Months Ended September 29, 2023
Grant-date stock price	$ 156.72
Expected volatility	35.89 %
Risk-free interest rate	4.44 %
Expected annual dividend yield	—
Fair value	$ 181.45

Stock Options

In February 2023, the Company granted 48 thousand nonqualified stock options to certain members of the executive management team to purchase common shares of the Company at a strike price equal to the closing market price on the date of grant. The stock options vest ratably over three years on the anniversary of the date of grant and expire on the seventh anniversary of the date of grant. The Company estimates the fair value of stock options using the Black-Scholes valuation model. The Company recognizes compensation expense related to the stock options on a straight-line basis over the vesting period in the consolidated statement of operations.

The table below summarizes the activities relating to stock options issued and outstanding under the Company's Amended and Restated 2010 Incentive Plan during the nine months ended September 29, 2023:

	Shares (In thousands)	Weighted Average Exercise Price
Outstanding as of December 31, 2022	84	$ 72.18
Granted	48	$ 156.72
Exercised	—	$ —
Forfeited or expired	—	$ —
Outstanding as of September 29, 2023	132	$ 102.86
Exercisable as of September 29, 2023	57	
Expected to vest as of September 29, 2023	75	

The aggregate Black-Scholes fair value of $3.0 million for the stock options granted during the nine months ended September 29, 2023 was estimated using the following assumptions as of the grant date:

	Nine Months Ended September 29, 2023
Expected option term in years	4.5
Expected volatility	40.7 %
Risk-free interest rate	4.00 %
Expected annual dividend yield	—

The expected option term was calculated using the simplified method permitted under Codification of Staff Accounting Bulletins Topic 14, "Share-Based Payment". The expected volatility was determined based on the historical volatility of the Company's common shares over the expected option term. The risk-free interest rate was based on treasury instrument whose term was six months longer than the expected option term. The expected annual dividend yield is zero as the Company does not have plans to issue dividends.

12. Income Taxes

The Company determines its estimated annual effective tax rate at the end of each interim period based on full-year forecasted pre-tax income and facts known at that time. The estimated annual effective tax rate is applied to the year-to-date pre-tax income at the end of each interim period with the cumulative effect of any changes in the estimated annual effective tax rate being recorded in the period in which the changes are determined. The tax effect of significant unusual items is reflected in the period in which they occur. Since the Company is incorporated in Canada, it is required to use Canada's statutory tax rate of 29.0% in the determination of the estimated annual effective tax rate.

The Company maintains a valuation allowance on balances of certain U.S. state net operating losses, credits and certain non-U.S. tax attributes that the Company has determined are not more likely than not to be realized. A valuation allowance is required when, based upon an assessment of various factors, including recent operating loss history, anticipated future earnings, and prudent and reasonable tax planning strategies, it is more likely than not that some portion of the deferred tax assets will not be realized. In conjunction with the Company's ongoing review of its actual results and anticipated future earnings, the Company continuously reassesses the possibility of adding a new or additional valuation allowance or releasing the valuation allowance currently in place on its deferred tax assets.

The Company's effective tax rate of 7.7% for the three months ended September 29, 2023 differs from the Canadian statutory tax rate of 29.0% primarily due to the mix of income earned in jurisdictions with varying tax rates, estimated deductions for Foreign Derived Intangible Income, U.K. patent box deductions, R&D tax credits, and tax benefits of share-based compensation awards, partially offset by disallowed compensation deductions and uncertain tax position accruals.

The Company’s effective tax rate of 11.2% for the nine months ended September 29, 2023 differs from the Canadian statutory tax rate of 29.0% primarily due to the mix of income earned in jurisdictions with varying tax rates, estimated deductions for Foreign Derived Intangible Income, U.K. patent box deductions, R&D tax credits, and tax benefits of share-based compensation awards, partially offset by disallowed compensation deductions and uncertain tax position accruals. For the nine months ended September 29, 2023, the tax benefits of share-based compensation awards had a benefit of 4.5% on the Company’s effective tax rate.

The Company’s effective tax rate of 16.0% for the three months ended September 30, 2022 differs from the Canadian statutory tax rate of 29.0% primarily due to the mix of income earned in jurisdictions with varying tax rates, estimated deductions for Foreign Derived Intangible Income, U.K. patent box deductions and R&D tax credits, partially offset by disallowed compensation deductions and uncertain tax position accruals.

The Company’s effective tax rate of 13.8% for the nine months ended September 30, 2022 differs from the Canadian statutory tax rate of 29.0% primarily due to the mix of income earned in jurisdictions with varying tax rates, estimated deductions for Foreign Derived Intangible Income, U.K. patent box deductions, R&D tax credits, and tax benefits of share-based compensation awards, partially offset by disallowed compensation deductions and uncertain tax position accruals. For the nine months ended September 30, 2022, the tax benefits of share-based compensation awards had a benefit of 0.2% on the Company’s effective tax rate.

13. Restructuring, Acquisition, and Related Costs

The following table summarizes restructuring, acquisition, and related costs in the accompanying consolidated statements of operations (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
2022 restructuring	$ 2,450	$ 889	$ 5,324	$ 889
2020 restructuring	1,880	887	2,613	2,119
Total restructuring charges	4,330	1,776	7,937	3,008
Acquisition and related charges	151	(151)	254	(358)
Total restructuring, acquisition, and related costs	$ 4,481	$ 1,625	$ 8,191	$ 2,650

2022 Restructuring

As a result of the Company’s ongoing evaluations and efforts to reduce its operating costs, while improving efficiency and effectiveness, the Company initiated the 2022 restructuring program in the third quarter of 2022. This program is focused on reducing operating complexity in the Company, including reducing infrastructure costs and streamlining the Company’s operating model to better serve its customers. In addition, the program is focused on cost reduction actions that improve gross margins for the overall company in line with the Company's multi-year gross margin expansion program. During the three and nine months ended September 29, 2023, the Company recorded $2.5 million and $5.3 million, respectively, in severance, facility related, and other charges in connection with the 2022 restructuring program. As of September 29, 2023, the Company had incurred cumulative costs of $6.7 million related to this restructuring plan. The Company anticipates substantially completing the 2022 restructuring program by the end of 2023 and expects to incur additional restructuring charges of $2.5 million to $3.0 million related to the 2022 restructuring program.

The following table summarizes restructuring costs associated with the 2022 restructuring program by reportable segment (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Precision Medicine and Manufacturing	$ 76	$ 889	$ 1,064	$ 889
Medical Solutions	253	—	293	—
Robotics and Automation	1,632	—	3,168	—
Unallocated Corporate and Shared Services	489	—	799	—
Total	$ 2,450	$ 889	$ 5,324	$ 889

2020 Restructuring

The Company initiated the 2020 restructuring program in the third quarter of 2020. This program is focused on reducing operating complexity in the Company, including reducing infrastructure costs and streamlining the Company's operating model to better serve its customers. In addition, the program is focused on cost reduction actions that improve gross margins for the overall company. During the three and nine months ended September 29, 2023, the Company recorded $1.9 million and $2.6 million respectively, in severance, facility related, and other costs in connection with the 2020 restructuring program. As of September 29, 2023, the Company had incurred cumulative costs of $16.5 million related to this restructuring plan. The 2020 restructuring program was substantially completed in the third quarter of 2023.

The following table summarizes restructuring costs associated with the 2020 restructuring program by reportable segment (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Precision Medicine and Manufacturing	$ 1,543	$ 758	$ 2,050	$ 1,952
Medical Solutions	—	101	—	207
Robotics and Automation	337	22	563	(46)
Unallocated Corporate and Shared Services	—	6	—	6
Total	$ 1,880	$ 887	$ 2,613	$ 2,119

Rollforward of Accrued Expenses Related to Restructuring

The following table summarizes the accrual activities, by component, related to the Company's restructuring plans recorded in the accompanying consolidated balance sheets (in thousands):

	Total	Employee Related	Facility Related	Other
Balance at December 31, 2022	$ 2,410	$ 1,902	$ 452	$ 56
Restructuring charges	7,937	4,799	1,929	1,209
Cash payments	(5,969)	(4,803)	(600)	(566)
Non-cash write-offs and other adjustments[1]	(1,346)	20	(823)	(543)
Balance at September 29, 2023	$ 3,032	$ 1,918	$ 958	$ 156

[1] Non-cash write-offs and other adjustments included impairment of assets amounting to $1.4 million.

Acquisition and Related Charges

Acquisition costs in connection with business combinations, including finders' fees, legal, valuation, and other professional or consulting fees, totaled $0.2 million and $0.3 million for the three and nine months ended September 29, 2023, and $0.8 million and $1.1 million for the three and nine months ended September 30, 2022, respectively. During the three and nine months ended September 30, 2022, the Company recognized a reduction of $1.0 million and $1.4 million, respectively, in earn-out expenses related to prior-year acquisitions. The majority of acquisition and related costs for the three and nine months ended September 29, 2023 were included in the Company's Unallocated Corporate and Shared Services reportable segment. The majority of acquisition and related costs for the three and nine months ended September 30, 2022 were included in the Company's Precision Medicine and Manufacturing, Robotics and Automation, and Unallocated Corporate and Shared Services reportable segments.

14. Commitments and Contingencies

Purchase Commitments

There have been no material changes to the Company's purchase commitments since December 31, 2022.

Business Interruption Insurance Recoveries

The Company made an insurance claim to recover lost margin and additional costs incurred in connection with a fire at a key supplier that caused business interruption in the second half of 2022. During the three and nine months ended September 29, 2023, the Company received insurance recovery payments of $4.4 million and $5.0 million, respectively, which have been recorded as a reduction to cost of revenue. The insurance claim was fully settled as of September 29, 2023.

Legal Contingencies

The Company is subject to various legal proceedings and claims that arise in the ordinary course of business. The Company reviews the status of each significant matter and assesses the potential financial exposure on a quarterly basis. If the potential loss from any claim or legal proceeding is considered probable and the amount can be reasonably estimated, the Company accrues a liability for the estimated loss. Significant judgment is required in both the determination of probability and the determination as to whether an exposure is reasonably estimable. Because of uncertainties related to these matters, accruals are based only on the best information available as of the date of the consolidated balance sheet. As additional information becomes available, the Company reassesses the potential liability related to any pending claims and litigations and may revise its estimates. When a material loss contingency is considered reasonably possible but not probable, the Company does not record a liability, but instead discloses the nature and the amount of the claim, and an estimate of the potential loss or a range of potential losses, if such an estimate can be reasonably made. Legal fees are expensed as incurred. The Company does not believe that the outcome of outstanding claims will have a material adverse effect on its consolidated financial statements but there can be no assurance that any such claims would not have a material adverse effect on the consolidated financial statements.

Guarantees and Indemnifications

In the normal course of its operations, the Company executes agreements that provide for indemnification and guarantees to counterparties in transactions such as business dispositions, sale of assets, sale of products, and operating leases. Additionally, the by-laws of the Company require it to indemnify certain current or former directors, officers, and employees of the Company against expenses incurred by them in connection with each proceeding in which they are involved as a result of serving or having served in certain capacities. Indemnification is not available with respect to a proceeding as to which it has been adjudicated that the person did not act in good faith in the reasonable belief that the action was in the best interests of the Company. Certain of the Company's officers and directors are also a party to indemnification agreements with the Company. These indemnification agreements provide, among other things, that the director or officer shall be indemnified to the fullest extent permitted by applicable law against all expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by such director or officer in connection with any proceeding by reason of their relationship with the Company. In addition, the indemnification agreements provide for the advancement of expenses incurred by such director or officer in connection with any proceeding covered by the indemnification agreement, subject to the conditions set forth therein and to the extent such advancement is not prohibited by law. The indemnification agreements also set out the procedures for determining entitlement to indemnification, the requirements relating to notice and defense of claims for which indemnification is sought, the procedures for enforcement of indemnification rights, the limitations on and exclusions from indemnification, and the minimum levels of directors and officers liability insurance to be maintained by the Company.

15. Segment Information

Reportable Segments

The Company's Chief Operating Decision Maker ("CODM") utilizes certain financial information to make decisions about allocating resources and assessing performance for the entire Company. The Company evaluates the performance of and allocates resources to its segments based on revenue, gross profit and operating profit. The Company's reportable segments have been identified based on commonality and adjacency of technologies, applications and customers amongst the Company's individual product lines. The Company determined that disclosing revenue by specific product is impracticable due to the highly customized and extensive portfolio of technologies offered to customers.

Based upon the information provided to the CODM, the Company has determined that it operates in three reportable segments: Precision Medicine and Manufacturing, Medical Solutions, and Robotics and Automation. The reportable segments and their principal activities are described below.

Precision Medicine and Manufacturing

The Precision Medicine and Manufacturing segment designs, manufactures and markets photonics-based solutions, including laser scanning, laser beam delivery, CO2 laser, solid state laser, ultrafast laser, and optical light engine products. The segment serves highly demanding photonics-based applications for advanced industrial processes, metrology, medical and life science imaging, DNA sequencing, and medical laser procedures, particularly ophthalmology applications. The vast majority of the segment's product offerings are sold to OEM customers worldwide. The segment sells these products both directly, utilizing a highly technical sales force, and indirectly, through resellers and distributors.

Medical Solutions

The Medical Solutions segment designs, manufactures and markets a range of medical grade technologies, including medical insufflators, pumps and related disposables; visualization solutions; wireless technologies, video recorder and video integration technologies for operating room integrations; optical data collection and machine vision technologies; radio frequency identification ("RFID") technologies; thermal chart recorders; spectrometry technologies; and embedded touch screen solutions. The vast majority of the segment's product offerings are sold to OEM customers worldwide. The segment sells these products both directly, utilizing a highly technical sales force, and indirectly, through resellers and distributors.

Robotics and Automation

The Robotics and Automation segment designs, manufactures and markets optical and inductive encoders, precision motors, servo drives and motion control solutions, integrated stepper motors, intelligent robotic end-of-arm technology solutions, air bearings, and air bearing spindles. The vast majority of the segment's product offerings are sold to OEM customers worldwide. The segment sells these products both directly, utilizing a highly technical sales force, and indirectly, through resellers and distributors.

Reportable Segment Financial Information

Revenue, gross profit, gross profit margin, operating income (loss), and depreciation and amortization expenses by reportable segment were as follows (in thousands, except percentage data):

	Three Months Ended		Nine Months Ended	
Revenue	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Precision Medicine and Manufacturing	$ 71,277	$ 70,799	$ 215,138	$ 203,042
Medical Solutions	83,378	73,345	244,340	200,911
Robotics and Automation	66,848	78,814	210,615	238,577
Total	$ 221,503	$ 222,958	$ 670,093	$ 642,530

	Three Months Ended		Nine Months Ended	
Gross Profit	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Precision Medicine and Manufacturing	$ 36,208	$ 34,699	$ 107,054	$ 94,268
Medical Solutions	34,027	28,201	100,170	79,966
Robotics and Automation	32,652	36,832	100,376	113,846
Unallocated Corporate and Shared Services	(1,296)	(1,324)	(4,258)	(4,151)
Total	$ 101,591	$ 98,408	$ 303,342	$ 283,929

	Three Months Ended		Nine Months Ended	
Gross Profit Margin	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Precision Medicine and Manufacturing	50.8%	49.0%	49.8%	46.4%
Medical Solutions	40.8%	38.4%	41.0%	39.8%
Robotics and Automation	48.8%	46.7%	47.7%	47.7%
Total	45.9%	44.1%	45.3%	44.2%

	Three Months Ended		Nine Months Ended	
Operating Income (Loss)	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Precision Medicine and Manufacturing	$ 18,508	$ 18,351	$ 54,803	$ 45,782
Medical Solutions	11,050	8,744	30,974	20,811
Robotics and Automation	12,208	15,800	39,456	48,222
Unallocated Corporate and Shared Services	(11,457)	(14,234)	(36,414)	(38,580)
Total	$ 30,309	$ 28,661	$ 88,819	$ 76,235

	Three Months Ended		Nine Months Ended	
Depreciation and Amortization Expenses	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Precision Medicine and Manufacturing	$ 2,644	$ 2,760	$ 7,901	$ 8,234
Medical Solutions	3,860	4,240	11,877	12,989
Robotics and Automation	4,705	6,050	14,467	19,467
Unallocated Corporate and Shared Services	188	93	820	309
Total	$ 11,397	$ 13,143	$ 35,065	$ 40,999

Revenue by Geography

The Company aggregates geographic revenue based on the customer locations where products are shipped to. Revenue by geography was as follows (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
United States	$ 110,462	$ 99,230	$ 321,898	$ 268,585
Germany	33,263	34,625	100,222	99,526
Rest of Europe	34,257	33,996	98,159	105,327
China	15,679	24,209	54,331	80,877
Rest of Asia-Pacific	24,060	26,886	79,561	74,400
Other	3,782	4,012	15,922	13,815
Total	$ 221,503	$ 222,958	$ 670,093	$ 642,530

The majority of revenue from Precision Medicine and Manufacturing, Medical Solutions and Robotics and Automation segments is generated from sales to customers within the United States and Europe. Each segment also generates revenue across the other geographies, with no significant concentration of any segment's remaining revenue.

Revenue by End Market

The Company primarily operates in two end markets: the medical market and the advanced industrial market. Revenue by end market was approximately as follows:

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Medical	57%	50%	54%	48%
Advanced Industrial	43%	50%	46%	52%
Total	100%	100%	100%	100%

The majority of revenue from the Precision Medicine and Manufacturing and Robotics and Automation segments is generated from sales to customers in the advanced industrial market. The majority of revenue from the Medical Solutions segment is generated from sales to customers in the medical market.

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

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") should be read in conjunction with the Consolidated Financial Statements and Notes included in Item 1 of this Quarterly Report on Form 10-Q. The MD&A contains certain forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. In addition to historical financial information, the following discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. These forward-looking statements include, but are not limited to, our ability to manage or mitigate the impact of global supply chain disruptions, inflationary pressures and other macroeconomic conditions; our belief that the Purchasing Managers Index ("PMI") may provide an indication of the impact of general economic conditions on our sales into the advanced industrial end market; our strategy; anticipated financial performance; expected liquidity and capitalization; drivers of revenue growth and our growth expectations in various markets; management's plans and objectives for future operations, expenditures and product development, and investments in research and development; business prospects; potential of future product releases and expansion of our product and service offerings; industry trends; market conditions; our competitive positions; changes in economic and political conditions, including supply chain disruptions and constraints and inflationary pressures; changes in accounting principles; changes in actual or assumed tax liabilities and tax law; expectations regarding tax exposures; anticipated reinvestment of future earnings and dividend policy; anticipated expenditures in regard to the Company's benefit plans; future acquisitions and integration and anticipated benefits from acquisitions and dispositions; anticipated economic benefits and expected costs of restructuring programs; ability to repay our indebtedness; our intentions regarding the use of cash; expectations regarding legal and regulatory requirements, including environmental requirements, and our compliance thereto; and other statements that are not historical facts. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various important factors, including, but not limited to, the following: economic and political conditions and the effects of these conditions on our customers' businesses, capital expenditures and level of business activities; risks associated with epidemics or pandemics, such as the COVID-19 pandemic, and other events outside of our control; our dependence upon our ability to respond to fluctuations in product demand; our ability to continually innovate, introduce new products timely, and successfully commercialize our innovations; customer order timing and other similar factors beyond our control; disruptions or breaches in security of our and our third-party providers' information technology systems; our failure to comply with data privacy regulations; changes in interest rates, credit ratings or foreign currency exchange rates; risks associated with our operations in foreign countries; our increased use of outsourcing in foreign countries; risks associated with increased outsourcing of components manufacturing; our exposure to increased tariffs, trade restrictions or taxes on our products; negative effects on global economic conditions, financial markets and our business as a result of the United Kingdom's withdrawal from the European Union; violations of our intellectual property rights and our ability to protect our intellectual property against infringement by third parties; risk of losing our competitive advantage; our failure to successfully integrate recent and future acquisitions into our business; our ability to attract and retain key personnel; our restructuring and realignment activities and disruptions to our operations as a result of consolidation of our operations; product defects or problems integrating our products with other vendors' products; disruptions in the supply of certain key components or other goods from our suppliers; our failure to accurately forecast component and raw material requirements leading to excess inventories or delays in the delivery of our products; production difficulties and product delivery delays or disruptions; our exposure to medical device regulations, which may impede or hinder the approval or sale of our products and, in some cases, may ultimately result in an inability to obtain approval of certain products or may result in the recall or seizure of previously approved products; potential penalties for violating foreign and U.S. federal and state healthcare laws and regulations; impact of healthcare industry cost containment and healthcare reform measures; changes in governmental regulations affecting our business or products; our failure to implement new information technology systems and software successfully; our failure to realize the full value of our intangible assets; our reliance on original equipment manufacturer customers; increasing scrutiny and changing expectations from investors, customers, and governments with respect to Environmental, Social and Governance policies and practices; our exposure to the credit risk of some of our customers and in weakened markets; being subject to U.S. federal income taxation even though we are a non-U.S. corporation; changes in tax laws and fluctuations in our effective tax rates; any need for additional capital to adequately respond to business challenges or opportunities and repay or refinance our existing indebtedness, which may not be available on acceptable terms or at all; our existing indebtedness limiting our ability to engage in certain activities; volatility in the market price for our common shares; and our failure to maintain appropriate internal controls in the future. Other important risk factors that could affect the outcome of the events set forth in these statements and that could affect the Company's operating results and financial condition are discussed in Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 under the heading "Risk Factors", as updated herein and in our other filings with the Securities and Exchange Commission. In this Quarterly Report on Form 10-Q, the words "expects," "intends," "anticipates," "estimates," "believes," "future," "plans," "aims," "would," "could," "should," "potential," "continues," and similar words or expressions (as well as other words or expressions referencing future events, conditions, or circumstances) identify forward-looking statements. Readers should not place undue reliance on any such forward-looking statements, which speak only as of the date they are made. Management and the Company disclaim any obligation to publicly update or revise any such forward-looking statements to reflect any changes in its expectations or in events, conditions, or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those contained in the forward-looking statements, except as required under applicable law.

Accounting Period

The interim consolidated financial statements of Novanta Inc. (the "Company", "Novanta", "we", "us", "our") are prepared for each quarterly period ending on the Friday closest to the end of the calendar quarter, except for the fourth quarter which always ends on December 31.

Business Overview

We are a leading global supplier of core technology solutions that give medical and advanced industrial original equipment manufacturers ("OEMs") a competitive advantage. We combine deep proprietary technology expertise and competencies in precision medicine and manufacturing, medical solutions, and robotics and automation with a proven ability to solve complex technical challenges. This enables us to engineer core components and sub-systems that deliver extreme precision and performance, tailored to our customers' demanding applications.

During the first quarter of 2023, we changed the names of our reportable segments from "Photonics" to "Precision Medicine and Manufacturing", from "Vision" to "Medical Solutions", and from "Precision Motion" to "Robotics and Automation", respectively. The segment name changes did not result in any change to the compositions of our segments and therefore did not result in any change to historical results.

Reportable Segments

We operate in three reportable segments: Precision Medicine and Manufacturing, Medical Solutions, and Robotics and Automation. The reportable segments and their principal activities are summarized below.

Precision Medicine and Manufacturing

Our Precision Medicine and Manufacturing segment designs, manufactures and markets photonics-based solutions, including laser scanning, laser beam delivery, CO2 laser, solid state laser, ultrafast laser, and optical light engine products to customers worldwide. The segment serves highly demanding photonics-based applications for advanced industrial processes, metrology, medical and life science imaging, DNA sequencing, and medical laser procedures, particularly ophthalmology applications. The vast majority of the segment's product offerings are sold to OEM customers. The segment sells these products both directly, utilizing a highly technical sales force, and indirectly, through resellers and distributors.

Medical Solutions

Our Medical Solutions segment designs, manufactures and markets a range of medical grade technologies, including medical insufflators, pumps and related disposables; visualization solutions; wireless technologies, video recorder and video integration technologies for operating room integrations; optical data collection and machine vision technologies; radio frequency identification ("RFID") technologies; thermal chart recorders; spectrometry technologies; and embedded touch screen solutions. The vast majority of the segment's product offerings are sold to OEM customers. The segment sells these products both directly, utilizing a highly technical sales force, and indirectly, through resellers and distributors.

Robotics and Automation

Our Robotics and Automation segment designs, manufactures and markets optical and inductive encoders, precision motors, servo drives and motion control solutions, integrated stepper motors, intelligent robotic end-of-arm technology solutions, air bearings, and air bearing spindles to customers worldwide. The vast majority of the segment's product offerings are sold to OEM customers. The segment sells these products both directly, utilizing a highly technical sales force, and indirectly, through resellers and distributors.

End Markets

We primarily operate in two end markets: the medical market and the advanced industrial market.

Medical Market

For the nine months ended September 29, 2023, the medical market accounted for approximately 54% of our revenue. Revenue from our products sold to the medical market is generally affected by hospital and other healthcare provider capital spending, growth rates of surgical procedures, changes in regulatory requirements and laws, aggregation of purchasing by healthcare networks, changes in technology requirements, timing of OEM customers' product development and new product launches, changes in customer or patient preferences, and general demographic trends.

Advanced Industrial Market

For the nine months ended September 29, 2023, the advanced industrial market accounted for approximately 46% of our revenue. Revenue from our products sold to the advanced industrial market is affected by several factors, including changing technology requirements and preferences of our customers, productivity or quality investments in a manufacturing environment, financial conditions of our customers, changes in regulatory requirements and laws, and general economic conditions. We believe that the PMI on manufacturing activities specific to different regions around the world may provide an indication of the impact of general economic conditions on our sales into the advanced industrial market.

Strategy

Our strategy is to drive sustainable, profitable growth through short-term and long-term initiatives, including:

- disciplined focus on our diversified business model of providing functionality to long life-cycle OEM customer platforms in attractive medical and advanced industrial niche markets;
- improving our business mix to increase medical sales as a percentage of total revenue by:
  - introducing new products aimed at attractive medical applications, such as minimally invasive and robotic surgery, ophthalmology, patient monitoring, drug delivery, clinical laboratory testing and life science equipment;
  - deepening our key account management relationships with and driving cross selling of our product offerings to leading medical equipment manufacturers; and
  - pursuing complementary medical technology acquisitions;
- increasing our penetration of high growth advanced industrial applications, such as laser materials processing, intelligent end-of-arm robotic technology solutions, robotics, laser additive manufacturing, automation and metrology, by working closely with OEM customers to launch application specific products that closely match the requirements of each application;
- broadening our portfolio of enabling proprietary technologies and capabilities through increased investment in new product development, and investments in application development to further penetrate existing customers, while expanding the applicability of our solutions to new markets;
- broadening our product and service offerings through the acquisition of innovative and complementary technologies and solutions in medical and advanced industrial technology applications;
- expanding sales and marketing channels to reach new target customers;
- improving our existing operations to expand profit margins and improve customer satisfaction by implementing lean manufacturing principles, strategic sourcing across our major production sites; and optimizing and limiting the growth of our fixed cost base; and
- attracting, retaining, and developing world-class talented, diverse, and motivated employees.

Significant Events and Updates

Business Environment

Global Supply Chain Disruptions

Over the past three years, we experienced disruptions to our supply chain as a result of the COVID-19 pandemic and global electronics and other raw material shortages. While we regularly monitor the manufacturing output of companies in our supply chain, disruptions to our suppliers and/or sub-suppliers could further challenge our ability to manufacture our products, adversely affecting our operations and customer relationships. To mitigate the risk of supply chain interruptions, we are identifying alternative suppliers and distributors, sourcing raw materials from different supplier and distributor locations, modifying our product designs to allow for alternative components to be used without compromising quality and performance, in-sourcing production of parts where feasible, and taking other actions to ensure a sustainable supply of raw materials. Additionally, restrictions on or disruptions of transportation, such as reduced availability of air transports, port closures and backlogs and increased border controls or closures, have resulted in higher costs and delays for obtaining raw materials from suppliers. Our supply chain disruptions and customer orders to secure supply caused significantly elevated customer order backlog levels in the last two years. Although we have seen some decrease in our backlog coverage levels throughout the year, they are still higher than average historical levels and we anticipate that our customers will continue to gradually shorten their order lead times as supply chain disruptions ease further in the near future.

Inflationary Pressures

The COVID-19 pandemic and the global supply chain disruptions have caused inflationary pressures on the market prices for raw materials and components as well as increases in the costs of labor. We continue to experience higher than normal inflation of raw materials and components prices and labor costs. We have generally been able to offset increases in these costs through various productivity cost reduction initiatives, as well as increasing our selling prices to pass through some of these higher costs to our customers. However, our ability to raise our selling prices depends on market conditions and competitive dynamics. Given the timing of our actions compared to the timing of these inflationary pressures, there may be periods during which we are unable to fully recover the increases in our costs. Additionally, the inflationary pressures have given rise to significant increases in interest rates as various governments used monetary policy to reduce inflation. As a result, our weighted average interest rate increased from approximately 2.7% as of September 30, 2022 to approximately 6.1% as of September 29, 2023.

Geopolitical Conflicts

In February 2022, Russian forces invaded Ukraine. In response, the U.S., the European Union (“EU”), and several other countries imposed economic and trade sanctions and other restrictions (collectively, “global sanctions”) targeting Russia and Belarus. Russia then imposed retaliatory economic measures against the U.S., the EU, and several other countries. Our historical sales to Russia were not material. We also do not have any assets, employees or third-party contractors in Russia or Ukraine. However, the duration of the conflict and further sanctions could have further impact on the global economy and inflation. Due to the uncertainty around the duration of the conflict, the impacts of these longer-term factors to our business are unknown.

In early October 2023, Israel declared war on Hamas after the Palestinian militant group launched a surprise cross-boarder raid in Israel. We are monitoring the social, political and economic environment in Israel and in the region for any impact on our businesses. Our historical sales to Israel were around 1% of our total sales. We do not have any assets, employees, or third-party contractors in Israel. Due to the uncertainty around the duration of the conflict, future impacts are unknown to our businesses.

Results of Operations for the Three and Nine Months Ended September 29, 2023 Compared with the Three and Nine Months Ended September 30, 2022

Overview of Financial Results

Total revenue of $221.5 million for the three months ended September 29, 2023 decreased $1.5 million, or 0.7%, from the prior year period primarily due to decreased demand in the advanced industrial markets, partially offset by increased demand in the medical markets and revenue from a prior year acquisition. The effect of our prior year acquisition resulted in an increase in revenue of $1.3 million, or 0.6%. In addition, foreign currency exchange rates favorably impacted our revenue by $4.6 million, or 2.0%, for the three months ended September 29, 2023.

Total revenue of $670.1 million for the nine months ended September 29, 2023 increased $27.6 million, or 4.3%, from the prior year period primarily due to increased demand in the medical markets and revenue from a prior year acquisition. The effect of our prior year acquisition resulted in an increase in revenue of $8.1 million, or 1.3%. In addition, foreign currency exchange rates adversely impacted our revenue by $1.3 million, or 0.2%, for the nine months ended September 29, 2023.

Operating income of $30.3 million for the three months ended September 29, 2023 increased $1.6 million, or 5.7%, from the prior year period. This increase was attributable to an increase in gross profit of $3.2 million primarily due to an increase in gross profit margin, a decrease in amortization expense of $1.3 million, and a decrease in selling, general and administrative expenses of $0.7 million, partially offset by an increase in restructuring, acquisition, and related costs of $2.9 million and an increase in research and development and engineering expenses of $0.7 million.

Operating income of $88.8 million for the nine months ended September 29, 2023 increased $12.6 million, or 16.5%, from the prior year period. This increase was attributable to an increase in gross profit of $19.4 million primarily due to higher revenue and gross profit margin and a $5.6 million decrease in amortization expense, partially offset by an increase in restructuring, acquisition, and related charges of $5.5 million, an increase in research and development and engineering expenses of $4.4 million, and an increase in selling, general and administrative expenses of $2.6 million.

Basic earnings per common share ("Basic EPS") of $0.59 for the three months ended September 29, 2023 decreased $0.04 from the prior year period. Diluted earnings per common share ("Diluted EPS") of $0.59 for the three months ended September 29, 2023 decreased $0.04 from the prior year period. The decreases were primarily due to an increase in interest expense, partially offset by a decrease in income tax provision.

Basic earnings per common share ("Basic EPS") of $1.68 for the nine months ended September 29, 2023 increased $0.03 from the prior year period. Diluted earnings per common share ("Diluted EPS") of $1.68 for the nine months ended September 29, 2023 increased $0.04 from the prior year period. The increases were primarily attributable to an increase in operating income and a decrease in income tax provision, partially offset by an increase in interest expense.

Revenue

The following table sets forth external revenue by reportable segment for the periods noted (dollars in thousands):

	Three Months Ended			
	September 29, 2023	September 30, 2022	Increase (Decrease)	Percentage Change
Precision Medicine and Manufacturing	$ 71,277	$ 70,799	$ 478	0.7 %
Medical Solutions	83,378	73,345	10,033	13.7 %
Robotics and Automation	66,848	78,814	(11,966)	(15.2)%
Total	$ 221,503	$ 222,958	$ (1,455)	(0.7)%

	Nine Months Ended			
	September 29, 2023	September 30, 2022	Increase (Decrease)	Percentage Change
Precision Medicine and Manufacturing	$ 215,138	$ 203,042	$ 12,096	6.0 %
Medical Solutions	244,340	200,911	43,429	21.6 %
Robotics and Automation	210,615	238,577	(27,962)	(11.7)%
Total	$ 670,093	$ 642,530	$ 27,563	4.3 %

Precision Medicine and Manufacturing

Precision Medicine and Manufacturing segment revenue for the three months ended September 29, 2023 increased $0.5 million, or 0.7%, versus the prior year period, primarily due to increased demand in medical markets, partially offset by weaker demand in advanced industrial markets.

Precision Medicine and Manufacturing segment revenue for the nine months ended September 29, 2023 increased $12.1 million, or 6.0%, versus the prior year period, primarily due to increased demand in medical markets.

Medical Solutions

Medical Solutions segment revenue for the three months ended September 29, 2023 increased $10.0 million, or 13.7%, versus the prior year period, primarily due to increases in sales from our minimally invasive surgery products and detection and analysis products, and $1.3 million of revenue contributions from our 2022 acquisition.

Medical Solutions segment revenue for the nine months ended September 29, 2023 increased $43.4 million, or 21.6%, versus the prior year period, primarily due to increases in sales from our minimally invasive surgery products and detection and analysis products, and $8.1 million of revenue contributions from our 2022 acquisition.

Robotics and Automation

Robotics and Automation segment revenue for the three months ended September 29, 2023 decreased $12.0 million, or 15.2%, versus the prior year period, primarily due to a decrease in demand in advanced industrial markets, especially microelectronics markets.

Robotics and Automation segment revenue for the nine months ended September 29, 2023 decreased $28.0 million, or 11.7%, versus the prior year period, primarily due to a decrease in demand in advanced industrial markets, especially microelectronics markets.

Gross Profit and Gross Profit Margin

The following table sets forth the gross profit and gross profit margin for each of our reportable segments for the periods noted (dollars in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Gross profit:				
Precision Medicine and Manufacturing	$ 36,208	$ 34,699	$ 107,054	$ 94,268
Medical Solutions	34,027	28,201	100,170	79,966
Robotics and Automation	32,652	36,832	100,376	113,846
Unallocated Corporate and Shared Services	(1,296)	(1,324)	(4,258)	(4,151)
Total	$ 101,591	$ 98,408	$ 303,342	$ 283,929
Gross profit margin:				
Precision Medicine and Manufacturing	50.8%	49.0%	49.8%	46.4%
Medical Solutions	40.8%	38.4%	41.0%	39.8%
Robotics and Automation	48.8%	46.7%	47.7%	47.7%
Total	45.9%	44.1%	45.3%	44.2%

Gross profit and gross profit margin can be influenced by a number of factors, including product mix, pricing, volume, manufacturing efficiencies and utilization, costs for raw materials and outsourced manufacturing, trade tariffs, freight costs, headcount, inventory obsolescence and warranty expenses.

Precision Medicine and Manufacturing

Precision Medicine and Manufacturing segment gross profit for the three months ended September 29, 2023 increased $1.5 million, or 4.3%, versus the prior year period, primarily due to an increase in both revenue and gross profit margin. Precision Medicine and Manufacturing segment gross profit margin was 50.8% for the three months ended September 29, 2023, versus a gross profit margin of 49.0% for the prior year period. The increase in gross profit margin was attributable to favorable product mix and the impact of business interruption insurance recovery payments, partially offset by an increase in inventory reserves as a result of a demand decline in the advanced industrial market and higher cost of poor quality.

Precision Medicine and Manufacturing segment gross profit for the nine months ended September 29, 2023 increased $12.8 million, or 13.6%, versus the prior year period, primarily due to an increase in both revenue and gross profit margin. Precision Medicine and Manufacturing segment gross profit margin was 49.8% for the nine months ended September 29, 2023, versus a gross profit margin of 46.4% for the prior year period. The increase in gross profit margin was primarily attributable to improved factory productivity, favorable product mix and the impact of business interruption insurance recovery payments, partially offset by an increase in inventory reserves as a result of a demand decline in the advanced industrial market and higher cost of poor quality.

Medical Solutions

Medical Solutions segment gross profit for the three months ended September 29, 2023 increased $5.8 million, or 20.7%, versus the prior year period, primarily due to an increase in both revenue and gross profit margin. Medical Solutions segment gross profit margin was 40.8% for the three months ended September 29, 2023, versus a gross profit margin of 38.4% for the prior year period. The increase in gross profit margin was primarily attributable to improved factory efficiency.

Medical Solutions segment gross profit for the nine months ended September 29, 2023 increased $20.2 million, or 25.3%, versus the prior year period, primarily due to an increase in both revenue and gross profit margin. Medical Solutions segment gross profit margin was 41.0% for the nine months ended September 29, 2023, versus a gross profit margin of 39.8% for the prior year period. The increase in gross profit margin was primarily attributable to improved factory efficiency.

Robotics and Automation

Robotics and Automation segment gross profit for the three months ended September 29, 2023 decreased $4.2 million, or 11.3%, versus the prior year period, primarily due to a decrease in revenue. Robotics and Automation segment gross profit margin was 48.8% for the three months ended September 29, 2023, versus a gross profit margin of 46.7% for the prior year period. The increase in gross profit margin was primarily attributable to improved factory efficiency and disciplined cost control.

Robotics and Automation segment gross profit for the nine months ended September 29, 2023 decreased $13.5 million, or 11.8%, versus the prior year period, primarily due to a decrease in revenue. Robotics and Automation segment gross profit margin remained flat at 47.7% for the nine months ended September 29, 2023 versus the prior year period.

Unallocated Corporate and Shared Services

Unallocated corporate and shared services costs primarily represent costs of corporate and shared services functions that are not allocated to the operating segments. These costs for the three months ended September 29, 2023 decreased less than $0.1 million versus the prior year period.

Unallocated corporate and shared services costs for the nine months ended September 29, 2023 increased $0.1 million versus the prior year period.

Operating Expenses

The following table sets forth operating expenses for the periods noted (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Research and development and engineering	$ 22,022	$ 21,349	$ 68,230	$ 63,866
Selling, general and administrative	39,648	40,301	122,758	120,191
Amortization of purchased intangible assets	5,131	6,472	15,344	20,987
Restructuring, acquisition, and related costs	4,481	1,625	8,191	2,650
Total	$ 71,282	$ 69,747	$ 214,523	$ 207,694

Research and Development and Engineering Expenses

Research and Development and Engineering ("R&D") expenses are primarily comprised of employee compensation related expenses and cost of materials for R&D projects. R&D expenses were $22.0 million, or 9.9% of revenue, during the three months ended September 29, 2023, versus $21.3 million, or 9.6% of revenue, during the prior year period. R&D expenses increased in terms of total dollars and as a percentage of revenue, primarily due to higher compensation related expenses as a result of salary increases and higher headcount.

R&D expenses were $68.2 million, or 10.2% of revenue, during the nine months ended September 29, 2023, versus $63.9 million, or 9.9% of revenue, during the prior year period. R&D expenses increased in terms of total dollars and as a percentage of revenue, primarily due to higher compensation related expenses as a result of salary increases and higher headcount.

Selling, General and Administrative Expenses

Selling, general and administrative ("SG&A") expenses include costs for sales and marketing, sales administration, finance, human resources, legal, information systems, and executive management functions. SG&A expenses were $39.6 million, or 17.9% of revenue, during the three months ended September 29, 2023, versus $40.3 million, or 18.1% of revenue, during the prior year period. SG&A expenses decreased in terms of total dollars primarily due to decreases in variable compensation expense and disciplined cost control.

SG&A expenses were $122.8 million, or 18.3% of revenue, during the nine months ended September 29, 2023, versus $120.2 million, or 18.7% of revenue, during the prior year period. SG&A expenses increased in terms of total dollars primarily due to increases in compensation related expenses and discretionary spending.

Amortization of Purchased Intangible Assets

Amortization of purchased intangible assets, excluding amortization of developed technologies which is included in cost of revenue, was $5.1 million, or 2.3% of revenue, during the three months ended September 29, 2023, versus $6.5 million, or 2.9% of revenue, during the prior year period. The decrease in terms of total dollars and as a percentage of revenue was primarily due to certain intangible assets being fully amortized in 2022.

Amortization of purchased intangible assets, excluding amortization of developed technologies which is included in cost of revenue, was $15.3 million, or 2.3% of revenue, during the nine months ended September 29, 2023, versus $21.0 million, or 3.3% of revenue, during the prior year period. The decrease in terms of total dollars and as a percentage of revenue was primarily due to certain intangible assets being fully amortized in 2022.

Restructuring, Acquisition, and Related Costs

We recorded restructuring, acquisition, and related costs of $4.5 million during the three months ended September 29, 2023, versus $1.6 million during the prior year period. During the three months ended September 29, 2023, the restructuring costs increased $2.6 million primarily related to impairment of assets and an increase in severance and related costs.

We recorded restructuring, acquisition, and related costs of $8.2 million during the nine months ended September 29, 2023, versus $2.7 million during the prior year period. The restructuring costs increased $4.9 million primarily related to an increase in severance and related costs.

Operating Income (Loss) by Segment

The following table sets forth operating income (loss) by segment for the periods noted (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Operating Income (Loss)				
Precision Medicine and Manufacturing	$ 18,508	$ 18,351	$ 54,803	$ 45,782
Medical Solutions	11,050	8,744	30,974	20,811
Robotics and Automation	12,208	15,800	39,456	48,222
Unallocated Corporate and Shared Services	(11,457)	(14,234)	(36,414)	(38,580)
Total	$ 30,309	$ 28,661	$ 88,819	$ 76,235

Precision Medicine and Manufacturing

Precision Medicine and Manufacturing segment operating income was $18.5 million, or 26.0% of revenue, during the three months ended September 29, 2023, versus $18.4 million, or 25.9% of revenue, during the prior year period. The increase in operating income was primarily due to an increase in gross profit of $1.5 million, partially offset by an increase in restructuring, acquisition, and related costs of $0.9 million and an increase in SG&A expenses of $0.5 million.

Precision Medicine and Manufacturing segment operating income was $54.8 million, or 25.5% of revenue, during the nine months ended September 29, 2023, versus $45.8 million, or 22.5% of revenue, during the prior year period. The increase in operating income was primarily due to an increase in gross profit of $12.8 million, partially offset by an increase in restructuring, acquisition, and related costs of $3.0 million and an increase in SG&A expenses of $1.0 million.

Medical Solutions

Medical Solutions segment operating income was $11.0 million, or 13.3% of revenue, during the three months ended September 29, 2023, versus $8.7 million, or 11.9% of revenue, during the prior year period. The increase in operating income was primarily due to an increase in gross profit of $5.8 million, partially offset by an increase in R&D expenses of $2.1 million and an increase in SG&A expenses of $1.5 million.

Medical Solutions segment operating income was $31.0 million, or 12.7% of revenue, during the nine months ended September 29, 2023, versus $20.8 million, or 10.4% of revenue, during the prior year period. The increase in operating income was primarily due to an increase in gross profit of $20.2 million and a decrease in amortization expense of $0.8 million, partially offset by an increase in R&D expenses of $6.4 million and an increase in SG&A expenses of $4.3 million.

Robotics and Automation

Robotics and Automation segment operating income was $12.2 million, or 18.3% of revenue, during the three months ended September 29, 2023, versus $15.8 million, or 20.0% of revenue, during the prior year period. The decrease in operating income was primarily due to a decrease in gross profit of $4.2 million and an increase restructuring, acquisition, and related costs of $2.0 million, partially offset by a decrease in R&D expenses of $1.1 million and a decrease in amortization expense of $1.1 million due to certain intangible assets being fully amortized in 2022.

Robotics and Automation segment operating income was $39.5 million, or 18.7% of revenue, during the nine months ended September 29, 2023, versus $48.2 million, or 20.2% of revenue, during the prior year period. The decrease in operating income was primarily due to a decrease in gross profit of $13.5 million and an increase of restructuring, acquisition, and related costs of $2.3 million, partially offset by a decrease in amortization expense of $4.7 million due to certain intangible assets being fully amortized in 2022, a decrease in R&D expenses of $1.5 million and a decrease in SG&A expenses of $0.9 million.

Unallocated Corporate and Shared Services

Unallocated corporate and shared services costs primarily represent costs of corporate and shared services functions that are not allocated to the operating segments, including certain restructuring and most acquisition costs. These costs for the three months ended September 29, 2023 decreased $2.8 million versus the prior year period. The decrease in operating loss was primarily due to disciplined cost control and lower variable compensation costs.

Unallocated corporate and shared services costs for the nine months ended September 29, 2023 decreased $2.2 million versus the prior year period. The decrease in operating loss was primarily due to disciplined cost control and lower variable compensation costs.

Other Income and Expense Items

The following table sets forth other income and expense items for the periods noted (in thousands):

	Three Months Ended		Nine Months Ended	
	September 29, 2023	September 30, 2022	September 29, 2023	September 30, 2022
Interest income (expense), net	$ (6,756)	$ (4,062)	$ (19,898)	$ (9,928)
Foreign exchange transaction gains (losses), net	(370)	2,086	(373)	2,307
Other income (expense), net	(189)	87	(546)	(390)

Interest Income (Expense), Net

Net interest expense was $6.8 million for the three months ended September 29, 2023, versus $4.1 million for the prior year period. The increase in net interest expense was primarily due to an increase in the weighted average interest rate on our senior credit facilities. The weighted average interest rate on our senior credit facilities was 6.68% during the three months ended September 29, 2023, versus 3.37% during the prior year period.

Net interest expense was $19.9 million for the nine months ended September 29, 2023, versus $9.9 million for the prior year period. The increase in net interest expense was primarily due to an increase in the weighted average interest rate on our senior credit facilities. The weighted average interest rate on our senior credit facilities was 6.12% during the nine months ended September 29, 2023, versus 2.72% during the prior year period.

Foreign Exchange Transaction Gains (Losses), Net

Foreign exchange transaction gains (losses) were $(0.4) million net loss for the three months ended September 29, 2023, versus $2.1 million net gain in the prior year period. The prior period net gain was primarily due to changes in the value of the U.S. Dollar against the British Pound and Euro.

Foreign exchange transaction gains (losses) were $(0.4) million net loss for the nine months ended September 29, 2023, versus $2.3 million net gain in the prior year period. The prior period net gain was primarily due to changes in the value of the U.S. Dollar against the British Pound and Euro.

Other Income (Expense), Net

Net other expense was nominal for both the three and nine months ended September 29, 2023 and the three and nine months ended September 30, 2022.

Income Tax Provision (Benefit)

Our effective tax rate for the three months ended September 29, 2023 was 7.7%, versus 16.0% for the prior year period. Our effective tax rate of 7.7% for the three months ended September 29, 2023 differs from the Canadian statutory tax rate of 29.0%

primarily due to the mix of income earned in jurisdictions with varying tax rates, estimated deductions for Foreign Derived Intangible Income, U.K. patent box deductions, R&D tax credits, and tax benefits of share-based compensation awards, partially offset by disallowed compensation deductions and uncertain tax position accruals.

Our effective tax rate of 16.0% for the three months ended September 30, 2022 differs from the Canadian statutory tax rate of 29.0% primarily due to the mix of income earned in jurisdictions with varying tax rates, estimated deductions for Foreign Derived Intangible Income, U.K. patent box deductions, R&D tax credits, partially offset by disallowed compensation deductions and uncertain tax position accruals.

Our effective tax rate for the nine months ended September 29, 2023, was 11.2%, versus 13.8% for the prior year period. Our effective tax rate of 11.2% for the nine months ended September 29, 2023 differs from the Canadian statutory tax rate of 29.0% primarily due to the mix of income earned in jurisdictions with varying tax rates, estimated deductions for Foreign Derived Intangible Income, U.K. patent box deductions, R&D tax credits, and tax benefits of share-based compensation awards, partially offset by disallowed compensation deductions and uncertain tax position accruals. For the nine months ended September 29, 2023, the tax benefits of stock-based compensation awards had a benefit of 4.5% on our effective tax rate.

Our effective tax rate of 13.8% for the nine months ended September 30, 2022 differs from the Canadian statutory tax rate of 29.0% primarily due to the mix of income earned in jurisdictions with varying tax rates, estimated deductions for Foreign Derived Intangible Income, U.K. patent box deductions, R&D tax credits and tax benefits of share-based compensation awards, partially offset by disallowed compensation deductions and uncertain tax position accruals. For the nine months ended September 30, 2022, the tax benefits of stock-based compensation awards had a benefit of 0.2% on our effective tax rate.

On December 12, 2022, the EU member states agreed to implement the Pillar Two Model Rules developed by the Organization for Economic Co-operation and Development ("OECD") with an effective date of January 2024. Other countries are also actively considering changes to their tax laws to adopt certain parts of the OECD's proposals. These rules will impose a global corporate minimum income tax rate of 15%. The OECD continues to release additional guidance on these rules. The Company is analyzing the potential impact and will continue to monitor the related developments.

Liquidity and Capital Resources

We assess our liquidity in terms of our ability to generate cash to fund our operating, investing, and financing activities. Our primary ongoing cash requirements are funding operations, capital expenditures, investments in businesses, and repayment of our debt and related interest payments. Our primary sources of liquidity are cash flows from operations and borrowings under our revolving credit facility. We believe our future operating cash flows will be sufficient to meet our future operating and capital expenditure cash needs for the foreseeable future, including at least the next 12 months. The availability of borrowing capacity under our revolving credit facility provides another potential source of liquidity for any future capital expenditures and other liquidity needs. In addition, we have the ability to expand our borrowing capacity by up to $350.0 million by exercising the accordion option under our revolving credit agreement. We may also seek to raise additional capital, which could be in the form of bonds, convertible debt or preferred or common equity, to fund business development activities or other future investing cash requirements, subject to approval by the lenders in the Third Amended and Restated Credit Agreement (as amended, the "Credit Agreement"). There is no assurance that such capital will be available on reasonable terms or at all.

Significant factors affecting the management of our ongoing cash requirements are the adequacy of available bank lines of credit and our ability to attract long term capital with satisfactory terms. The sources of our liquidity are subject to all of the risks of our business and could be adversely affected by, among other factors, risks associated with events outside of our control, such as economic consequences of global pandemics and geopolitical conflicts, monetary policy changes in the U.S. and other countries and their impact on the global financial markets, supply chain disruptions and electronics and other material shortages, a decrease in demand for our products, our ability to integrate current and future acquisitions, deterioration in certain financial ratios, availability of borrowings under our revolving credit facility, and other market changes in general. See "Risks Relating to Our Common Shares and Our Capital Structure" included in Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Our cash requirements primarily consist of principal and interest payments associated with our Senior Credit Facilities (as defined below), operating and finance leases, purchase commitments, and pension obligations. Such contractual obligations are described in our Management's Discussion and Analysis of Financial Condition and Results of Operations and in the Notes to Consolidated Financial Statements, each included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022. Through September 29, 2023, we have not entered into any other material new or modified contractual obligations since December 31, 2022.

Our ability to make payments on our indebtedness and to fund our operations may be dependent upon the operating income and the distribution of funds from our subsidiaries. However, as local laws and regulations and/or the terms of our indebtedness restrict certain of our subsidiaries from paying dividends and transferring assets to us, there is no assurance that our subsidiaries will be permitted to provide us with sufficient dividends, distributions or loans when necessary.

As of September 29, 2023, $49.9 million of our $76.0 million cash and cash equivalents was held by subsidiaries outside of Canada and the U.S. Generally, our intent is to use cash held in these foreign subsidiaries to fund our local operations or acquisitions by those local subsidiaries and to pay down borrowings under our Senior Credit Facilities. Approximately $124.6 million of our outstanding term loan and revolver borrowings under our Senior Credit Facilities were held in our subsidiaries outside of Canada and the U.S. Additionally, we may use intercompany loans to address short-term cash flow needs for various subsidiaries.

Senior Credit Facilities

In December 2019, we entered into the Third Amended and Restated Credit Agreement, originally consisting of a $100.0 million U.S. dollar equivalent euro-denominated (approximately €90.2 million) 5-year term loan facility and a $350.0 million 5-year revolving credit facility (collectively, the "Senior Credit Facilities"). The Senior Credit Facilities had an original maturity date of December 2024 and included an uncommitted accordion option pursuant to which the commitments under the revolving credit facility may be increased by an additional $200.0 million in aggregate, subject to certain customary conditions. The term loan facility requires quarterly scheduled principal repayments of approximately €1.1 million beginning in March 2020 with the remaining principal balance due upon maturity. We may make additional principal payments at any time, which will reduce the next quarterly installment payment due. We may pay down outstanding borrowings under our revolving credit facility with cash on hand and cash generated from future operations at any time.

On March 27, 2020, we entered into an amendment (the "First Amendment") to the Credit Agreement and exercised a portion of the uncommitted accordion option. The First Amendment increased the revolving credit facility commitment under the Credit Agreement by $145.0 million, from $350.0 million to $495.0 million, and reset the uncommitted accordion option to $200.0 million for potential future expansion.

On October 5, 2021, the Company entered into an amendment (the "Fourth Amendment") to the Credit Agreement to exercise the accordion option. The Fourth Amendment increased the revolving credit facility commitment under the Credit Agreement by $200.0 million, from $495.0 million to $695.0 million, and reset the uncommitted accordion option to $200.0 million for potential future expansion.

On March 10, 2022, the Company entered into an amendment (the "Fifth Amendment") to the Credit Agreement to extend the maturity date thereof from December 31, 2024 to March 10, 2027, update the pricing grid, replace LIBOR with SOFR as the reference rate for U.S. dollar borrowings, and increase the uncommitted accordion option from $200 million to $350 million.

As of September 29, 2023, we had $77.2 million term loan and $279.4 million revolver borrowings outstanding under our Senior Credit Facilities. The borrowings outstanding under the Senior Credit Facilities bear interest at rates based on (a) the Base Rate, as defined in the Credit Agreement, plus a margin ranging between 0.00% and 0.75% per annum, determined by reference to our consolidated leverage ratio, or (b) the Term SOFR Loans, Alternative Currency Loans, and Letters of Credit Rate, as defined in the Credit Agreement, plus a margin ranging between 0.75% and 1.75% per annum, determined by reference to our consolidated leverage ratio. In addition, we are obligated to pay a commitment fee on the unused portion of the revolving credit facility, ranging between 0.20% and 0.30% per annum, determined by reference to our consolidated leverage ratio. As of September 29, 2023, we had outstanding borrowings under the Credit Agreement denominated in Euro and U.S. Dollars of $124.6 million and $232.0 million, respectively.

The Credit Agreement contains various covenants that we believe are usual and customary for this type of agreement, including a maximum consolidated leverage ratio and a minimum consolidated fixed charge coverage ratio (as defined in the Credit Agreement). The following table summarizes these financial covenants and our compliance therewith as of September 29, 2023:

	Requirement	Actual
Maximum consolidated leverage ratio [1]	3.50	1.68
Minimum consolidated fixed charge coverage ratio	1.50	5.03

(1) *Maximum consolidated leverage ratio shall be increased to 4.00 for four consecutive quarters following a designated acquisition, as defined in the Fifth Amendment.*

Share Repurchase Plans

Our Board of Directors may approve share repurchase plans from time to time. Under these repurchase plans, shares may be repurchased at our discretion based on ongoing assessment of the capital needs of the business, the market price of our common shares, and general market conditions. Shares may also be repurchased through an accelerated share purchase agreement, on the open market or in privately negotiated transactions in accordance with applicable federal securities laws. Repurchases may be made under certain SEC regulations, which would permit common shares to be repurchased when we would otherwise be prohibited from doing so under insider trading laws. While the share repurchase plans are generally intended to offset dilution from equity awards granted to our employees and directors, the plans do not obligate us to acquire any particular amount of common shares. No time limit is typically set for the completion of the share repurchase plans, and the plans may be suspended or discontinued at any time. We expect to fund share repurchases through cash on hand and cash generated from operations.

In February 2020, our Board of Directors approved a new share repurchase plan (the “2020 Repurchase Plan”) authorizing the repurchase of $50.0 million worth of common shares. Share repurchases have been made under the 2020 Repurchase Plan pursuant to Rule 10b-18 under the Securities Exchange Act of 1934. The Company did not repurchase any shares during the nine months ended September 29, 2023. As of September 29, 2023, we had $49.5 million available for share repurchases under the 2020 Repurchase Plan.

Cash Flows for the Nine Months Ended September 29, 2023 and September 30, 2022

The following table summarizes our cash flows, cash and cash equivalents, and unused and available funds under our revolving credit facility for the periods indicated (in thousands):

	Nine Months Ended	
	September 29, 2023	**September 30, 2022**
Net cash provided by operating activities	$ 81,083	$ 50,167
Net cash used in investing activities	$ (13,741)	$ (38,283)
Net cash used in financing activities	$ (92,783)	$ (36,669)

	September 29, 2023	**December 31, 2022**
Cash and cash equivalents	$ 75,961	$ 100,105
Unused and available funds under the revolving credit facility	$ 415,577	$ 336,587

Operating Cash Flows

Cash provided by operating activities was $81.1 million for the nine months ended September 29, 2023, versus $50.2 million for the prior year period. Cash provided by operating activities for the nine months ended September 29, 2023 increased from the prior year period primarily as a result of less cash outflows from changes in net working capital, partially offset by higher income tax payments, higher interest payments, and higher incentive compensation payments.

Investing Cash Flows

Cash used in investing activities was $13.7 million for the nine months ended September 29, 2023, all related to capital expenditures.

Cash used in investing activities was $38.3 million for the nine months ended September 30, 2022, primarily driven by the $22.4 million of cash consideration (net of cash acquired) paid for the acquisition of MPH Medical Devices S.R.O.(“MPH”). We also paid for capital expenditures of $15.4 million and contingent consideration of $1.5 million related to our 2016 asset acquisition of video signal processing and management technologies.

We expect to use an aggregate of approximately $22 million to $24 million in 2023 for capital expenditures related to investments in new property, plant and equipment for our existing businesses, which includes a significant one-time buildout project in the U.K. for our Solid State and Ultrafast Lasers products.

Financing Cash Flows

Cash used in financing activities was $92.8 million for the nine months ended September 29, 2023, primarily due to $82.0 million of term loan and revolving credit facility repayments and $10.1 million of payroll tax payments upon vesting of share-based compensation awards.

Cash used in financing activities was $36.7 million for the nine months ended September 30, 2022, primarily due to $46.3 million of contingent consideration payments related to prior year acquisitions, $37.8 million of term loan and revolving credit facility repayments, $10.0 million of repurchases of common stock, $9.6 million of payroll tax payments upon vesting of share-based compensation awards, and $2.5 million of debt issuance costs in connection with the Fifth Amendment, partially offset by $69.9 million of borrowings under our revolving credit facility used to fund the contingent consideration paid for the acquisition of ATI Industrial Automation Inc. and cash consideration paid for the MPH acquisition.

Critical Accounting Policies and Estimates

The critical accounting policies that we believe impact significant judgments and estimates used in the preparation of our consolidated financial statements presented in this periodic report on Form 10-Q are described in our Management's Discussion and Analysis of Financial Condition and Results of Operations and in the Notes to Consolidated Financial Statements, each included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022. There have been no material changes to our critical accounting policies and estimates through September 29, 2023 from those disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Recent Accounting Pronouncements

See Note 1 to Consolidated Financial Statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Our primary market risk exposures are foreign currency exchange rate fluctuations and interest rate sensitivity. During the three months ended September 29, 2023, there have been no material changes to the information included under Part II, Item 7A, "Quantitative and Qualitative Disclosures About Market Risk," in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) under the Securities and Exchange Act of 1934 (the "Exchange Act"), our management carried out an evaluation, with the participation of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act) as of September 29, 2023, the end of the period covered by this report. Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of September 29, 2023.

Changes in Internal Control Over Financial Reporting

There has been no change to our internal control over financial reporting during the fiscal quarter ended September 29, 2023 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings

The Company is subject to various legal proceedings and claims that arise in the ordinary course of business. The Company does not believe that the outcome of these claims will have a material adverse effect upon its financial condition or results of operations but there can be no assurance that any such claims, or any similar claims, would not have a material adverse effect upon its financial condition or results of operations.

Item 1A. Risk Factors

The Company's risk factors are described in Part I, Item 1A, "Risk Factors", of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2022. The risks described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial position, or future results of operations. The risk factors set forth below update, and should be read together with, the risk factors described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Our results of operations could be adversely affected by economic and political conditions and the effects of these conditions on our customers' businesses, capital expenditures and levels of business activities.

A large portion of our product sales are dependent on our customers' need for increased capacity, productivity and cost saving initiatives, improved product quality and performance, and new investments. Weaknesses in our end markets could negatively impact our revenue and gross margin and consequently have a material adverse effect on our business, financial condition and results of operations. A severe and/or prolonged overall economic downturn or a negative or uncertain political climate could lead to weaknesses in our end markets and adversely affect our customers' financial condition and the timing or levels of our customers' capital expenditures or business activities. We have experienced significant cyclical end market fluctuations in the past. For example, diminished growth expectations, economic and political uncertainty in regions across the globe and effects of the COVID-19 pandemic adversely impacted our customers' financial condition and ability to maintain product order levels and reduced the demand for our products in 2020. In addition, certain sub-segments of the advanced industrial market that we serve, including the microelectronics and industrial capital equipment sectors, are cyclical and have historically experienced periods of oversupply, resulting in downturns in demand for capital equipment in which many of our products are used. It is difficult to predict the timing, length and severity of these downturns and their impact on our business. Further, our order levels or results of operations for a given period may not be indicative of order levels or results of operations for subsequent periods. For the foreseeable future, our operations will continue to depend upon industries that are subject to market cycles which, in turn, could adversely affect the market demand for our products.

We have also faced increases in inflationary conditions in materials and components as well as labor costs, and we expect these inflationary conditions to continue at least for the remainder of 2023. These inflationary conditions have caused us to increase prices; however, such price increases may not be accepted by our customers or may not adequately offset the increases in our costs, thereby negatively affecting our results of operations. Changes in global economic conditions, including inflationary conditions, could also shift market demand to products or services for which we do not have competitive advantages. This could negatively affect the amount of business that we are able to obtain. In addition, if we are unable to successfully anticipate changes in economic and political conditions, we may be unable to effectively plan for and respond to those changes, and our business could be negatively affected.

Adverse developments that affect financial institutions, transactional counterparties, or other third parties, or concerns or rumors about these events, have in the past and may in the future lead to market-wide liquidity problems. Uncertainty may remain over liquidity concerns in the broader financial services industry, and there may be unpredictable impacts to our business and our industry.

Item 2. Unregistered Sales of Equity Securities, Use of Proceeds, and Issuer Purchases of Equity Securities

None

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

Rule 10b5-1 Trading Plans

The adoption or termination of contracts, instructions or written plans for the purchase or sale of our securities by our Section 16 officers and directors during the three months ended September 29, 2023, each of which is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) under the Exchange Act ("Rule 10b5-1 Plan"), are summarized below.

Name	Title	Action	Date	Total Shares to Be Sold	Expiration Date
Brian S. Young	Chief Human Resources Officer	Adoption	September 12, 2023	6,119	September 13, 2024

None of our officers or directors adopted or terminated a "non-Rule 10b5-1 trading arrangement" as defined in Item 408 of Regulation S-K.

Item 6. Exhibits

		Incorporated by Reference				
Exhibit Number	**Exhibit Description**	**Form**	**File No.**	**Exhibit**	**Filing Date**	**Filed/ Furnished Herewith**
3.1	Certificate and Articles of Continuance of the Registrant, dated March 22, 1999	S-3	333-202597	3.1	03/09/2015	
3.2	By-Laws of the Registrant, as amended	10-K	001-35083	3.2	03/01/2021	
3.3	Articles of Reorganization of the Registrant, dated July 23, 2010	8-K	000-25705	3.1	07/23/2010	
3.4	Articles of Amendment of the Registrant, dated May 26, 2005	10K	001-35083	3.4	3/1/2023	
3.5	Articles of Amendment of the Registrant, dated December 29, 2010	8-K	000-25705	3.1	12/29/2010	
3.6	Articles of Amendment of the Registrant, dated May 11, 2016	8-K	001-35083	10.1	05/12/2016	
3.7	Articles of Amendment of the Registrant, dated April 29, 2022	10-Q	001-35083	3.6	05/10/2022	
31.1	Chief Executive Officer Certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					*
31.2	Chief Financial Officer Certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					*
32.1	Chief Executive Officer Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					**
32.2	Chief Financial Officer Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					**
101.INS	Inline eXtensible Business Reporting Language (XBRL) Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.					
101.SCH	Inline XBRL Taxonomy Extension Schema Document					*
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					*

Exhibit Number	Exhibit Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date	Filed/ Furnished Herewith
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					*
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document					*
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					*
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)					*

* Filed herewith

** Furnished herewith

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.

Novanta Inc. (Registrant)

Name	Title	Date
/s/ Matthijs Glastra **Matthijs Glastra**	Chair of the Board of Directors and Chief Executive Officer	November 7, 2023
/s/ Robert J. Buckley **Robert J. Buckley**	Chief Financial Officer	November 7, 2023

Exhibit 31.1

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

I, Matthijs Glastra, certify that:

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

November 7, 2023

/s/ Matthijs Glastra
Matthijs Glastra
Chief Executive Officer

Exhibit 31.2

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

CERTIFICATION

I, Robert J. Buckley, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Novanta Inc.;

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

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

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

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

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

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

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

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

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

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

November 7, 2023

/s/ Robert J. Buckley
Robert J. Buckley
Chief Financial Officer

Exhibit 32.1

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

In connection with the Quarterly Report of Novanta Inc. (the “Company”) on Form 10-Q for the period ended September 29, 2023 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Matthijs Glastra, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

(1) the Report fully complies with the requirements of section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

November 7, 2023

/s/ Matthijs Glastra
Matthijs Glastra
Chief Executive Officer

Exhibit 32.2

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

In connection with the Quarterly Report of Novanta Inc. (the “Company”) on Form 10-Q for the period ended September 29, 2023 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Robert J. Buckley, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

(1) the Report fully complies with the requirements of section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

November 7, 2023

/s/ Robert J. Buckley

Robert J. Buckley
Chief Financial Officer