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

FORM 10-Q

(Mark One)

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

For the quarterly period ended October 1, 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. 001-06462

TERADYNE, INC.
(Exact name of registrant as specified in its charter)

Massachusetts	**04-2272148**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
600 Riverpark Drive, North Reading, Massachusetts	**01864**
(Address of Principal Executive Offices)	(Zip Code)

978-370-2700
(Registrant's Telephone Number, Including Area Code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.125 per share	**TER**	**Nasdaq Stock Market LLC**

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to the 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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting company", and "emerging growth company" in Rule 12b-2 of the Exchange Act (check one):

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

The number of shares outstanding of the registrant's only class of Common Stock as of October 30, 2023, was 152,878,728 shares.

TERADYNE, INC.

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PART I

Item 1: Financial Statements

TERADYNE, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited)

	October 1, 2023	December 31, 2022
	(in thousands, except per share amount)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 636,961	$ 854,773
Marketable securities	79,570	39,612
Accounts receivable, less allowance for credit losses of $2,191 and $1,955 at October 1, 2023 and December 31, 2022, respectively	455,878	491,145
Inventories, net	322,632	325,019
Prepayments	593,366	532,962
Other current assets	10,952	14,404
Total current assets	2,099,359	2,257,915
Property, plant and equipment, net	436,449	418,683
Operating lease right-of-use assets, net	78,978	73,734
Marketable securities	103,911	110,777
Deferred tax assets	162,669	142,784
Retirement plans assets	11,403	11,761
Other assets	37,581	28,925
Acquired intangible assets, net	39,165	53,478
Goodwill	401,140	403,195
Total assets	$ 3,370,655	$ 3,501,252
LIABILITIES		
Current liabilities:		
Accounts payable	$ 176,117	$ 139,722
Accrued employees' compensation and withholdings	155,246	212,266
Deferred revenue and customer advances	109,445	148,285
Other accrued liabilities	122,609	112,271
Operating lease liabilities	18,026	18,594
Income taxes payable	35,687	65,010
Current debt	23,529	50,115
Total current liabilities	640,659	746,263
Retirement plans liabilities	123,244	116,005
Long-term deferred revenue and customer advances	34,405	45,131
Long-term other accrued liabilities	17,114	15,981
Deferred tax liabilities	238	3,267
Long-term operating lease liabilities	69,364	64,176
Long-term incomes taxes payable	44,331	59,135
Total liabilities	929,355	1,049,958
Commitments and contingencies (Note P)		
SHAREHOLDERS' EQUITY		
Common stock, $0.125 par value, 1,000,000 shares authorized; 153,235 and 155,759 shares issued and outstanding at October 1, 2023 and December 31, 2022, respectively	19,154	19,470
Additional paid-in capital	1,816,137	1,755,963
Accumulated other comprehensive loss	(47,928)	(49,868)
Retained earnings	653,937	725,729
Total shareholders' equity	2,441,300	2,451,294
Total liabilities and shareholders' equity	$ 3,370,655	$ 3,501,252

The accompanying notes, together with the Notes to Consolidated Financial Statements included in Teradyne's Annual Report on Form 10-K for the year ended December 31, 2022, are an integral part of the condensed consolidated financial statements.

TERADYNE, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
	(in thousands, except per share amount)			
Revenues:				
Products	$ 551,982	$ 676,252	$ 1,565,776	$ 2,000,081
Services	151,750	150,821	439,923	423,128
Total revenues	703,732	827,073	2,005,699	2,423,209
Cost of revenues:				
Cost of products	239,827	277,539	655,502	795,229
Cost of services	65,614	64,155	192,993	181,279
Total cost of revenues (exclusive of acquired intangible assets amortization shown separately below)	305,441	341,694	848,495	976,508
Gross profit	398,291	485,379	1,157,204	1,446,701
Operating expenses:				
Selling and administrative	138,330	135,632	434,979	415,351
Engineering and development	104,413	111,715	315,881	331,781
Acquired intangible assets amortization	4,720	4,729	14,348	14,663
Restructuring and other	6,856	1,796	15,251	19,554
Total operating expenses	254,319	253,872	780,459	781,349
Income from operations	143,972	231,507	376,745	665,352
Non-operating (income) expense:				
Interest income	(6,873)	(1,318)	(18,486)	(2,972)
Interest expense	963	779	2,994	2,704
Other (income) expense, net	5,602	5,849	6,470	20,472
Income before income taxes	144,280	226,197	385,767	645,148
Income tax provision	16,164	42,712	54,069	101,948
Net income	$ 128,116	$ 183,485	$ 331,698	$ 543,200
Net income per common share:				
Basic	$ 0.83	$ 1.17	$ 2.14	$ 3.41
Diluted	$ 0.78	$ 1.10	$ 2.01	$ 3.17
Weighted average common shares—basic	153,762	156,364	154,809	159,325
Weighted average common shares—diluted	164,050	166,733	165,037	171,156

The accompanying notes, together with the Notes to Consolidated Financial Statements included in Teradyne's Annual Report on Form 10-K for the year ended December 31, 2022, are an integral part of the condensed consolidated financial statements.

TERADYNE, INC.

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
	(in thousands)			
Net income	$ 128,116	$ 183,485	$ 331,698	$ 543,200
Other comprehensive income, net of tax:				
Foreign currency translation adjustment, net of tax of $0, $0, $0, $0, respectively	(14,325)	(28,951)	(2,073)	(66,258)
Available-for-sale marketable securities:				
Unrealized losses on marketable securities arising during period, net of tax of $(731), $(997), $(408), and $(3,570), respectively	(2,628)	(3,581)	(903)	(13,491)
Less: Reclassification adjustment for losses included in net income, net of tax of $0, $(11), $9, $48, respectively	—	177	33	386
	(2,628)	(3,404)	(870)	(13,105)
Cash flow hedges:				
Unrealized gains arising during period, net of tax of $728, $0, $1,816, $0 respectively	2,590	537	6,456	537
Less: Reclassification adjustment for losses included in net income, net of tax of $(869), $0, $(441), $0 respectively	(3,091)	—	(1,567)	—
	(501)	537	4,889	537
Defined benefit post-retirement plan:				
Amortization of prior service credit, net of tax of $0, $0, $(1), $(2), respectively	(2)	(2)	(6)	(5)
Other comprehensive (loss) income	(17,456)	(31,820)	1,940	(78,831)
Comprehensive income	$ 110,660	$ 151,665	$ 333,638	$ 464,369

The accompanying notes, together with the Notes to Consolidated Financial Statements included in Teradyne's Annual Report on Form 10-K for the year ended December 31, 2022, are an integral part of the condensed consolidated financial statements.

TERADYNE, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CONVERTIBLE COMMON SHARES AND SHAREHOLDERS' EQUITY
(Unaudited)

		Shareholders' Equity					
	Convertible Common Shares Value	Common Stock Shares	Common Stock Par Value	Additional Paid-in Capital	Accumulated Other Comprehensive (Loss) Income	Retained Earnings	Total Shareholders' Equity
				(in thousands)			
For the Three Months Ended October 1, 2023							
Balance, July 2, 2023	$ —	154,148	$ 19,269	$ 1,784,590	$ (30,472)	$ 661,496	$ 2,434,883
Net issuance of common stock under stock-based plans		207	26	17,180			17,206
Stock-based compensation expense				14,367			14,367
Repurchase of common stock		(1,120)	(141)			(118,766)	(118,907)
Cash dividends ($0.11 per share)						(16,909)	(16,909)
Settlements of convertible notes		210	25	(25)			—
Exercise of convertible notes hedge call options		(210)	(25)	25			—
Net income						128,116	128,116
Other comprehensive loss					(17,456)		(17,456)
Balance, October 1, 2023	$ —	153,235	$ 19,154	$ 1,816,137	$ (47,928)	$ 653,937	$ 2,441,300
For the Three Months Ended October 2, 2022							
Balance, July 3, 2022	$ —	157,880	$ 19,735	$ 1,721,586	$ (52,959)	$ 610,234	$ 2,298,596
Net issuance of common stock under stock-based plans		169	21	12,031			12,052
Stock-based compensation expense				13,194			13,194
Repurchase of common stock		(2,267)	(283)			(203,918)	(204,201)
Cash dividends ($0.11 per share)						(17,149)	(17,149)
Settlements of convertible notes		207	26	(58)			(32)
Exercise of convertible notes hedge call options		(207)	(26)	26			—
Net income						183,485	183,485
Other comprehensive loss					(31,820)		(31,820)
Balance, October 2, 2022	$ —	155,782	$ 19,473	$ 1,746,779	$ (84,779)	$ 572,652	$ 2,254,125

		Shareholders' Equity					
	Convertible Common Shares Value	Common Stock Shares	Common Stock Par Value	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Shareholders' Equity
				(in thousands)			
For the Nine Months Ended October 1, 2023							
Balance, December 31, 2022	$ —	155,759	$ 19,470	$ 1,755,963	$ (49,868)	$ 725,729	$ 2,451,294
Net issuance of common stock under stock-based plans		838	104	13,399			13,503
Stock-based compensation expense				46,775			46,775
Repurchase of common stock		(3,362)	(420)			(352,371)	(352,791)
Cash dividends ($0.33 per share)						(51,119)	(51,119)
Settlements of convertible notes		585	72	(72)			—
Exercise of convertible notes hedge call options		(585)	(72)	72			—
Net income						331,698	331,698
Other comprehensive income					1,940		1,940
Balance, October 1, 2023	$ —	153,235	$ 19,154	$ 1,816,137	$ (47,928)	$ 653,937	$ 2,441,300
For the Nine Months Ended October 2, 2022							
Balance, December 31, 2021	$ 1,512	162,251	$ 20,281	$ 1,811,545	$ (5,948)	$ 736,566	$ 2,562,444
Net issuance of common stock under stock-based plans		754	95	(4,287)			(4,192)
Stock-based compensation expense				39,056			39,056
Repurchase of common stock		(7,223)	(903)			(749,097)	(750,000)
Cash dividends ($0.33 per share)						(52,617)	(52,617)
Settlements of convertible notes		1,211	151	(364)			(213)
Exercise of convertible notes hedge call options		(1,211)	(151)	151			—
Convertible common shares	(1,512)			1,512			1,512
Cumulative-effect of change in accounting principle related to convertible debt				(100,834)		94,600	(6,234)
Net income						543,200	543,200
Other comprehensive loss					(78,831)		(78,831)
Balance, October 2, 2022	$ —	155,782	$ 19,473	$ 1,746,779	$ (84,779)	$ 572,652	$ 2,254,125

The accompanying notes, together with the Notes to Consolidated Financial Statements included in Teradyne's Annual Report on Form 10-K for the year ended December 31, 2022, are an integral part of the condensed consolidated financial statements.

TERADYNE, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	For the Nine Months Ended	
	October 1, 2023	October 2, 2022
	(in thousands)	
Cash flows from operating activities:		
Net income	$ 331,698	$ 543,200
Adjustments to reconcile net income from operations to net cash provided by operating activities:		
Depreciation	68,858	67,902
Stock-based compensation	45,236	37,420
Provision for excess and obsolete inventory	23,069	18,929
Amortization	14,083	15,012
Deferred taxes	(24,026)	(28,373)
(Gains) losses on investments	(3,159)	11,436
Other	(13)	740
Changes in operating assets and liabilities		
Accounts receivable	30,191	4,248
Inventories	6,395	(68,817)
Prepayments and other assets	(63,982)	(94,331)
Accounts payable and other liabilities	3,999	(71,682)
Deferred revenue and customer advances	(49,517)	(5,896)
Retirement plans contributions	(3,698)	(3,897)
Income taxes	(42,683)	(31,370)
Net cash provided by operating activities	336,451	394,521
Cash flows from investing activities:		
Purchases of property, plant and equipment	(115,306)	(128,672)
Purchases of marketable securities	(137,786)	(267,175)
Issuance of convertible loan	(5,000)	—
Proceeds from maturities of marketable securities	71,447	182,092
Proceeds from sales of marketable securities	36,963	259,200
Proceeds from life insurance	460	—
Net cash (used for) provided by investing activities	(149,222)	45,445
Cash flows from financing activities:		
Repurchase of common stock	(346,492)	(750,000)
Dividend payments	(51,081)	(52,578)
Payments of convertible debt principal	(26,735)	(52,005)
Payments related to net settlement of employee stock compensation awards	(20,586)	(32,987)
Issuance of common stock under stock purchase and stock option plans	34,084	28,733
Net cash used for financing activities	(410,810)	(858,837)
Effects of exchange rate changes on cash and cash equivalents	5,769	7,418
Decrease in cash and cash equivalents	(217,812)	(411,453)
Cash and cash equivalents at beginning of period	854,773	1,122,199
Cash and cash equivalents at end of period	$ 636,961	$ 710,746
Non-cash investing activities:		
Capital expenditures incurred but not yet paid:	$ 2,392	$ 2,349

The accompanying notes, together with the Notes to Consolidated Financial Statements included in Teradyne's Annual Report on Form 10-K for the year ended December 31, 2022, are an integral part of the condensed consolidated financial statements.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

A. THE COMPANY

Teradyne, Inc. ("Teradyne") is a leading global supplier of automated test equipment and robotics solutions. Teradyne designs, develops, manufactures and sells automatic test systems and robotics products. Teradyne's automatic test systems are used to test semiconductors, wireless products, data storage and complex electronics systems in many industries including consumer electronics, wireless, automotive, industrial, computing, communications, and aerospace and defense industries. Teradyne's robotics products include collaborative robotic arms and autonomous mobile robots ("AMRs") used by global manufacturing, logistics and industrial customers to improve quality, increase manufacturing and material handling efficiency and decrease manufacturing and logistics costs. Teradyne's automatic test equipment and robotics products and services include:

- semiconductor test ("Semiconductor Test") systems;
- storage and system level test ("Storage Test") systems, defense/aerospace ("Defense/Aerospace") test instrumentation and systems, and circuit-board test and inspection ("Production Board Test") systems (collectively these products represent "System Test");
- wireless test ("Wireless Test") systems; and
- robotics ("Robotics") products.

B. ACCOUNTING POLICIES

Basis of Presentation

The consolidated interim financial statements include the accounts of Teradyne and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated. These interim financial statements are unaudited and reflect all normal recurring adjustments that are, in the opinion of management, necessary for the fair statement of such interim financial statements. Certain prior year amounts may have been reclassified to conform to the current year presentation. The December 31, 2022 condensed consolidated balance sheet data was derived from audited financial statements but does not include all disclosures required by United States of America generally accepted accounting principles ("U.S. GAAP") for complete financial statements. The accompanying financial information should be read in conjunction with the consolidated financial statements and notes thereto contained in Teradyne's Annual Report on Form 10-K, filed with the U.S. Securities and Exchange Commission ("SEC") on February 22, 2023, for the year ended December 31, 2022.

Preparation of Financial Statements and Use of Estimates

The preparation of consolidated financial statements requires management to make estimates and judgments that affect the amounts of assets, liabilities, revenues and expenses, and related disclosures of contingent liabilities. On an on-going basis, management evaluates its estimates, including those related to inventories, investments, goodwill, intangible and other long-lived assets, accounts receivable, income taxes, deferred tax assets and liabilities, pensions, warranties, contingent consideration liabilities, and loss contingencies. Management bases its estimates on historical experience and on appropriate and customary assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgements about the carrying values of assets and liabilities that are not readily apparent from other sources. Management is not aware of any specific event or circumstance that would require an update to its estimates or judgments or a revision of the carrying value of its assets or liabilities as of the date of issuance of this Quarterly Report on Form 10-Q. These estimates may change, as new events occur and additional information is obtained. Actual results may differ significantly from these estimates under different assumptions or conditions.

C. RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

For the nine months ended October 1, 2023, there were no recently issued accounting pronouncements that had, or are expected to have, a material impact to Teradyne's consolidated financial statements.

D. REVENUE

Disaggregation of Revenue

The following table provides information about disaggregated revenue by timing of revenue recognition, primary geographical market, and major product lines.

	Semiconductor Test			Robotics			
	System on-a-Chip	Memory	System Test	Universal Robots	Mobile Industrial Robots	Wireless Test	Total
				(in thousands)			
For the Three Months Ended October 1, 2023 (1)							
Timing of Revenue Recognition							
Point in Time	$ 330,846	$ 86,247	$ 66,418	$ 68,938	$ 14,012	$ 32,638	$ 599,099
Over Time	73,264	7,506	16,785	1,607	1,135	4,336	104,633
Total	$ 404,110	$ 93,753	$ 83,203	$ 70,545	$ 15,147	$ 36,974	$ 703,732
Geographical Market							
Asia Pacific	$ 360,375	$ 91,352	$ 40,464	$ 15,430	$ 3,180	$ 24,727	$ 535,528
Americas	24,752	1,356	35,888	26,073	7,154	10,139	105,362
Europe, Middle East and Africa	18,983	1,045	6,851	29,042	4,813	2,108	62,842
Total	$ 404,110	$ 93,753	$ 83,203	$ 70,545	$ 15,147	$ 36,974	$ 703,732
For the Three Months Ended October 2, 2022 (1)							
Timing of Revenue Recognition							
Point in Time	$ 383,801	$ 117,943	$ 93,248	$ 71,300	$ 15,025	$ 42,885	$ 724,202
Over Time	66,614	7,346	22,906	2,062	680	3,263	102,871
Total	$ 450,415	$ 125,289	$ 116,154	$ 73,362	$ 15,705	$ 46,148	$ 827,073
Geographical Market							
Asia Pacific	$ 399,323	$ 122,839	$ 73,768	$ 18,850	$ 2,917	$ 34,420	$ 652,117
Americas	31,719	2,129	35,865	26,515	8,877	9,481	114,586
Europe, Middle East and Africa	19,373	321	6,521	27,997	3,911	2,247	60,370
Total	$ 450,415	$ 125,289	$ 116,154	$ 73,362	$ 15,705	$ 46,148	$ 827,073
For the Nine Months Ended October 1, 2023 (2)							
Timing of Revenue Recognition							
Point in Time	$ 886,201	$ 260,052	$ 200,076	$ 194,698	$ 42,748	$ 108,262	$ 1,692,038
Over Time	219,436	21,890	52,030	5,731	3,364	11,210	313,661
Total	$ 1,105,638	$ 281,942	$ 252,106	$ 200,429	$ 46,112	$ 119,472	$ 2,005,699
Geographical Market							
Asia Pacific	$ 946,696	$ 270,297	$ 121,698	$ 43,530	$ 6,973	$ 70,320	$ 1,459,514
Americas	98,511	8,586	105,031	69,346	25,051	42,476	349,001
Europe, Middle East and Africa	60,431	3,059	25,377	87,553	14,088	6,676	197,184
Total	$ 1,105,638	$ 281,942	$ 252,106	$ 200,429	$ 46,112	$ 119,472	$ 2,005,699
For the Nine Months Ended October 2, 2022 (2)							
Timing of Revenue Recognition							
Point in Time	$ 1,102,467	$ 281,456	$ 317,230	$ 234,352	$ 49,570	$ 152,079	$ 2,137,154
Over Time	193,996	21,473	52,295	6,268	2,582	9,441	286,055
Total	$ 1,296,463	$ 302,929	$ 369,525	$ 240,620	$ 52,152	$ 161,520	$ 2,423,209
Geographical Market							
Asia Pacific	$ 1,153,599	$ 294,986	$ 243,135	$ 54,828	$ 10,826	$ 113,472	$ 1,870,846
Americas	90,148	6,727	105,884	81,857	24,670	36,628	345,914
Europe, Middle East and Africa	52,716	1,216	20,506	103,935	16,656	11,420	206,449
Total	$ 1,296,463	$ 302,929	$ 369,525	$ 240,620	$ 52,152	$ 161,520	$ 2,423,209

(1) Includes $1.4 million and $1.8 million in 2023 and 2022, respectively, for leases of Teradyne's systems recognized outside Accounting Standards Codification ("ASC") 606 *"Revenue from Contracts with Customers."*

(2) Includes $3.9 million and $5.9 million in 2023 and 2022, respectively, for leases of Teradyne's systems recognized outside ASC 606 *"Revenue from Contracts with Customers."*

Contract Balances

During the three and nine months ended October 1, 2023, Teradyne recognized $21.9 million and $91.3 million, respectively, that was included within the deferred revenue and customer advances balances at the beginning of the period. During the three and nine months ended October 2, 2022, Teradyne recognized $27.1 million and $87.3 million, respectively, that was included within the deferred revenue and customer advances balances at the beginning of the period. This revenue primarily relates to undelivered hardware, extended warranties, training, application support, and post contract support. Each of these represents a distinct performance obligation. As of October 1, 2023, Teradyne had $1,133 million of unsatisfied performance obligations. Teradyne expects to recognize approximately 89% of the remaining performance obligations in the next 12 months and the remainder in 1-3 years.

Deferred revenue and customer advances consist of the following and are included in short and long-term deferred revenue and customer advances on the balance sheet:

	October 1, 2023	December 31, 2022
	(in thousands)	
Maintenance, service and training	$ 65,720	$ 78,089
Extended warranty	38,843	56,180
Customer advances, undelivered elements and other	39,287	59,147
Total deferred revenue and customer advances	$ 143,850	$ 193,416

Accounts Receivable

During the three and nine months ended October 1, 2023 and October 2, 2022, Teradyne sold certain trade accounts receivables on a non-recourse basis to third-party financial institutions pursuant to factoring agreements. During the three months ended October 1, 2023 and October 2, 2022, total trade accounts receivable sold under the factoring agreements were $94.1 million and $15.9 million, respectively. During the nine months ended October 1, 2023 and October 2, 2022, total trade accounts receivable sold under the factoring agreements were $191.2 million and $73.0 million, respectively. Factoring fees for the sales of receivables were recorded in interest expense and were not material. Teradyne accounted for these transactions as sales of receivables and presented cash proceeds as cash provided by operating activities in the consolidated statements of cash flows.

E. INVENTORIES

Inventories, net consisted of the following at October 1, 2023 and December 31, 2022:

	October 1, 2023	December 31, 2022
	(in thousands)	
Raw material	$ 243,402	$ 256,065
Work-in-process	40,128	37,982
Finished goods	39,102	30,972
	$ 322,632	$ 325,019

Inventory reserves at October 1, 2023 and December 31, 2022 were $145.4 million and $136.8 million, respectively.

F. FINANCIAL INSTRUMENTS

Cash Equivalents

Teradyne considers all highly liquid investments with maturities of three months or less at the date of acquisition to be cash equivalents.

Marketable Securities

Teradyne's equity and debt mutual funds are classified as Level 1 and available-for-sale debt securities are classified as Level 2. Contingent consideration is classified as Level 3. The vast majority of Level 2 securities are fixed income securities priced by third party pricing vendors. These pricing vendors utilize the most recent observable market information in pricing these securities or, if specific prices are not available, use other observable inputs like market transactions involving identical or comparable securities.

During the three and nine months ended October 1, 2023 and October 2, 2022, there were no transfers in or out of Level 1, Level 2, or Level 3 financial instruments.

Realized gains recorded in the three and nine months ended October 1, 2023, were $0.1 million and $0.6 million, respectively. Realized gains recorded in the three and nine months ended October 2, 2022, were $0.1 million and $0.6 million, respectively. No realized losses were recorded in the three months ended October 1, 2023. Realized losses recorded in the nine months ended October

1, 2023, were $0.3 million. Realized losses recorded in the three and nine months ended October 2, 2022, were $0.3 million and $0.9 million, respectively. Realized gains and losses are included in other (income) expense, net.

No unrealized gains on equity securities were recorded in the three months ended October 1, 2023. Unrealized gains on equity securities recorded in the nine months ended October 1, 2023 were $4.6 million. No unrealized gains on equity securities were recorded in the three and nine months ended October 2, 2022. Unrealized losses on equity securities were recorded in the three and nine months ended October 1, 2023 were $1.7 million. Unrealized losses on equity securities recorded in the three and nine months ended October 2, 2022, were $2.3 million and $11.1 million, respectively. Unrealized gains and losses on equity securities are included in other (income) expense, net.

Unrealized gains and losses on available-for-sale debt securities are included in accumulated other comprehensive income (loss) on the balance sheet.

The cost of securities sold is based on average cost.

The following table sets forth by fair value hierarchy Teradyne's financial assets and liabilities that were measured at fair value on a recurring basis as of October 1, 2023 and December 31, 2022.

	October 1, 2023			
	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	(in thousands)			
Assets				
Cash	$ 309,348	$ —	$ —	$ 309,348
Cash equivalents	307,160	20,453	—	327,613
Available-for-sale securities:				
U.S. Treasury securities	—	58,499	—	58,499
Corporate debt securities	—	50,830	—	50,830
Commercial paper	—	12,454	—	12,454
Debt mutual funds	8,236	—	—	8,236
Certificates of deposit and time deposits	—	6,688	—	6,688
U.S. government agency securities	—	4,774	—	4,774
Equity securities:				
Mutual funds	42,000	—	—	42,000
	$ 666,744	$ 153,698	$ —	$ 820,442
Derivative assets	—	5,198	—	5,198
Total	$ 666,744	$ 158,896	$ —	$ 825,640
Liabilities				
Derivative liabilities	$ —	$ 1,128	$ —	$ 1,128
Total	$ —	$ 1,128	$ —	$ 1,128

Reported as follows:

	(Level 1)	(Level 2)	(Level 3)	Total
	(in thousands)			
Assets				
Cash and cash equivalents	$ 616,508	$ 20,453	$ —	$ 636,961
Marketable securities	—	79,570	—	79,570
Long-term marketable securities	50,236	53,675	—	103,911
Prepayments	—	5,198	—	5,198
Total	$ 666,744	$ 158,896	$ —	$ 825,640
Liabilities				
Other current liabilities	$ —	$ 1,128	$ —	$ 1,128
Total	$ —	$ 1,128	$ —	$ 1,128

	December 31, 2022			
	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	(in thousands)			
Assets				
Cash	$ 632,417	$ —	$ —	$ 632,417
Cash equivalents	161,767	60,589	—	222,356
Available-for-sale securities:				
Corporate debt securities	—	50,856	—	50,856
U.S. Treasury securities	—	39,649	—	39,649
Commercial paper	—	7,159	—	7,159
Debt mutual funds	6,580	—	—	6,580
U.S. government agency securities	—	6,352	—	6,352
Certificates of deposit and time deposits	—	1,740	—	1,740
Non-U.S. government securities	—	535	—	535
Equity securities:				
Mutual Funds	37,518	—	—	37,518
	$ 838,282	$ 166,880	$ —	$ 1,005,162
Derivative assets	—	86	—	86
Total	$ 838,282	$ 166,966	$ —	$ 1,005,248
Liabilities				
Derivative liabilities	—	4,215	—	4,215
Total	$ —	$ 4,215	$ —	$ 4,215

Reported as follows:

	(Level 1)	(Level 2)	(Level 3)	Total
	(in thousands)			
Assets				
Cash and cash equivalents	$ 794,184	$ 60,589	$ —	$ 854,773
Marketable securities	—	39,612	—	39,612
Long-term marketable securities	44,098	66,679	—	110,777
Prepayments	—	86	—	86
Total	$ 838,282	$ 166,966	$ —	$ 1,005,248
Liabilities				
Other current liabilities	$ —	$ 4,215	$ —	$ 4,215
Total	$ —	$ 4,215	$ —	$ 4,215

The carrying amounts and fair values of Teradyne’s financial instruments at October 1, 2023 and December 31, 2022, were as follows:

	October 1, 2023		December 31, 2022	
	Carrying Value	Fair Value	Carrying Value	Fair Value
	(in thousands)			
Assets				
Cash and cash equivalents	$ 636,961	$ 636,961	$ 854,773	$ 854,773
Marketable securities	183,481	183,481	150,389	150,389
Derivative assets	5,198	5,198	86	86
Liabilities				
Derivative liabilities	1,128	1,128	4,215	4,215
Convertible debt	23,529	74,919	50,115	139,007

The fair values of accounts receivable, net and accounts payable approximate the carrying value due to the short-term nature of these instruments.

The following table summarizes the composition of available-for-sale marketable securities at October 1, 2023:

	October 1, 2023 Available-for-Sale				
	Cost	Unrealized Gain	Unrealized (Loss)	Fair Market Value	Fair Market Value of Investments with Unrealized Losses
			(in thousands)		
U.S. Treasury securities	$ 63,773	$ —	$ (5,274)	$ 58,499	$ 57,794
Corporate debt securities	57,710	—	(6,880)	50,830	50,830
Commercial paper	12,411	44	(1)	12,454	2,988
Debt mutual funds	8,724	—	(488)	8,236	3,082
Certificates of deposit and time deposits	6,688	—	—	6,688	—
U.S. government agency securities	4,823	—	(49)	4,774	4,774
	$ 154,129	$ 44	$ (12,692)	$ 141,481	$ 119,468

Reported as follows:

	Cost	Unrealized Gain	Unrealized (Loss)	Fair Market Value	Fair Market Value of Investments with Unrealized Losses
			(in thousands)		
Marketable securities	$ 80,145	$ 44	$ (619)	$ 79,570	$ 62,711
Long-term marketable securities	73,984	—	(12,073)	61,911	56,757
	$ 154,129	$ 44	$ (12,692)	$ 141,481	$ 119,468

The following table summarizes the composition of available-for-sale marketable securities at December 31, 2022:

	December 31, 2022 Available-for-Sale				
	Cost	Unrealized Gain	Unrealized (Loss)	Fair Market Value	Fair Market Value of Investments with Unrealized Losses
			(in thousands)		
Corporate debt securities	$ 57,006	$ 3	$ (6,153)	$ 50,856	$ 50,667
U.S. Treasury securities	44,030	—	(4,381)	39,649	39,649
Commercial paper	7,089	70	—	7,159	—
Debt mutual funds	6,997	—	(417)	6,580	3,095
U.S. government agency securities	6,442	—	(90)	6,352	6,352
Certificates of deposit and time deposits	1,740	—	—	1,740	—
Non-U.S. government securities	535	—	—	535	—
	$ 123,839	$ 73	$ (11,041)	$ 112,871	$ 99,763

Reported as follows:

	Cost	Unrealized Gain	Unrealized (Loss)	Fair Market Value	Fair Market Value of Investments with Unrealized Losses
			(in thousands)		
Marketable securities	$ 39,950	$ 70	$ (408)	$ 39,612	$ 30,713
Long-term marketable securities	83,889	3	(10,633)	73,259	69,050
	$ 123,839	$ 73	$ (11,041)	$ 112,871	$ 99,763

As of October 1, 2023, the fair market value of investments with unrealized losses less than one year and greater than one year totaled $54.3 million and $65.1 million, respectively. As of December 31, 2022, the fair market value of investments with unrealized losses for less than one year and greater than one year totaled $66.3 million and $33.4 million, respectively.

Teradyne reviews its investments to identify and evaluate investments that have an indication of possible impairment. Based on this review, Teradyne determined that the unrealized losses related to these investments at October 1, 2023 and December 31, 2022 were not other than temporary.

The contractual maturities of investments in available-for-sale securities held at October 1, 2023, were as follows:

	October 1, 2023	
	Cost	Fair Market Value
	(in thousands)	
Due within one year	$ 80,145	$ 79,570
Due after 1 year through 5 years	20,012	19,257
Due after 5 years through 10 years	6,858	6,128
Due after 10 years	38,390	28,290
Total	$ 145,405	$ 133,245

Contractual maturities of investments in available-for-sale securities held at October 1, 2023, exclude debt mutual funds with a fair market value of $8.2 million, as they do not have a contractual maturity date.

Derivatives

Teradyne conducts business in various foreign countries, with certain transactions denominated in local currencies. As a result, Teradyne is exposed to risks relating to changes in foreign currency exchange rates. Teradyne’s foreign currency risk management objective is to minimize the effect of exchange rate fluctuations associated with the remeasurement of monetary assets and liabilities denominated in foreign currencies, and changes in its cash inflows attributable to the forecasted cash flows from certain foreign currency denominated revenues.

To minimize the effect of exchange rate fluctuations associated with the remeasurement of monetary assets and liabilities denominated in foreign currencies, Teradyne enters into foreign currency forward contracts. The change in fair value of these derivatives is recorded directly in earnings and is used to offset the change in value of monetary assets and liabilities denominated in foreign currencies.

Teradyne also enters into foreign currency forward and option contracts designated as cash flow hedges to hedge the risk of changes in its cash inflows attributable to changes in foreign currency exchange rates. The cash flow hedges have maturities of less than six months and mature in the period of revenue recognition for certain products and services in backlog and forecasted to be recognized in a future period. Teradyne evaluates cash flow hedges for effectiveness at inception based on the critical terms match method. The hedges are not expected to incur any ineffectiveness however a quarterly qualitative assessment of effectiveness is done to determine if the critical terms match method remains appropriate to use. The change in fair value of the contracts is recorded in accumulated other comprehensive income (loss) and reclassified to earnings at maturity date.

Teradyne does not use derivative financial instruments for speculative purposes.

At October 1, 2023 and December 31, 2022, Teradyne had the following contracts to buy and sell non-U.S. currencies for U.S. dollars and other non-U.S. currencies with the following notional amounts:

	Net Notional Value	
	October 1, 2023	December 31, 2022
	(in millions)	
Currency Hedged (Buy/Sell)		
U.S. dollar/Japanese yen	$ 49.6	$ 37.1
U.S. dollar/Taiwan dollar	29.5	29.2
U.S. dollar/Korean won	9.3	6.4
U.S. dollar/British pound sterling	1.2	1.2
Euro/U.S. dollar	22.7	38.4
Singapore dollar/U.S. dollar	13.3	33.5
Philippine peso/U.S. dollar	10.0	2.7
Chinese yuan/U.S. dollar	1.3	2.2
Danish krone/U.S. dollar	0.6	—
Total	$ 137.5	$ 150.7

The fair value of the outstanding contracts was a net gain of $1.0 million and a net loss of $0.9 million, respectively, at October 1, 2023 and December 31, 2022.

Unrealized gains and losses on foreign currency forward contracts and foreign currency remeasurement gains and losses on monetary assets and liabilities are included in other (income) expense, net.

At October 1, 2023 and December 31, 2022, Teradyne had the following cash flow hedge contracts to buy and sell non-U.S. currencies for U.S. dollars with the following notional amounts:

	Net Notional Value	
	October 1, 2023	December 31, 2022
	(in millions)	
Currency Hedged (Buy/Sell)		
U.S. dollar/Japanese yen	$ 38.6	$ 61.2
U.S. dollar/Taiwan dollar	—	10.9
Japanese yen/U.S. dollar	—	23.4
Taiwan dollar/U.S. dollar	—	5.5
Total	$ 38.6	$ 101.0

The fair value of the outstanding cash flow hedge contracts was a gain of $3.0 million and a loss of $3.2 million at October 1, 2023 and December 31, 2022, respectively.

Unrealized gains and losses on foreign currency cash flow hedge contracts are included in accumulated other comprehensive income (loss). At maturity, the gains or losses associated with cash flow hedge contracts are recorded to revenue.

The following table summarizes the fair value of derivative instruments as of October 1, 2023 and December 31, 2022:

	Balance Sheet Location	October 1, 2023	December 31, 2022
		(in thousands)	
Derivatives not designated as hedging instruments:			
Foreign exchange forward contracts	Prepayments	$ 2,159	$ 86
Foreign exchange forward contracts	Other current liabilities	(1,128)	(990)
Derivatives designated as hedging instruments:			
Foreign exchange option contracts	Prepayments	3,039	—
Foreign exchange option contracts	Other current liabilities	—	(3,225)
Total derivatives		$ 4,070	$ (4,129)

The following table summarizes the effect of derivative instruments recognized in the statement of operations for the three and nine months ended October 1, 2023 and October 2, 2022:

	Location of (Gains) Losses Recognized in Statement of Operations	For the Three Months Ended October 1, 2023	For the Three Months Ended October 2, 2022	For the Nine Months Ended October 1, 2023	For the Nine Months Ended October 2, 2022
		(in thousands)			
Derivatives not designated as hedging instruments:					
Foreign exchange forward contracts	Other (income) expense, net	$ (1,886)	$ 1,246	$ (4,667)	$ (2,209)
Derivatives designated as hedging instruments:					
Foreign exchange option contracts	Revenue	(3,960)	—	(2,008)	—
Total Derivatives		$ (5,846)	$ 1,246	$ (6,675)	$ (2,209)

The table does not reflect the corresponding gains and losses from the remeasurement of the monetary assets and liabilities denominated in foreign currencies. For the three and nine months ended October 1, 2023, net losses from remeasurement of monetary assets and liabilities denominated in foreign currencies were $5.3 million and $12.3 million, respectively. For the three and nine months ended October 2, 2022, net losses from remeasurement of monetary assets and liabilities denominated in foreign currencies were $1.6 million and $9.5 million, respectively.

See Note G: "Debt" regarding derivatives related to the convertible senior notes.

G. DEBT

Convertible Senior Notes

On December 12, 2016, Teradyne completed a private offering of $460.0 million aggregate principal amount of 1.25% convertible senior unsecured notes (the "Notes") due December 15, 2023 and received net proceeds, after issuance costs, of approximately $450.8 million, $33.0 million of which was used to pay the net cost of the convertible note hedge transactions and $50.1 million of which was used to repurchase 2.0 million shares of Teradyne's common stock under its existing stock repurchase program from purchasers of the Notes in privately negotiated transactions effected through one of the initial purchasers or its affiliates conducted concurrently with the pricing of the Note offering. The Notes will mature on December 15, 2023, unless earlier repurchased or converted. The Notes bear interest at a rate of 1.25% per year payable semiannually in arrears on June 15 and December 15 of each year. The Notes will be convertible at the option of the noteholders at any time prior to the close of business on the business day immediately preceding September 15, 2023, only under the following circumstances: (1) during any calendar quarter beginning after March 31, 2017 (and only during such calendar quarter), if the closing sale price of Teradyne's common stock, for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than 130% of the conversion price on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the "measurement period") in which the trading price (as defined in the Indenture) per $1,000 principal amount of Notes for each trading day of the measurement period was less than 98% of the product of the closing sale price of the Teradyne's common stock and the conversion rate on each such trading day; and (3) upon the occurrence of specified corporate events. On or after September 15, 2023, until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert their Notes at any time, regardless of the foregoing circumstances. Teradyne may satisfy its future conversion obligation by paying cash for the principal amount of the Notes and paying or delivering cash, shares of its common stock or a combination of cash and shares of its common stock, at Teradyne's election for the amount in excess of principal. On November 4, 2021, Teradyne made an irrevocable election under the Indenture to require the principal portion of the remaining Notes to be settled in cash. As of October 1, 2023, the conversion price was approximately $31.41 per share of Teradyne's common stock. The conversion rate is subject to adjustment under certain circumstances. As of November 3, 2023, one hundred and thirty-five debt holders had exercised the option to convert $436.5 million worth of notes.

Concurrent with the offering of the Notes, Teradyne entered into convertible note hedge transactions (the "Note Hedge Transactions") with the initial purchasers or their affiliates (the "Option Counterparties"). The Note Hedge Transactions cover, subject to customary anti-dilution adjustments, the number of shares of the common stock that underlie the Notes, with a strike price equal to the conversion price of the Notes of $31.41.

Separately and concurrent with the pricing of the Notes, Teradyne entered into warrant transactions with the Option Counterparties (the "Warrant Transactions") in which it sold net-share-settled (or, at its election subject to certain conditions, cash-settled) warrants to the Option Counterparties. These transactions have been accounted for as an adjustment to our shareholders' equity. The Warrant Transactions currently cover, subject to customary anti-dilution adjustments, approximately 14.6 million shares of common stock. As of October 1, 2023, the strike price of the warrants was approximately $39.42 per share. The strike price is subject to adjustment under certain circumstances. The Warrant Transactions could have a dilutive effect to Teradyne's common stock to the extent that the market price per share of Teradyne's common stock, as measured under the terms of the Warrant Transactions, exceeds the applicable strike price of the warrants.

The Note Hedge Transactions are expected to reduce the potential dilution to Teradyne's common stock upon any conversion of the Notes. However, the Warrant Transactions could separately have a dilutive effect to the extent that the market value per share of Teradyne's common stock exceeds the applicable strike price of the warrant. The net cost of the Note Hedge Transactions, after being partially offset by the proceeds from the sale of the warrants, was approximately $33.0 million.

In connection with establishing their initial hedge of these convertible note hedge and warrant transactions, the Option Counterparties have entered into various derivative transactions with respect to Teradyne's common stock and/or purchased shares of Teradyne's common stock or other securities, including the Notes, concurrent with, or shortly after, the pricing of the Notes. In addition, the Option Counterparties may modify their hedge positions by entering into or unwinding various derivative transactions with respect to Teradyne's common stock or by selling Teradyne's common stock or other securities, including the Notes, in secondary market transactions (and may do so during any observation period related to the conversion of the Notes). These activities could adversely affect the value of Teradyne's common stock and the Notes.

Originally, Teradyne allocated $100.8 million of the $460.0 million principal amount of the Notes to the equity component, which represented a discount to the debt and was amortized to interest expense using the effective interest method through December 2023. Effective January 1, 2022, Teradyne adopted ASC 2020-06 using the modified retrospective method of transition and accounts for the debt as a single liability measured at its amortized cost. As a result of the adoption, Teradyne recorded an increase of $1.4 million to current debt for unsettled shares, an increase of $1.8 million to deferred tax assets, an increase of $6.6 million to long-term debt for unamortized debt discount, and an increase to retained earnings of $94.6 million for the reclassification of the equity component. Mezzanine equity representing unsettled shares value was reduced to zero and additional paid-in capital was reduced by $100.8 million.

Debt issuance fees at October 1, 2023, have been fully amortized to interest expense using the effective interest method over the seven-year term of the Notes.

The tables below represent the key components of Teradyne's convertible senior notes:

	October 1, 2023	December 31, 2022
	(in thousands)	
Debt principal	$ 23,529	$ 50,228
Unamortized debt issuance fees	—	113
Net Carrying amount of convertible debt	$ 23,529	$ 50,115

Teradyne's convertible senior notes were reported as current debt at October 1, 2023 and December 31, 2022.

The interest expense on Teradyne's convertible senior notes for the three and nine months ended October 1, 2023 and October 2, 2022 was as follows:

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
	(in thousands)		(in thousands)	
Contractual interest expense on the coupon	$ 74	$ 159	$ 312	$ 592
Amortization of debt issuance fees recognized as interest expense	—	43	113	173
Total interest expense on the convertible debt	$ 74	$ 202	$ 425	$ 765

As of October 1, 2023, the conversion price was approximately $31.41 per share and the if converted value of the notes was $75.3 million. There were no unsettled conversions as of October 1, 2023. Teradyne expects to make principal interest payments of $0.1 million in the next 3 months.

Revolving Credit Facility

On May 1, 2020, Teradyne entered into a credit agreement (the "Credit Agreement") with Truist Bank, as administrative agent and collateral agent, and the lenders party thereto. The Credit Agreement provided for a three-year, senior secured revolving credit facility of $400.0 million (the "Credit Facility").

On December 10, 2021, the Credit Agreement was amended to extend the maturity date of the Credit Facility to December 10, 2026. On October 5, 2022, the Credit Agreement was amended to increase the amount of the Credit Facility to $750.0 million from $400.0 million.

The Credit Agreement provides that, subject to customary conditions, Teradyne may seek to obtain from existing or new lenders the available incremental amount under the Credit Facility, not to exceed the greater of $200.0 million or 15% of consolidated EBIDTA. The interest rate applicable to loans under the Credit Facility are, at Teradyne's option, equal to either a base rate plus a margin ranging from 0.00% to 0.75% per annum or SOFR plus a margin ranging from 1.10% to 1.85% per annum, based on the consolidated leverage ratio of Teradyne. In addition, Teradyne will pay a commitment fee on the unused portion of the commitments under the Credit Facility ranging from 0.15% to 0.25% per annum, based on the then applicable consolidated leverage ratio.

Teradyne is not required to repay any loans under the Credit Facility prior to maturity, subject to certain customary exceptions. Teradyne is permitted to prepay all or any portion of the loans under the Credit Facility prior to maturity without premium or penalty, other than customary SOFR breakage costs.

The Credit Agreement contains customary events of default, representations, warranties and affirmative and negative covenants that, among other things, limit Teradyne's ability to sell assets, grant liens on assets, incur other secured indebtedness and make certain investments and restricted payments, all subject to exceptions set forth in the Credit Agreement. The Credit Agreement also requires Teradyne to satisfy two financial ratios measured as of the end of each fiscal quarter: a consolidated leverage ratio and an interest coverage ratio.

The Credit Facility is guaranteed by certain of Teradyne's domestic subsidiaries and collateralized by assets of Teradyne and such subsidiaries, including a pledge of 65% of the capital stock of certain foreign subsidiaries.

As of November 3, 2023, the Credit Agreement was undrawn and Teradyne was in compliance with all covenants under the Credit Agreement.

H. PREPAYMENTS

Prepayments consist of the following:

	October 1, 2023	December 31, 2022
	(in thousands)	
Contract manufacturer and supplier prepayments	$ 556,369	$ 491,105
Prepaid taxes	18,633	18,625
Prepaid maintenance and other services	8,655	14,545
Other prepayments	9,709	8,687
Total prepayments	$ 593,366	$ 532,962

I. PRODUCT WARRANTY

Teradyne generally provides a one-year warranty on its products, commencing upon installation, acceptance or shipment. A provision is recorded upon revenue recognition to cost of revenues for estimated warranty expense based on historical experience. Related costs are charged to the warranty accrual as incurred. The balance below is included in other accrued liabilities.

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
	(in thousands)			
Balance at beginning of period	$ 12,543	$ 16,036	$ 14,181	$ 24,577
Accruals for warranties issued during the period	8,859	4,930	16,237	15,460
Accruals related to pre-existing warranties	(795)	(654)	(1,552)	(5,024)
Settlements made during the period	(5,892)	(6,181)	(14,151)	(20,882)
Balance at end of period	$ 14,715	$ 14,131	$ 14,715	$ 14,131

When Teradyne receives revenue for extended warranties, beyond one year, it is deferred and recognized on a straight-line basis over the contract period. Related costs are expensed as incurred. The balance below is included in short and long-term deferred revenue and customer advances.

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
	(in thousands)			
Balance at beginning of period	$ 44,422	$ 65,791	$ 56,180	$ 64,168
Deferral of new extended warranty revenue	2,734	6,987	11,615	28,550
Recognition of extended warranty deferred revenue	(8,313)	(10,858)	(28,952)	(30,798)
Balance at end of period	$ 38,843	$ 61,920	$ 38,843	$ 61,920

J. STOCK-BASED COMPENSATION

On February 1, 2023 (the “Retirement Date”), Mark E. Jagiela retired as Chief Executive Officer of Teradyne and a member of Teradyne’s Board of Directors, and Teradyne entered into an agreement (the “Retirement Agreement”) with Mr. Jagiela. Under the Retirement Agreement, Mr. Jagiela’s unvested time-based restricted stock units and stock options granted prior to his Retirement Date were modified to allow continued vesting; and any vested options or options that vest during that period may be exercised for the remainder of the applicable option term. During the nine months ended October 1, 2023, Teradyne recorded a stock-based compensation expense of $5.9 million related to the Retirement Agreement.

Under Teradyne’s stock compensation plans, Teradyne grants time-based restricted stock units, performance-based restricted stock units and stock options, and employees are eligible to purchase Teradyne’s common stock through its Employee Stock Purchase Plan (“ESPP”).

Service-based restricted stock unit awards granted to employees vest in equal annual installments over four years. Restricted stock unit awards granted to non-employee directors vest after a one-year period, with 100% of the award vesting on the earlier of (a) the first anniversary of the grant date or (b) the date of the following year’s Annual Meeting of Shareholders. Teradyne expenses the cost of the restricted stock unit awards subject to time-based vesting, which is determined to be the fair market value of the shares at the date of grant, ratably over the period during which the restrictions lapse.

Performance-based restricted stock units (“PRSUs”) granted to Teradyne’s executive officers may have a performance metric based on relative total shareholder return (“TSR”). Teradyne’s three-year TSR performance is measured against the New York Stock Exchange (“NYSE”) Composite Index. The final number of TSR PRSUs that vest will vary based upon the level of performance achieved from 0% to 200% of the target shares. The TSR PRSUs will vest upon the three-year anniversary of the grant date. The TSR PRSUs are valued using a Monte Carlo simulation model. The number of units expected to be earned, based upon the achievement of the TSR market condition, is factored into the grant date Monte Carlo valuation. Compensation expense is recognized on a straight-line basis over the shorter of the three-year service period or the period from the grant to the date described in the retirement provisions below. Compensation expense for executive officers meeting the retirement provisions prior to the grant date is recognized during the year following the grant. Compensation expense is recognized regardless of the eventual number of units that are earned based upon the market condition, provided the executive officer remains an employee at the end of the three-year period.

Compensation expense is reversed if at any time during the three-year service period the executive officer is no longer an employee, subject to the retirement and termination eligibility provisions noted below.

PRSUs granted to Teradyne's executive officers may also have a performance metric based on three-year cumulative non-GAAP profit before interest and tax ("PBIT") as a percent of Teradyne's revenue. Non-GAAP PBIT is a financial measure equal to GAAP income from operations less restructuring and other, net; amortization of acquired intangible assets; acquisition and divestiture related charges or credits; pension actuarial gains and losses; non-cash convertible debt interest expense; and other non-recurring gains and charges. The final number of PBIT PRSUs that vest will vary based upon the level of performance achieved from 0% to 200% of the target shares. The PBIT PRSUs will vest upon the three-year anniversary of the grant date. Compensation expense is recognized on a straight-line basis over the shorter of the three-year service period or the period from the grant date to the date described in the retirement provisions below. Compensation expense for executive officers meeting the retirement provisions prior to the grant date is recognized during the year following the grant. Compensation expense is recognized based on the number of units that are earned based upon the three-year Teradyne PBIT as a percent of Teradyne's revenue, provided the executive officer remains an employee at the end of the three-year period subject to the retirement and termination eligibility provisions noted below.

If a PRSU recipient's employment ends prior to the determination of the performance percentage due to (1) permanent disability or death or (2) retirement or termination other than for cause, after attaining both at least age sixty and at least ten years of service, then all or a portion of the recipient's PRSUs (based on the actual performance percentage achieved on the determination date) will vest on the date the performance percentage is determined. Except as set forth in the preceding sentence, no PRSUs will vest if the executive officer is no longer an employee at the end of the three-year period. Stock options to purchase Teradyne's common stock at 100% of the fair market value on the grant date vest in equal annual installments over four years from the grant date and have a maximum term of seven years.

During the nine months ended October 1, 2023 and October 2, 2022, Teradyne granted 0.5 million and 0.4 million of service-based restricted stock unit awards to employees at a weighted average grant date fair value of $102.66 and $110.34, respectively, and 0.1 million of service-based restricted stock unit awards to non-employee directors at a weighted average grant date fair value of $90.50 and $106.91, respectively.

During the nine months ended October 1, 2023 and October 2, 2022, Teradyne granted 0.1 million of PBIT PRSUs with a grant date fair value of $102.91 and $110.84, respectively.

During the nine months ended October 1, 2023 and October 2, 2022, Teradyne granted 0.1 million of TSR PRSUs, with a grant date fair value of $139.04 and $101.06, respectively. The fair value was estimated using the Monte Carlo simulation model with the following assumptions:

	For the Nine Months Ended	
	October 1, 2023	October 2, 2022
Risk-free interest rate	4.0 %	1.4 %
Teradyne volatility-historical	49.7 %	47.1 %
NYSE Composite Index volatility-historical	24.1 %	22.7 %
Dividend yield	0.4 %	0.4 %

Expected volatility was based on the historical volatility of Teradyne's stock and the NYSE Composite Index over the most recent three-year period. The risk-free interest rate was determined using the U.S. Treasury yield curve in effect at the time of grant. Dividend yield was based upon an estimated annual dividend amount of $0.44 per share divided by Teradyne's stock price on the grant date of $104.12, and an estimated annual dividend amount of $0.44 per share divided by Teradyne's stock price on the grant date of $112.12 for the 2022 grant.

During the nine months ended October 1, 2023 and October 2, 2022, Teradyne granted 0.1 million of service-based stock options to executive officers at a weighted average grant date fair value of $41.23 and $39.01, respectively.

The fair value of stock options was estimated using the Black-Scholes option-pricing model with the following assumptions:

	For the Nine Months Ended	
	October 1, 2023	October 2, 2022
Expected life (years)	4.0	4.0
Risk-free interest rate	3.8 %	1.6 %
Volatility-historical	46.6 %	43.7 %
Dividend yield	0.4 %	0.4 %

Teradyne determined the stock options' expected life based upon historical exercise data for executive officers, the age of the executive officers and the terms of the stock option grant. Volatility was determined using historical volatility for a period equal to the expected life. The risk-free interest rate was determined using the U.S. Treasury yield curve in effect at the time of grant. Dividend yield was based upon an estimated annual dividend amount of $0.44 per share divided by Teradyne's stock price on the grant date of $104.15 for the 2023 grant and an estimated annual dividend amount of $0.44 per share divided by Teradyne's stock price on the grant date of $112.12 for the 2022 grant.

K. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

Changes in accumulated other comprehensive income (loss), which are presented net of tax, consist of the following:

	Foreign Currency Translation Adjustment	Unrealized (Losses) Gains on Marketable Securities	Unrealized (Losses) Gains on Cash Flow Hedges	Retirement Plans Prior Service Credit	Total
			(in thousands)		
Nine Months Ended October 1, 2023					
Balance at December 31, 2022, net of tax of $0, $(2,308), $(708), $(1,130), respectively	$ (39,849)	$ (8,661)	$ (2,517)	$ 1,159	$ (49,868)
Other comprehensive (loss) gain before reclassifications, net of tax of $0, $(408), $1,816, $0, respectively	(2,073)	(903)	6,456	—	$ 3,480
Amounts reclassified from accumulated other comprehensive income, net of tax of $0, $9, $(441), $(1), respectively	—	33	(1,567)	(6)	(1,540)
Net current period other comprehensive (loss) gain, net of tax of $0, $(399), $1,375, $(1), respectively	(2,073)	(870)	4,889	(6)	1,940
Balance at October 1, 2023, net of tax of $0, $(2,707), $667, $(1,131), respectively	$ (41,922)	$ (9,531)	$ 2,372	$ 1,153	$ (47,928)
Nine Months Ended October 2, 2022					
Balance at December 31, 2021, net of tax of $0, $1,055, $0, $(1,128), respectively	$ (10,818)	$ 3,704	$ —	$ 1,166	$ (5,948)
Other comprehensive (loss) gain before reclassifications, net of tax of $0, $(3,570), $0, $0, respectively	(66,258)	(13,491)	537	—	$ (79,212)
Amounts reclassified from accumulated other comprehensive income, net of tax of $0, $48, $0, $(2), respectively	—	386	—	(5)	381
Net current period other comprehensive (loss) gain, net of tax of $0, $(3,522), $0, $(2), respectively	(66,258)	(13,105)	537	(5)	(78,831)
Balance at October 2, 2022, net of tax of $0, $(2,467), $0, $(1,130), respectively	$ (77,076)	$ (9,401)	$ 537	$ 1,161	$ (84,779)

Reclassifications out of accumulated other comprehensive income (loss) to the statement of operations for the three and nine months ended October 1, 2023 and October 2, 2022, were as follows:

Details about Accumulated Other Comprehensive Income (Loss) Components	For the Three Months Ended		For the Nine Months Ended		Affected Line Item in the Statements of Operations
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022	
	(in thousands)				
Available-for-sale marketable securities:					
Unrealized losses, net of tax of $0, $11, $(9), $(48), respectively	$ —	$ (177)	$ (33)	$ (386)	Other (income) expense, net
Cash flow hedges:					
Unrealized gains, net of tax of $869, $0, $441, $0, respectively	3,091	—	1,567	—	Revenue
Defined benefit pension and postretirement plans:					
Amortization of prior service credit, net of tax of $0, $0, $1, $2, respectively	2	2	6	5	(a)
Total reclassifications, net of tax of $869, $11, $433, $(46), respectively	$ 3,093	$ (175)	$ 1,540	$ (381)	Net income

(a) The amortization of prior service credit is included in the computation of net periodic postretirement benefit cost. See Note O: "Retirement Plans."

L. GOODWILL AND ACQUIRED INTANGIBLE ASSETS

Goodwill

Teradyne performs its annual goodwill impairment test as required under the provisions of ASC 350-10, *"Intangibles—Goodwill and Other"* on December 31 of each fiscal year unless interim indicators of impairment exist. In the nine months ended October 1, 2023, there were no interim indicators of impairment. Goodwill is considered impaired when the net book value of a reporting unit exceeds its estimated fair value.

The changes in the carrying amount of goodwill by reportable segments for the nine months ended October 1, 2023, were as follows:

	Robotics	Wireless Test	Semiconductor Test	System Test	Total
			(in thousands)		
Balance at December 31, 2022					
Goodwill	$ 383,166	$ 361,819	$ 262,077	$ 158,699	$ 1,165,761
Accumulated impairment losses	—	(353,843)	(260,540)	(148,183)	(762,566)
Total Goodwill	383,166	7,976	1,537	10,516	403,195
Foreign currency translation adjustment	(2,079)	—	24	—	(2,055)
Balance at October 1, 2023					
Goodwill	381,087	361,819	262,101	158,699	1,163,706
Accumulated impairment losses	—	(353,843)	(260,540)	(148,183)	(762,566)
Total Goodwill	$ 381,087	$ 7,976	$ 1,561	$ 10,516	$ 401,140

Intangible Assets

Teradyne reviews long-lived assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable or that the useful lives of these assets are no longer appropriate.

Amortizable intangible assets consist of the following and are included in intangible assets, net on the balance sheet:

	Gross Carrying Amount (1)	Accumulated Amortization (1)	Foreign Currency Translation Adjustment	Net Carrying Amount
		(in thousands)		
Balance at October 1, 2023				
Developed technology	$ 267,708	$ (240,155)	$ (5,927)	$ 21,626
Customer relationships	52,109	(47,276)	190	5,023
Tradenames and trademarks	59,007	(44,966)	(1,525)	12,516
Total intangible assets	$ 378,824	$ (332,397)	$ (7,262)	$ 39,165
Balance at December 31, 2022				
Developed technology	$ 270,967	$ (234,208)	$ (5,935)	$ 30,824
Customer relationships	57,739	(51,186)	172	6,725
Tradenames and trademarks	59,387	(41,930)	(1,528)	15,929
Total intangible assets	$ 388,093	$ (327,324)	$ (7,291)	$ 53,478

(1) In 2023, $9.3 million of amortizable intangible assets became fully amortized and have been eliminated from the gross carrying amount and accumulated amortization.

Aggregate intangible asset amortization expense was $4.7 million and $14.3 million, respectively, for the three and nine months ended October 1, 2023, and $4.7 million and $14.7 million, respectively, for the three and nine months ended October 2, 2022.

Estimated intangible asset amortization expense for each of the five succeeding fiscal years and thereafter is as follows:

Year	Amortization Expense
	(in thousands)
2023	$ 4,630
2024	18,469
2025	11,202
2026	2,343
2027	1,127
Thereafter	1,394

M. NET INCOME PER COMMON SHARE

The following table sets forth the computation of basic and diluted net income per common share:

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
	(in thousands, except per share amounts)			
Net income for basic and diluted net income per share	$ 128,116	$ 183,485	$ 331,698	$ 543,200
Weighted average common shares-basic	153,762	156,364	154,809	159,325
Effect of dilutive potential common shares:				
Convertible note hedge warrant shares (1)	9,168	8,284	9,009	9,114
Incremental shares from assumed conversion of convertible notes (2)	629	1,453	762	1,965
Restricted stock units	455	564	410	673
Stock options	26	45	39	56
Employee stock purchase plan	10	23	8	23
Dilutive potential common shares	10,288	10,369	10,228	11,831
Weighted average common shares-diluted	164,050	166,733	165,037	171,156
Net income per common share-basic	$ 0.83	$ 1.17	$ 2.14	$ 3.41
Net income per common share-diluted	$ 0.78	$ 1.10	$ 2.01	$ 3.17

(1) Convertible notes hedge warrant shares were calculated using the difference between the average Teradyne stock price for the period and the warrant price, multiplied by the number of warrant shares. The result of this calculation, representing the total intrinsic value of the warrant, was divided by the average Teradyne stock price for the period.

(2) Incremental shares from assumed conversion of the convertible notes were calculated using the difference between the average Teradyne stock price for the period and the conversion price, multiplied by the number of convertible notes shares. The result of this calculation, representing the total intrinsic value of the convertible notes, was divided by the average Teradyne stock price for the period.

The computation of diluted net income per common share for the three and nine months ended October 1, 2023, excludes the effect of the potential vesting of 0.1 million and 0.4 million, respectively, of restricted stock units because the effect would have been anti-dilutive.

The computation of diluted net income per common share for the three and nine months ended October 2, 2022, excludes the effect of the potential vesting of 0.7 million and 0.9 million, respectively, of restricted stock units because the effect would have been anti-dilutive.

N. RESTRUCTURING AND OTHER

During the three months ended October 1, 2023, Teradyne recorded $4.7 million of severance charges related to headcount reductions of 94 people primarily in Semiconductor Test and Robotics, which included charges related to a voluntary early retirement program for employees meeting certain conditions, and a $1.5 million contract termination charge.

During the three months ended October 2, 2022, Teradyne recorded $1.2 million of severance charges primarily in Robotics and $0.7 million for an increase in legal liabilities.

During the nine months ended October 1, 2023, Teradyne recorded $11.8 million of severance charges related to headcount reductions of 197 people primarily in Semiconductor Test and Robotics, which included charges related to a voluntary early retirement program for employees meeting certain conditions, a $1.5 million contract termination charge, and a charge of $1.1 million for an increase in environmental liability.

During the nine months ended October 2, 2022, Teradyne recorded a charge of $14.7 million related to the arbitration claim filed against Teradyne and AutoGuide related to an earn-out dispute, which was settled on March 25, 2022 for $26.7 million, a charge of $2.7 million for an increase in environmental and legal liabilities, and $2.1 million of severance charges primarily in Robotics.

O. RETIREMENT PLANS

ASC 715, “Compensation—Retirement Benefits,” requires an employer with defined benefit plans or other postretirement benefit plans to recognize an asset or a liability on its balance sheet for the overfunded or underfunded status of the plans as defined by ASC 715. The pension asset or liability represents a difference between the fair value of the pension plan’s assets and the projected benefit obligation at December 31. Teradyne uses a December 31 measurement date for all its plans.

Defined Benefit Pension Plans

Teradyne has defined benefit pension plans covering a portion of domestic employees and employees of certain non-U.S. subsidiaries. Benefits under these plans are based on employees' years of service and compensation. Teradyne's funding policy is to make contributions to these plans in accordance with local laws and to the extent that such contributions are tax deductible. The assets of the U.S. qualified pension plan consist primarily of fixed income and equity securities. In addition, Teradyne has an unfunded supplemental executive defined benefit plan in the United States to provide retirement benefits in excess of levels allowed by the Employment Retirement Income Security Act ("ERISA") and the Internal Revenue Code (the "IRC"), as well as unfunded qualified foreign plans.

In the nine months ended October 1, 2023 and October 2, 2022, Teradyne contributed $2.3 million and $2.5 million, respectively, to the U.S. supplemental executive defined benefit pension plan, and $0.8 million and $0.7 million, respectively, to certain qualified pension plans for non-U.S. subsidiaries.

For the three and nine months ended October 1, 2023 and October 2, 2022, Teradyne's net periodic pension cost was comprised of the following:

	For the Three Months Ended			
	October 1, 2023		October 2, 2022	
	United States	Foreign	United States	Foreign
	(in thousands)			
Service cost	$ 272	$ 107	$ 397	$ 153
Interest cost	1,713	253	1,222	96
Expected return on plan assets	(1,286)	(11)	(732)	(16)
Net actuarial loss	—	66	—	—
Settlement loss	—	5	—	—
Total net periodic pension cost	$ 699	$ 420	$ 887	$ 233

	For the Nine Months Ended			
	October 1, 2023		October 2, 2022	
	United States	Foreign	United States	Foreign
	(in thousands)			
Service cost	$ 815	$ 320	$ 1,191	$ 539
Interest cost	5,138	762	3,665	333
Expected return on plan assets	(3,856)	(28)	(2,195)	(54)
Net actuarial loss (gain)	24	66	(45)	—
Settlement loss	—	5	—	—
Total net periodic pension cost	$ 2,121	$ 1,125	$ 2,616	$ 818

Postretirement Benefit Plan

In addition to receiving pension benefits, Teradyne employees in the United States who meet early retirement eligibility requirements as of their termination dates may participate in Teradyne's Welfare Plan, which includes medical and dental benefits up to age 65. Death benefits provide a fixed sum to retirees' survivors and are available to all retirees. Substantially all of Teradyne's current U.S. employees could become eligible for these benefits and the existing benefit obligation relates primarily to those employees. During the three and nine months ended October 1, 2023, Teradyne recorded special termination benefit charges associated with a voluntary early retirement program.

For the three and nine months ended October 1, 2023 and October 2, 2022, Teradyne's net periodic postretirement benefit cost was comprised of the following:

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
	(in thousands)			
Service cost	$ 9	$ 16	$ 26	$ 48
Interest cost	60	44	181	132
Amortization of prior service credit	(2)	(2)	(7)	(7)
Special termination benefits	1,423	—	1,792	—
Net actuarial loss	—	—	30	54
Total net periodic postretirement benefit cost	$ 1,490	$ 58	$ 2,022	$ 227

P. COMMITMENTS AND CONTINGENCIES

Purchase Commitments

As of October 1, 2023, Teradyne had entered into purchase commitments for certain components and materials. The purchase commitments covered by the agreements aggregate to approximately $465.8 million, of which $400.2 million is for less than one year.

Legal Claims

Teradyne is subject to various legal proceedings and claims which have arisen in the ordinary course of business such as, but not limited to, patent, employment, commercial and environmental matters. Teradyne believes that it has meritorious defenses against all pending claims and intends to vigorously contest them. While it is not possible to predict or determine the outcomes of any pending claims or to provide possible ranges of losses that may arise, Teradyne believes the potential losses associated with all of these actions are unlikely to have a material adverse effect on its business, financial position or results of operations.

On March 8, 2021, Industrial Automation LLC, sellers of AutoGuide, submitted a demand for arbitration against Teradyne and AutoGuide in Wilmington, Delaware alleging that Teradyne and AutoGuide breached certain provisions of the Membership Interests Purchase Agreement (the "Purchase Agreement"), dated as of October 18, 2019, among Industrial Automation LLC, Teradyne and AutoGuide. The arbitration demand sought full acceleration of the maximum earn-out amount payable under the Purchase Agreement, or $106.9 million, for the alleged breach of the earn-out provisions of the Purchase Agreement. On March 25, 2022, the arbitration claim was settled for $26.7 million. As a result, Teradyne has no remaining earn-out obligations.

Guarantees and Indemnification Obligations

Teradyne provides indemnification, to the extent permitted by law, to its officers, directors, employees and agents for liabilities arising from certain events or occurrences, while the officer, director, employee, or agent, is or was serving, at Teradyne's request in such capacity. Teradyne may enter into indemnification agreements with certain of its officers and directors. With respect to acquisitions, Teradyne provides indemnifications to or assumes indemnification obligations for the current and former directors, officers and employees of the acquired companies in accordance with the acquired companies' by-laws and charter. As a matter of practice, Teradyne has maintained directors' and officers' liability insurance coverage including coverage for directors and officers of acquired companies.

Teradyne enters into agreements in the ordinary course of business with customers, resellers, distributors, integrators and suppliers. Most of these agreements require Teradyne to defend and/or indemnify the other party against intellectual property infringement claims brought by a third party with respect to Teradyne's products. From time to time, Teradyne also indemnifies customers and business partners for damages, losses and liabilities they may suffer or incur relating to personal injury, personal property damage, product liability, breach of confidentiality obligations and environmental claims relating to the use of Teradyne's products and services or resulting from the acts or omissions of Teradyne, its employees, authorized agents or subcontractors. On occasion, Teradyne has also provided guarantees to customers regarding the delivery and performance of its products in addition to the warranty described below.

As a matter of ordinary course of business, Teradyne warrants that its products will substantially perform in accordance with its standard published specifications in effect at the time of delivery. Most warranties have a one-year duration commencing from installation. A provision is recorded upon revenue recognition to cost of revenues for estimated warranty expense based upon historical experience. When Teradyne receives revenue for extended warranties beyond the standard duration, the revenue is deferred and recognized on a straight-line basis over the contract period. Related costs are expensed as incurred. As of October 1, 2023 and

December 31, 2022, Teradyne had a product warranty accrual of $14.7 million and $14.2 million, respectively, included in other accrued liabilities and revenue deferrals related to extended warranties of $38.8 million and $56.2 million, respectively, included in short and long-term deferred revenue and customer advances.

In addition, in the ordinary course of business, Teradyne provides minimum purchase guarantees to certain vendors to ensure continuity of supply against the market demand. Although some of these guarantees provide penalties for cancellations and/or modifications to the purchase commitments as the market demand decreases, most of the guarantees do not. Therefore, as the market demand decreases, Teradyne re-evaluates these guarantees and determines what charges, if any, should be recorded.

With respect to its agreements covering product, business or entity divestitures and acquisitions, Teradyne provides certain representations, warranties and covenants to purchasers and agrees to indemnify and hold such purchasers harmless against breaches of such representations, warranties and covenants. Many of the indemnification claims have a definite expiration date while some remain in force indefinitely. With respect to its acquisitions, Teradyne may, from time to time, assume the liability for certain events or occurrences that took place prior to the date of acquisition.

As a matter of ordinary course of business, Teradyne occasionally guarantees certain indebtedness obligations of its subsidiary companies, limited to the borrowings from financial institutions, purchase commitments to certain vendors and lease commitments to landlords.

Based on historical experience and information known as of October 1, 2023 and December 31, 2022, except for product warranty, Teradyne has not recorded any liabilities for these guarantees and obligations because the amount would be immaterial.

Q. INCOME TAXES

A reconciliation of the United States federal statutory corporate tax rate to Teradyne's effective tax rate was as follows:

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
U.S. statutory federal tax rate	21.0%	21.0%	21.0%	21.0%
Non-deductible officers' compensation	1.3	1.8	1.1	1.4
Tax credits	(4.9)	(2.1)	(3.4)	(1.9)
International provisions of the U.S. Tax Cuts and Jobs Act of 2017	(3.4)	(1.4)	(3.0)	(1.2)
Foreign taxes	(0.6)	(0.6)	(0.8)	(2.4)
Discrete expense related to foreign currency gain or loss	0.9	0.1	0.8	0.4
Discrete benefit related to tax credits	(4.4)	—	(1.6)	—
Discrete benefit related to equity compensation	(0.3)	(0.1)	(1.0)	(1.9)
Other, net	1.6	0.2	0.9	0.4
Effective tax rate	11.2%	18.9%	14.0%	15.8%

On a quarterly basis, Teradyne evaluates the realizability of the deferred tax assets by jurisdiction and assesses the need for a valuation allowance. As of October 1, 2023, Teradyne believes that it will ultimately realize the deferred tax assets recorded on the condensed consolidated balance sheet. However, should Teradyne believe that it is more-likely-than-not that the deferred tax assets would not be realized, the tax provision would increase in the period in which Teradyne determined that the realizability was not likely. Teradyne considers the probability of future taxable income and historical profitability, among other factors, in assessing the realizability of the deferred tax assets.

As of October 1, 2023 and December 31, 2022, Teradyne had $16.5 million and $15.6 million, respectively, of reserves for uncertain tax positions. The $0.9 million net increase in reserves for uncertain tax positions is related to U.S. federal research and development credits generated in the current year.

As of October 1, 2023, Teradyne estimates that it is reasonably possible that the balance of unrecognized tax benefits may decrease approximately $0.1 million in the next twelve months because of a lapse of statutes of limitation. The estimated decrease relates to U.S. state research and development credits.

Teradyne recognizes interest and penalties related to income tax matters in income tax expense. As of October 1, 2023 and December 31, 2022, $0.6 million and $0.4 million, respectively, of interest and penalties were accrued for uncertain tax positions. For the nine months ended October 1, 2023 and October 2, 2022, an expense of $0.2 million and $0.1 million, respectively, was recorded for interest and penalties related to income tax items.

Teradyne qualifies for a tax holiday in Singapore by fulfilling the requirements of an agreement with the Singapore Economic Development Board under which certain headcount and spending requirements must be met. The tax savings due to the tax holiday for the nine months ended October 1, 2023, was $1.7 million, or $0.01 per diluted share. The tax savings due to the tax holiday for the nine months ended October 2, 2022, was $9.7 million, or $0.05 per diluted share. In November 2020, Teradyne entered into an agreement with the Singapore Economic Development Board which extended our Singapore tax holiday under substantially similar terms to the agreement which expired on December 31, 2020. The new tax holiday is scheduled to expire on December 31, 2025.

On August 16, 2022, the Inflation Reduction Act of 2022 ("IRA") was signed into law. The IRA introduced a 15% alternative minimum tax based on the financial statement income of certain large corporations ("CAMT"), effective January 1, 2023. Teradyne currently does not expect the CAMT to have a material impact on its financial results.

R. SEGMENT INFORMATION

Teradyne has four reportable segments (Semiconductor Test, System Test, Wireless Test and Robotics). Each of the reportable segments represents an individual operating segment.

The Semiconductor Test segment includes operations related to the design, manufacturing and marketing of semiconductor test products and services. The System Test segment includes operations related to the design, manufacturing and marketing of products and services for defense/aerospace instrumentation test, storage and system level test, and circuit-board test. The Wireless Test segment includes operations related to the design, manufacturing and marketing of wireless test products and services. The Robotics segment includes operations related to the design, manufacturing and marketing of collaborative robotic arms, autonomous mobile robots and advanced robotic control software. Each operating segment has a segment manager who is accountable to and maintains regular contact with Teradyne's chief operating decision maker (Teradyne's chief executive officer) to discuss operating activities, financial results, forecasts and plans for the segment.

Teradyne evaluates performance based on several factors, of which the primary financial measure is business segment income (loss) before income taxes. The accounting policies of the business segments are the same as those described in Note B: "Accounting Policies" in Teradyne's Annual Report on Form 10-K for the year ended December 31, 2022.

Segment information for the three and nine months ended October 1, 2023 and October 2, 2022 is as follows:

	Semiconductor Test	System Test	Robotics	Wireless Test	Corporate and Eliminations	Consolidated
			(in thousands)			
Three Months Ended October 1, 2023						
Revenues	$ 497,863	$ 83,203	$ 85,692	$ 36,974	$ —	$ 703,732
Income (loss) before income taxes (1)(2)	136,451	23,754	(21,812)	9,469	(3,582)	144,280
Total assets (3)	1,382,444	178,904	684,207	92,514	1,032,586	3,370,655
Three Months Ended October 2, 2022						
Revenues	$ 575,704	$ 116,154	$ 89,067	$ 46,148	$ —	$ 827,073
Income (loss) before income taxes (1)(2)	182,625	40,201	(3,992)	12,647	(5,284)	226,197
Total assets (3)	1,366,478	192,684	614,558	110,484	1,035,702	3,319,906
Nine Months Ended October 1, 2023						
Revenues	$ 1,387,580	$ 252,106	$ 246,541	$ 119,472	$ —	$ 2,005,699
Income (loss) before income taxes (1)(2)	361,676	67,629	(66,704)	30,841	(7,675)	385,767
Total assets (3)	1,382,444	178,904	684,207	92,514	1,032,586	3,370,655
Nine Months Ended October 2, 2022						
Revenues	$ 1,599,392	$ 369,525	$ 292,772	$ 161,520	$ —	$ 2,423,209
Income (loss) before income taxes (1)(2)	510,112	135,566	(15,496)	56,659	(41,693)	645,148
Total assets (3)	1,366,478	192,684	614,558	110,484	1,035,702	3,319,906

(1) Included in Corporate and Eliminations are: interest income, interest expense, net foreign exchange gains (losses), intercompany eliminations, legal and environmental fees, severance charges, pension, contract termination settlement charge and an expense for the modification of Teradyne's former chief executive officer's outstanding equity awards.

(2) Included in income (loss) before taxes are charges related to restructuring and other, and inventory charges.

(3) Total assets are attributable to each segment. Corporate assets consist of cash and cash equivalents, marketable securities, and certain other assets.

Included in each segment are charges and credits in the following line items in the statements of operations:

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
	(in thousands)			
Semiconductor Test:				
Cost of revenues—inventory charge	$ 10,422	$ 10,829	$ 18,374	$ 13,144
Restructuring and other—employee severance	1,776	—	5,055	—
System Test:				
Restructuring and other—employee severance	$ —	$ —	$ 1,124	$ —
Cost of revenues—inventory charge	—	—	1,412	—
Robotics:				
Cost of revenues—inventory charge	$ 652	$ —	$ 2,203	$ 1,411
Restructuring and other—employee severance	636	1,074	2,707	1,616
Wireless:				
Cost of revenues—inventory charge	$ —	$ 966	$ 1,080	$ 3,942
Corporate and Eliminations:				
Restructuring and other—employee severance	$ 1,753	$ —	$ 2,877	$ —
Restructuring and other—contract termination	1,511	—	1,511	—
Selling and administrative —equity modification	—	—	5,889	—
Restructuring and other—other	—	700	1,100	2,700
Restructuring and other—legal settlement	—	—	—	14,700

S. SHAREHOLDERS' EQUITY

Stock Repurchase Program

In January 2023, Teradyne's Board of Directors cancelled its January 2021 repurchase program and approved a new repurchase program for up to $2.0 billion of common stock. Teradyne intends to repurchase up to $500.0 million of its common stock in 2023 based on market conditions.

During the nine months ended October 1, 2023, Teradyne repurchased 3.4 million shares of common stock for a total cost of $349.3 million at an average price of $103.89 per share. As of January 1, 2023, share repurchases in excess of issuances are subject to a 1% excise tax, which is included as part of the cost basis of the shares acquired.

During the nine months ended October 2, 2022, Teradyne repurchased 7.2 million shares of common stock for $750.0 million at an average price of $103.83 per share.

The total cost of shares acquired includes commissions and, starting in 2023, related excise tax, and is recorded as a reduction to retained earnings.

Dividend

Holders of Teradyne's common stock are entitled to receive dividends when they are declared by Teradyne's Board of Directors.

In January 2023, May 2023, and August 2023, Teradyne's Board of Directors declared a quarterly cash dividend of $0.11 per share. Dividend payments for the three and nine months ended October 1, 2023, were $16.9 million and $51.1 million, respectively.

In January 2022, May 2022, and August 2022, Teradyne's Board of Directors declared a quarterly cash dividend of $0.11 per share. Dividend payments for the three and nine months ended October 2, 2022, were $17.1 million and $52.6 million, respectively.

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

Statements in this Quarterly Report on Form 10-Q which are not historical facts, so called "forward-looking statements," are made pursuant to the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934, as amended. Investors are cautioned that all forward-looking statements involve risks and uncertainties, including those detailed in our filings with the Securities and Exchange Commission. See also Part II, Item 1A of this Quarterly Report on Form 10-Q and Part I, Item 1A "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2022. Readers are cautioned not to place undue reliance on these forward-looking statements which reflect management's analysis only as of the date hereof. We assume no obligation to update these forward-looking statements to reflect actual results or changes in factors or assumptions affecting forward-looking statements, except as may be required by law.

Overview

We are a leading global supplier of automated test equipment and robotics solutions. We design, develop, manufacture and sell automatic test systems and robotics products. Our automatic test systems are used to test semiconductors, wireless products, data storage and complex electronics systems in many industries including the consumer electronics, wireless, automotive, industrial, computing, communications, and aerospace and defense industries. Our robotics products include collaborative robotic arms and autonomous mobile robots ("AMRs") used by global manufacturing, logistics and industrial customers to improve quality, increase manufacturing and material handling efficiency and decrease manufacturing and logistics costs. Our automatic test equipment and robotics products and services include:

- semiconductor test ("Semiconductor Test") systems;
- storage and system level test ("Storage Test") systems, defense/aerospace ("Defense/Aerospace") test instrumentation and systems, and circuit-board test and inspection ("Production Board Test") systems (collectively these products represent "System Test");
- wireless test ("Wireless Test") systems; and
- robotics ("Robotics") products.

The market for our test products is concentrated with a limited number of significant customers accounting for a substantial portion of the purchases of test equipment. A few customers drive significant demand for our test products both through direct sales and sales to the customers' supply partners. We expect that sales of our test products will continue to be concentrated with a limited number of significant customers for the foreseeable future.

In the third quarter of 2023, the demand in our Semiconductor Test business continued to be impacted by a correction cycle driven by excess semiconductor inventory, primarily in the mobility segment of the market. The depth of this slowdown and the timing of the recovery are uncertain, however, strong automotive and image sensor demand partially offset these declines. The growth of DDR5 and High Bandwidth Memory ("HBM") devices for data center applications continue to drive demand for our products in the memory market. Over the midterm we expect the ramp of 3 nanometer and gate-all-around process technology, increasing multichip packaging, additional device complexity and unit growth will drive additional demand for test.

Our Robotics segment consists of Universal Robots A/S ("UR"), a leading supplier of collaborative robotic arms and Mobile Industrial Robots A/S ("MiR"), a leading maker of AMRs for industrial automation. The market for our Robotics segment products is dependent on the adoption of new automation technologies by large manufacturers as well as small and medium enterprises ("SMEs") throughout the world. In the third quarter of 2023, Robotics demand stabilized after softening in the first half of 2023 .

In the third quarter of 2023, Robotics and Semiconductor Test shipments came in above our plan. While both our test and robotics businesses could still be impacted by supply constraints, our fourth quarter 2023 forecast does not exclude any revenue due to supply chain constraints.

Our financial statements are denominated in U.S. dollars. While the majority of our revenues are in U.S. dollars, approximately 70 percent of our Robotics revenue is denominated in foreign currencies. In 2022, the strengthening of the U.S. dollar was a factor in lower than forecasted revenues in our Robotics segment. Strengthening of the U.S. dollar would negatively affect Robotics revenue growth in 2023.

Our corporate strategy continues to focus on profitably gaining market share in our test businesses through the introduction of differentiated products that target expanding segments and accelerating growth through continued investment in our Robotics businesses. We plan to execute on our strategy while balancing capital allocations between returning capital to our shareholders through stock repurchases and dividends and using capital for opportunistic accretive acquisitions.

Impact of the Israel-Hamas conflict on our Business

The recent Israel-Hamas conflict could have a negative impact on our future revenue and supply chain, either of which could adversely affect our business and financial results. Our customers in Israel may experience delays in product releases due to impacts to their labor force and impacts on their suppliers because of the conflict, which could materially impact demand for our products. Similarly, our suppliers in Israel may experience delays in providing us with parts due to the conflict. In addition, the global economic uncertainty following the start of the conflict could impact demand for our products.

Supply Chain Constraints and Inflationary Pressures

The global supply shortage of electrical components, including semiconductor chips, impacted our supply chain in the first half of 2023. In the third quarter of 2023, we saw improvements related to supply constraints and, consequently, did not experience material increases in our lead times and costs for components. In addition, while not material, inflationary pressures contributed to increased costs for product components and wage inflation, impacting our cost of products, gross margin and profit for the quarter. Our supply chain team, and our suppliers, continue to manage numerous supply, production, and logistics obstacles. While not material through the third quarter of 2023, in an effort to mitigate these risks, in some cases, we have incurred higher costs due to investment in supply chain resiliency and to secure available inventory or have extended or placed non-cancellable purchase commitments with semiconductor suppliers, which introduces inventory risk if our forecasts and assumptions prove inaccurate. We have also sourced components from additional suppliers and multi-sourced and pre-ordered components and finished goods inventory in some cases in an effort to reduce the impact of the adverse supply chain conditions we have experienced. There is no assurance that these efforts will be successful. While our businesses could still be impacted by supply constraints in the future, our fourth quarter 2023 forecast does not exclude any revenue due to supply chain constraints.

See Part II—Item 1A, “Risk Factors,” included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 for our risk factors regarding risks associated with both the supply chain constraints and international conflicts.

Critical Accounting Policies and Estimates

We have identified the policies which are critical to understanding our business and our results of operations. There have been no significant changes during the nine months ended October 1, 2023, to the items disclosed as our critical accounting policies and estimates in Management’s Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, except as noted below.

Critical accounting estimates are complex and may require significant judgment by management. Changes to the underlying assumptions may have a material impact on our financial condition and results of operations. These estimates may change, as new events occur and additional information is obtained. Actual results could differ significantly from these estimates under different assumptions or conditions.

Preparation of Financial Statements and Use of Estimates

The preparation of consolidated financial statements requires management to make estimates and judgments that affect the amounts reported in the financial statements. Actual results may differ significantly from these estimates under different assumptions or conditions.

SELECTED RELATIONSHIPS WITHIN THE CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

	For the Three Months Ended		For the Nine Months Ended	
	October 1, 2023	October 2, 2022	October 1, 2023	October 2, 2022
Percentage of revenues:				
Revenues:				
Products	78 %	82 %	78 %	83 %
Services	22	18	22	17
Total revenues	100	100	100	100
Cost of revenues:				
Cost of products	34	34	33	33
Cost of services	9	8	10	7
Total cost of revenues (exclusive of acquired intangible assets amortization shown separately below)	43	41	42	40
Gross profit	57	59	58	60
Operating expenses:				
Selling and administrative	20	16	22	17
Engineering and development	15	14	16	14
Acquired intangible assets amortization	1	1	1	1
Restructuring and other	1	—	1	1
Total operating expenses	36	31	39	32
Income from operations	20	28	19	27
Non-operating (income) expense:				
Interest income	(1)	—	(1)	—
Interest expense	—	—	—	—
Other (income) expense, net	1	1	—	1
Income before income taxes	21	27	19	27
Income tax provision	2	5	3	4
Net income	18 %	22 %	17 %	22 %

Results of Operations

Third Quarter 2023 Compared to Third Quarter 2022

Revenues

Revenues by our reportable segments were as follows:

	For the Three Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
		(in millions)	
Semiconductor Test	$ 497.9	$ 575.7	$ (77.8)
System Test	83.2	116.2	(33.0)
Robotics	85.7	89.1	(3.4)
Wireless Test	37.0	46.1	(9.1)
	$ 703.7	$ 827.1	$ (123.4)

The decrease in Semiconductor Test revenues of $77.8 million, or 13.5%, was driven primarily by lower tester sales for compute and industrial applications and Memory Test sales in DRAM wafer sort and Flash Final Test. The decrease in System Test revenues of $33.0 million, or 28.4%, was primarily due to lower sales in Storage Test of system level and hard disk drive testers, partially offset by higher sales in Defense/Aerospace. The decrease in Robotics revenues of $3.4 million, or 3.8%, was driven primarily by softening demand due to slowing global industrial activity and macro-economic headwinds, and the impact of the transformation of Universal Robots sales channel. The decrease in Wireless Test revenues of $9.1 million, or 19.7% was primarily due to a decrease in connectivity test products.

Revenues by country as a percentage of total revenues were as follows (1):

	For the Three Months Ended	
	October 1, 2023	October 2, 2022
Korea	15%	18%
Japan	15	4
Taiwan	14	23
United States	13	14
China	12	16
Europe	9	7
Philippines	8	5
Singapore	4	3
Malaysia	3	4
Thailand	3	4
Rest of World	4	2
	100%	100%

(1) Revenues attributable to a country are based on location of customer site.

Gross Profit

Our gross profit was as follows:

	For the Three Months Ended		
	October 1, 2023	October 2, 2022	Dollar/Point Change
		(in millions)	
Gross profit	$ 398.3	$ 485.4	$ (87.1)
Percent of total revenues	56.6%	58.7%	(2.1)

Gross profit as a percent of revenue decreased by 2.1 points, primarily due to product mix, spending to strengthen our supply chain, and lower volume.

Selling and Administrative

Selling and administrative expenses were as follows:

	For the Three Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
		(in millions)	
Selling and administrative	$ 138.3	$ 135.6	$ 2.7
Percent of total revenues	19.7%	16.4%	

The increase of $2.7 million in selling and administrative expenses was primarily due to higher spending in Robotics, partially offset by lower variable compensation.

Engineering and Development

Engineering and development expenses were as follows:

	For the Three Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
		(in millions)	
Engineering and development	$ 104.4	$ 111.7	$ (7.3)
Percent of total revenues	14.8%	13.5%	

The decrease of $7.3 million in engineering and development expenses was primarily due to lower spending in Semiconductor Test and lower variable compensation, partially offset by higher spending in Robotics.

Restructuring and Other

During the three months ended October 1, 2023, we recorded $4.7 million of severance charges related to headcount reductions of 94 people primarily in Semiconductor Test and Robotics, which included charges related to a voluntary early retirement program for employees meeting certain conditions, and a $1.5 million contract termination charge.

During the three months ended October 2, 2022, we recorded $1.2 million of severance charges primarily in Robotics, and a charge of $0.7 million for an increase in legal liabilities.

Interest and Other

	For the Three Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
		(in millions)	
Interest income	$ (6.9)	$ (1.3)	$ (5.6)
Interest expense	1.0	0.8	$ 0.2
Other (income) expense, net	5.6	5.8	$ (0.2)

Interest income increased by $5.6 million primarily due to higher interest rates in 2023.

Income (Loss) Before Income Taxes

	For the Three Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
	(in millions)		
Semiconductor Test	$ 136.5	$ 182.6	$ (46.1)
System Test	23.8	40.2	(16.4)
Wireless Test	9.5	12.6	(3.1)
Robotics	(21.8)	(4.0)	(17.8)
Corporate and Eliminations (1)	(3.6)	(5.3)	1.7
	$ 144.3	$ 226.2	$ (81.9)

(1) Included in Corporate and Eliminations are interest income, interest expense, net foreign exchange gains (losses), intercompany eliminations, legal and environmental fees, contract termination settlement charge and severance charges.

The decrease in income before income taxes in Semiconductor Test was driven primarily by lower tester sales for compute and industrial applications, and Memory Test sales in DRAM wafer sort and flash final test. The decrease in income before income taxes in System Test was primarily due to lower sales in Storage Test of system level and hard disk drive testers. The decrease in income before income taxes in Wireless Test was driven primarily by a decrease in sales of connectivity test products. The decrease in income before income taxes in Robotics was driven primarily by softening demand due to slowing global industrial activity and macro-economic headwinds, the impact of the transformation of Universal Robots sales channel and product mix. The loss before income taxes in Corporate and Eliminations was primarily due to changes in unrealized gains/losses on equity securities.

Income Taxes

The effective tax rate for the three months ended October 1, 2023 and October 2, 2022, was 11.2% and 18.9%, respectively. The decrease in the effective tax rate from the three months ended October 2, 2022, to three months ended October 1, 2023, primarily resulted from an increase in benefit related to tax credits and an increase in benefit related to the international provisions of the U.S. Tax Cuts and Jobs Act of 2017. These decreases were partially offset by an increase in discrete expense related to foreign currency gain or loss.

Nine Months 2023 Compared to Nine Months 2022

Revenues

Revenues by our reportable segments were as follows:

	For the Nine Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
	(in millions)		
Semiconductor Test	$ 1,387.6	$ 1,599.4	$ (211.8)
System Test	252.1	369.5	(117.4)
Robotics	246.5	292.8	(46.3)
Wireless Test	119.5	161.5	(42.0)
	$ 2,005.7	$ 2,423.2	$ (417.5)

The decrease in Semiconductor Test revenues of $211.8 million or 13.2%, was driven primarily by lower tester sales for mobility and compute applications. The decrease in System Test revenues of $117.4 million, or 31.8%, was primarily due to lower sales in Storage Test of system level and hard disk drive testers. The decrease in Robotics revenues of $46.3 million, or 15.8%, was driven primarily by softening demand due to slowing global industrial activity and macro-economic headwinds and the impact of the transformation of Universal Robots sales channel. The decrease in Wireless Test revenues of $42.0 million, or 26.0%, was primarily due to a decrease in sales of connectivity test products.

Revenues by country as a percentage of total revenues were as follows (1):

	For the Nine Months Ended	
	October 1, 2023	October 2, 2022
United States	16 %	14 %
Taiwan	15	22
Korea	14	16
Japan	12	5
China	12	16
Europe	10	8
Philippines	6	3
Singapore	5	3
Malaysia	4	5
Thailand	3	5
Rest of World	3	3
	100 %	100 %

(1) Revenues attributable to a country are based on location of customer site.

Gross Profit

Our gross profit was as follows:

	For the Nine Months Ended		
	October 1, 2023	October 2, 2022	Dollar/Point Change
		(in millions)	
Gross profit	$ 1,157.2	$ 1,446.7	$ (289.5)
Percent of total revenues	57.7 %	59.7 %	(2.0)

Gross profit as a percent of revenue decreased by 2.0 points, primarily due to a lower volume, spending to strengthen our supply chain, and product mix.

Selling and Administrative

Selling and administrative expenses were as follows:

	For the Nine Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
		(in millions)	
Selling and administrative	$ 435.0	$ 415.4	$ 19.6
Percent of total revenues	21.7 %	17.1 %	

The increase of $19.6 million in selling and administrative expenses was primarily due to the charge of $5.9 million recorded in the nine months ended October 1, 2023, related to the modification of Teradyne's chief executive officer's outstanding equity awards in connection with his retirement and higher spending in Robotics, System Test, and Semiconductor Test.

Engineering and Development

Engineering and development expenses were as follows:

	For the Nine Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
		(in millions)	
Engineering and development	$ 315.9	$ 331.8	$ (15.9)
Percent of total revenues	15.7%	13.7%	

The decrease of $15.9 million in engineering and development expenses was due to lower variable compensation and lower spending in Semiconductor Test, partially offset by higher spending in Robotics.

Restructuring and Other

During the nine months ended October 1, 2023, we recorded $11.8 million of severance charges related to headcount reductions of 197 people primarily in Semiconductor Test and Robotics, which included charges related to a voluntary early retirement program for employees meeting certain conditions, a $1.5 million contract termination charge, and a charge of $1.1 million for an increase in environmental liability.

During the nine months ended October 2, 2022, we recorded a charge of $14.7 million related to the arbitration claim filed against Teradyne and AutoGuide related to an earn-out dispute, which was settled on March 25, 2022 for $26.7 million, a charge of $2.7 million for an increase in environmental and legal liabilities, and $2.1 million of severance charges primarily in Robotics.

Interest and Other

	For the Nine Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
		(in millions)	
Interest income	$ (18.5)	$ (3.0)	$ (15.5)
Interest expense	3.0	2.7	0.3
Other (income) expense, net	6.5	20.5	(14.0)

Interest income increased by $15.5 million primarily due to higher interest rates in 2023. Other (income) expense, net decreased by $14.0 million primarily due to changes in unrealized gains/losses on equity securities, from an $11.1 million loss in 2022 to a $2.9 million gain in 2023.

Income (Loss) Before Income Taxes

	For the Nine Months Ended		
	October 1, 2023	October 2, 2022	Dollar Change
		(in millions)	
Semiconductor Test	$ 361.7	$ 510.1	$ (148.4)
System Test	67.6	135.6	(68.0)
Wireless Test	30.8	56.7	(25.9)
Robotics	(66.7)	(15.5)	(51.2)
Corporate and Eliminations (1)	(7.7)	(41.7)	34.0
	$ 385.8	$ 645.1	$ (259.3)

(1) Included in Corporate and Eliminations are interest income, interest expense, net foreign exchange gains (losses), intercompany eliminations, legal and environmental fees, severance charges, pension, contract termination settlement charge and an expense for the modification of Teradyne's former chief executive officer's outstanding equity awards.

The decrease in income before income taxes in Semiconductor Test was driven primarily by lower tester sales for mobility and compute applications. The decrease in income before income taxes in System Test was primarily due to lower sales in Storage Test of system level and hard disk drive testers. The decrease in income before income taxes in Wireless Test was driven primarily by a decrease in sales of connectivity test products. The decrease in income before income taxes in Robotics was driven primarily by softening demand due to slowing global industrial activity and macro-economic headwinds and the impact of the transformation of Universal Robots sales channel. The decrease in loss before income taxes in Corporate and Eliminations was primarily due to legal settlement charges in 2022 related to litigation for the earn-out dispute in connection with the AutoGuide acquisition, changes in unrealized gains/losses on equity securities and higher interest income.

Income Taxes

The effective tax rate for the nine months ended October 1, 2023 and October 2, 2022, was 14.0% and 15.8%, respectively. The decrease in the effective tax rate from the nine months ended October 1, 2023, to the nine months ended October 2, 2022, primarily resulted from an increase in benefit related to tax credits and an increase in benefit related to the international provisions of the U.S. Tax Cuts and Jobs Act of 2017. These decreases were partially offset by a projected shift in the geographic distribution of income, which increases the income subject to taxation in higher tax rate jurisdictions relative to lower tax rate jurisdictions and a reduction in discrete benefit from equity compensation.

Contractual Obligations

There have been no changes outside of the ordinary course of business to our contractual obligations as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2022.

Liquidity and Capital Resources

Our cash, cash equivalents and marketable securities balances decreased by $184.7 million in the nine months ended October 1, 2023, to $820.4 million.

Operating activities during the nine months ended October 1, 2023, provided cash of $336.5 million. Changes in operating assets and liabilities used cash of $119.3 million due to a $27.4 million increase in operating assets and a $91.9 million decrease in operating liabilities.

The increase in operating assets was primarily due to a $64.0 million increase in prepayments and other assets due to prepayments to our contract manufacturers, partially offset by a $30.2 million decrease in accounts receivable and a $6.4 million decrease in inventories.

The decrease in operating liabilities was due to a $56.6 million decrease in accrued employee compensation, a $49.5 million decrease in deferred revenue and customer advance payments, a $42.7 million decrease in income taxes, and $3.7 million of retirement plan contributions, partially offset by a $36.0 million increase in accounts payable, and a $24.5 million increase in other accrued liabilities.

Investing activities during the nine months ended October 1, 2023, used cash of $149.2 million due to $137.8 million used for purchases of marketable securities, $115.3 million used for purchases of property, plant and equipment, and $5.0 million used for issuance of convertible loan, partially offset by $37.0 million and $71.4 million in proceeds from sales and maturities of marketable securities, respectively, and $0.5 million in proceeds from the cancellation of Teradyne owned life insurance policies related to the cash surrender value.

Financing activities during the nine months ended October 1, 2023, used cash of $410.8 million due to $346.5 million used for the repurchase of 3.4 million shares of common stock at an average price of $103.89 per share, $51.1 million used for dividend payments, $26.7 million used for payments of convertible debt principal, and $20.6 million used for payment related to net settlements of employee stock compensation awards, partially offset by $34.1 million from the issuance of common stock under employee stock purchase and stock option plans.

Operating activities during the nine months ended October 2, 2022, provided cash of $394.5 million. Changes in operating assets and liabilities used cash of $271.7 million. This was due to a $158.9 million increase in operating assets and a $112.8 million decrease in operating liabilities.

The increase in operating assets was due to a $94.3 million increase in prepayments and other assets due to prepayments to our contract manufacturers, a $68.8 million increase in inventories, partially offset by a $4.2 million decrease in accounts receivable.

The decrease in operating liabilities was due to a $82.9 million decrease in accrued employee compensation, a $31.4 million decrease in income taxes, a $7.5 million decrease in other accrued liabilities, a $5.9 million decrease in deferred revenue and customer advance payments and $3.9 million of retirement plan contributions, partially offset by an $18.7 million increase in accounts payable.

Investing activities during the nine months ended October 2, 2022 provided cash of $45.4 million due to $259.2 million and $182.1 million in proceeds from sales and maturities of marketable securities, respectively, partially offset by $267.2 million used for purchases of marketable securities, and $128.7 million used for purchases of property, plant and equipment.

Financing activities during the nine months ended October 2, 2022 used cash of $858.8 million due to $750.0 million used for the repurchase of 7.2 million shares of common stock at an average price of $103.83 per share, $52.6 million used for dividend payments, $52.0 million used for payments of convertible debt principal, and $33.0 million used for payment related to net settlements of employee stock compensation awards, partially offset by $28.7 million from the issuance of common stock under employee stock purchase and stock option plans.

In January 2023, May 2023, and August 2023, Teradyne's Board of Directors declared a quarterly cash dividend of $0.11 per share. Dividend payments for the three and nine months ended October 1, 2023, were $16.9 million and $51.1 million, respectively.

In January 2022, May 2022, and August 2022, Teradyne's Board of Directors declared a quarterly cash dividend to $0.11 per share. Dividend payments for the three and nine months ended October 2, 2022, were $17.1 million and $52.6 million, respectively.

In January 2023, our Board of Directors cancelled the 2021 repurchase program and approved a new repurchase program for up to $2.0 billion of common stock. We intend to repurchase up to $500.0 million of common stock in 2023 subject to market conditions.

During the nine months ended October 1, 2023, we repurchased 3.4 million shares of common stock for $346.5 million, which excludes related excise tax, at an average price of $103.89 per share. During the nine months ended October 2, 2022 , we repurchased 7.2 million shares of common stock for $750.0 million at an average price of $103.83 per share.

While we declared a quarterly cash dividend and authorized a share repurchase program, we may reduce or eliminate the cash dividend or share repurchase program in the future. Future cash dividends and stock repurchases are subject to the discretion of our Board of Directors, which will consider, among other things, our earnings, capital requirements and financial condition.

On May 1, 2020, we entered into a credit agreement providing a three-year, senior secured revolving credit facility of $400 million. On December 10, 2021, the credit agreement was amended to extend the senior secured revolving credit facility to December 10, 2026. On October 5, 2022, the credit agreement was amended to increase the amount of the credit facility to $750.0 million from $400.0 million. As of November 3, 2023, we have not borrowed any funds under the credit facility.

We believe our cash, cash equivalents, marketable securities and senior secured revolving credit facility will be sufficient to pay our quarterly dividend and meet our working capital and expenditure needs for at least the next twelve months. Inflation has not had a significant long-term impact on earnings.

Equity Compensation Plans

In addition to our 1996 Employee Stock Purchase Program as discussed in Note Q: "Stock-Based Compensation" in our 2022 Annual Report on Form 10-K, we have a 2006 Equity and Cash Compensation Incentive Plan (the "2006 Equity Plan").

The purpose of the 1996 Employee Stock Purchase Plan is to encourage stock ownership by all eligible employees of Teradyne. The purpose of the 2006 Equity Plan is to provide equity ownership and compensation opportunities in Teradyne to our employees, officers and directors. Both plans were approved by our shareholders.

Recently Issued Accounting Pronouncements

For the nine months ended October 1, 2023, there were no recently issued accounting pronouncements that had, or are expected to have, a material impact to our consolidated financial statements.

Item 3: Quantitative and Qualitative Disclosures about Market Risks

For "Quantitative and Qualitative Disclosures about Market Risk" affecting Teradyne, see Part 2 Item 7A, "Quantitative and Qualitative Disclosures about Market Risks," in our Annual Report on Form 10-K filed with the SEC on February 22, 2023. There were no material changes in our exposure to market risk from those set forth in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

In addition to market risks described in our Annual Report on Form 10-K, we have an equity price risk related to the fair value of our convertible senior unsecured notes issued in December 2016. In December 2016, Teradyne issued $460 million aggregate principal amount of 1.25% convertible senior unsecured notes (the "Notes") due December 15, 2023. As of October 1, 2023, $23.5 million of principal remained outstanding and the Notes had a fair value of $74.9 million. The table below provides a sensitivity analysis of hypothetical 10% changes of Teradyne's stock price as of the end of the third quarter of 2023 and the estimated impact on the fair value of the Notes. The selected scenarios are not predictions of future events, but rather are intended to illustrate the effect such event may have on the fair value of the Notes. The fair value of the Notes is subject to equity price risk due to the convertible feature. The fair value of the Notes will generally increase as Teradyne's common stock price increases and will generally decrease as the common stock price declines in value. The change in stock price affects the fair value of the Notes, but does not impact Teradyne's financial position, cash flows or results of operations due to the fixed nature of the debt obligation. Additionally, we carry the Notes at face value less unamortized discount on our balance sheet, and we present the fair value for required disclosure purposes only. In connection with the offering of the Notes we also sold warrants to the option counterparties. These transactions have been accounted for as an adjustment to our shareholders' equity. The convertible notes hedge transactions are expected to reduce the potential equity dilution upon conversion of the Notes. The warrants along with any shares issuable upon conversion of the Notes will have a dilutive effect on our earnings per share to the extent that the average market price of our common stock for a given reporting period exceeds the applicable strike price or conversion price of the warrants or Notes, respectively.

Hypothetical Change in Teradyne Stock Price	Fair Value	Estimated change in fair value	Hypothetical percentage increase (decrease) in fair value
10% Increase	$ 82,436	$ 7,517	10.0 %
No Change	74,919	—	—
10% Decrease	67,402	(7,517)	(10.0)

Item 4: Controls and Procedures

As of the end of the period covered by this report, our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15(b) or Rule 15d-15(f) promulgated under the Exchange Act. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the period covered by this report, our disclosure controls and procedures were effective in ensuring that material information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, including ensuring that such material information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

There have been no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the three months ended October 1, 2023, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1: Legal Proceedings

We are subject to various legal proceedings and claims which have arisen in the ordinary course of business such as, but not limited to, patent, employment, commercial and environmental matters. Teradyne believes that it has meritorious defenses against all pending claims and intends to vigorously contest them. While it is not possible to predict or determine the outcomes of any pending claims or to provide possible ranges of losses that may arise, Teradyne believes the potential losses associated with all of these actions are unlikely to have a material adverse effect on its business, financial position or results of operations.

On March 8, 2021, Industrial Automation LLC submitted a demand for arbitration against Teradyne and AutoGuide in Wilmington, Delaware alleging that Teradyne and AutoGuide breached certain provisions of the Membership Interests Purchase Agreement (the "Purchase Agreement"), dated as of October 18, 2019, among Industrial Automation LLC, Teradyne and AutoGuide. The arbitration demand sought full acceleration of the maximum earn-out amount payable under the Purchase Agreement, or $106.9 million, for the alleged breach of the earn-out provisions of the Purchase Agreement. On March 25, 2022, the arbitration claim was settled for $26.7 million. As a result, Teradyne has no remaining earn-out obligations.

Item 1A: Risk Factors

In addition to other information set forth in this Form 10-Q, including the risk discussed below, you should carefully consider the factors discussed in Part I, "Item 1A: Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2022, which could materially affect our business, financial condition or future results. The risk factors described in our Annual Report on Form 10-K remain applicable to our business.

The risks described in our Annual Report on Form 10-K are not the only risks that 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 condition and/or operating results.

Adverse developments affecting the financial services industry, including events or risks involving liquidity, defaults or non-performance by financial institutions, could have a material adverse effect on our business, financial condition or results of operations.

On March 10, 2023, *Silicon Valley Bank* (SVB), who is a lender in our revolving credit facility and where we maintain certain accounts and cash deposits, was placed into receivership with the Federal Deposit Insurance Corporation (FDIC), which resulted in all funds held at SVB being temporarily inaccessible by SVB's customers. As of March 13, 2023, access to our cash and cash equivalents at SVB was fully restored. Although our cash balances at SVB are insignificant and we do not expect further developments at SVB to have a material impact on our cash and cash equivalents, we do hold cash balances in several large financial institutions significantly in excess of FDIC and global insurance limits. If other banks and financial institutions with whom we have banking relationships enter receivership or become insolvent in the future, we may be unable to access, and we may lose, some or all of our existing cash, cash equivalents and investments to the extent those funds are not insured or otherwise protected by the FDIC.

The Israel-Hamas conflict may have a material impact on our Business

The recent Israel-Hamas conflict could have a negative impact on our future revenue and supply chain, either of which could adversely affect our business and financial results. Our customers in Israel may experience delays in product releases due to impacts to their labor force and impacts on their suppliers because of the conflict, which could materially impact demand for our products. Similarly, our suppliers in Israel may experience delays in providing us with parts due to the conflict. In addition, the global economic uncertainty following the start of the conflict could impact demand for our products.

Trade regulations and restrictions impact our ability to manufacture certain products and to sell products to and support certain customers, which may materially adversely affect our sales and results of operations.

We are subject to U.S. laws and regulations that limit and restrict the export of some of our products and services and may restrict our transactions with certain customers, business partners and other persons. In certain circumstances, export control and economic sanctions regulations prohibit the export of certain products, services and technologies, and in other circumstances are required to obtain an export license before exporting the controlled item. We must also comply with export restrictions and laws imposed by other countries affecting trade and investments. We maintain an export compliance program but there are risks that the compliance controls could be circumvented, exposing us to legal liabilities. Compliance with these laws has not significantly limited our sales but could significantly limit them in the future. Changes in, and responses to, U.S. trade policy could reduce the competitiveness of our products and cause our sales to drop, which could have a material adverse effect on our business, financial condition or results of operations.

The U.S. government from time to time has issued export restrictions that prohibit U.S. companies from exporting U.S. manufactured products, foreign manufactured products with more than 25% controlled U.S. content, as well as U.S. origin technology. For example, the U.S. Department of Commerce has restricted the access of U.S. origin technologies to certain Chinese semiconductor companies by adding those companies to the Entity List under U.S. Export Administration Regulations ("EAR"). The addition of certain of these companies to the entity list has had and will continue to have an adverse impact on our business with these customers. We will take appropriate actions, including filing for licenses with the U.S. Department of Commerce to attempt to minimize the impact of the restrictions on our business.

On May 16, 2019, Huawei and 68 of its affiliates, including HiSilicon, were added to the U.S. Department of Commerce Entity List under the EAR. This action by the U.S. Department of Commerce imposed new export licensing requirements on exports, re-exports, and in-country transfers of all U.S. regulated products, software and technology to the designated Huawei entities. On August 17, 2020, the U.S. Department of Commerce published final regulations expanding the scope of the U.S. EAR to include additional products that would become subject to export restrictions relating to Huawei entities including HiSilicon. These new regulations restrict the sale to Huawei and the designated Huawei entities of certain non-U.S. made items, such as semiconductor devices, manufactured for or sold to Huawei entities including HiSilicon under specific, detailed conditions set forth in the new regulations. These new regulations have impacted our sales to Huawei, HiSilicon and their suppliers. We are taking appropriate actions, including filing license applications and obtaining licenses from the U.S. Department of Commerce. However, we do not expect these actions will mitigate the impact of the regulations on our sales to Huawei, HiSilicon and other suppliers. As a result, the regulations will continue to have an adverse impact on our business and financial results. It is uncertain the extent these new regulations and any additional regulations that may be implemented by the U.S. Department of Commerce or other government agency may have on our business with other customers or potential customers. Also, our controls related to Entity List compliance could be circumvented, exposing us to legal liabilities.

On April 28, 2020, the U.S. Department of Commerce published new export control regulations for certain U.S. products and technology sold to military end users or for military end-use in China, Russia and Venezuela. The definition of military end user is broad. The regulations went into effect on June 29, 2020. In December 2020, the U.S. Department of Commerce issued a list of companies in China and other countries that it considered to be military end users. Compliance with the new export controls has impacted our ability to sell products to certain customers in China. In addition, while we maintain an export compliance program, our compliance controls could be circumvented, exposing us to legal liabilities. We will continue to assess the impact of these export controls on our business and operations and take appropriate actions, including filing for licenses with the U.S. Department of Commerce, to minimize any disruption. However, we cannot be certain that the actions we take will mitigate all the risks associated with the export controls that may impact our business.

On October 7, 2022, the U.S. Department of Commerce published regulations restricting the export to China of advanced semiconductors, supercomputer technology, equipment for the manufacturing of advanced semiconductors and components and technology for the manufacturing in China of certain semiconductor manufacturing equipment. The restrictions impacted our sales to certain companies in China and our manufacturing and development operations in China. We mitigated the impact of these restrictions on our business by obtaining licenses from the U.S. Department of Commerce. On October 17, 2023, the U.S. Department of Commerce released new rules updating the export controls issued on October 7, 2022. The new rules, which take effect on November 17, 2023, significantly limit the impact of the October 7, 2022 restrictions on our business. However, the regulations may continue to have an adverse impact on certain actual or potential customers and on the global semiconductor industry. To the extent the regulations impact actual and potential customers or disrupt the global semiconductor industry, our business and revenues will be adversely impacted.

In response to the regulations issued by the U.S. Department of Commerce, the Chinese government has passed new laws, including blocking legislation, which may impact our business activities in China. The Company is assessing the potential impact of these new Chinese laws and monitoring relevant laws and regulations issued by the Chinese government. The impact of these new Chinese laws on our business activities in China remains uncertain at this time.

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

In January 2023, Teradyne's Board of Directors cancelled our 2021 repurchase program and approved a new repurchase program for up to $2.0 billion of common stock. During the nine months ended October 1, 2023, we repurchased 3.4 million shares of common stock for a total cost of $349.3 million at an average price of $103.89 per share. We record share repurchases at cost, which includes broker commissions and related excise taxes. During the nine months ended October 2, 2022, we repurchased 7.2 million shares of common stock for $750.0 million at an average price of $103.83 per share.

The following table includes information with respect to repurchases we made of our common stock during the three months ended October 1, 2023, (in thousands except per share price):

Period	Total Number of Shares (or Units) Purchased		Average Price Paid per Share (or Unit)		Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Shares (or Units) that may Yet Be Purchased Under the Plans or Programs (2)
July 3, 2023 - July 30, 2023	368		$ 112.14		368	$ 1,729,226,250
July 31, 2023 – August 27, 2023	335		$ 106.17		334	$ 1,693,807,449
August 28, 2023 – October 1, 2023	419		$ 103.14		418	$ 1,650,708,568
	1,122	(1)	$ 107.00	(1)	1,119	

(1) Includes approximately three thousand shares at an average price of $109.16 withheld from employees for the payment of taxes.

(2) As of January 1, 2023, share repurchases net of share issuances are subject to a 1% excise tax under the Inflation Reduction Act. Excise tax incurred is included as part of the cost basis of shares repurchased in the Condensed Consolidated Statements of Convertible Common Shares and Stockholders' Equity.

We satisfy U.S. federal and state minimum withholding tax obligations due upon the vesting and the conversion of restricted stock units into shares of our common stock, by automatically withholding from the shares being issued, a number of shares with an aggregate fair market value on the date of such vesting and conversion that would satisfy the minimum withholding amount due.

Item 4: Mine Safety Disclosures

Not Applicable

Item 5: Other Information

10b 5-1 Trading Plans

Our officers (as defined in Rule 16a-1(f) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) ("Section 16 Officers") and directors from time to time enter into contracts, instructions or written plans for the purchase or sale of our securities that are intended to satisfy the conditions specified in Rule 10b5-1(c) under the Exchange Act for an affirmative defense against liability for trading in securities on the basis of material nonpublic information. We refer to these contracts, instructions, and written plans as "Rule 10b5-1 trading plans" and each one as a "Rule 10b5-1 trading plan." During our fiscal quarter ended October 1, 2023, no Section 16 Officer or director adopted, modified or terminated Rule 10b5-1 trading plans.

Item 6: Exhibits

Exhibit Number	Description
10.1	Executive Officer Change in Control Agreement dated August 21, 2023 between Teradyne, Inc. and Ujjwal Kumar (filed herewith)
10.2	Employment Agreement dated June 27, 2023 between Teradyne, Inc. and Ujjwal Kumar (filed herewith)
31.1	Certification of Principal Executive Officer, pursuant to Rule 13a-14(a) of Securities and Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
31.2	Certification of Principal Financial Officer, pursuant to Rule 13a-14(a) of Securities and Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
32.1	Certification of Principal Executive Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
32.2	Certification of Principal Financial Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
101.INS	Inline XBRL Instance Document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
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)

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.

TERADYNE, INC.
Registrant

/s/ SANJAY MEHTA

Sanjay Mehta
Vice President,
Chief Financial Officer and Treasurer
(Duly Authorized Officer
and Principal Financial Officer)
November 3, 2023

EXECUTIVE OFFICER CHANGE IN CONTROL AGREEMENT

EXECUTIVE OFFICER CHANGE IN CONTROL AGREEMENT entered into this 21st day of August, 2023, by and between Teradyne, Inc. (including its subsidiaries, "Teradyne"), and the undersigned executive officer of Teradyne ("Employee").

WITNESSETH:

WHEREAS, Teradyne and Employee desire to set forth certain terms and conditions relating to the termination of Employee's employment upon the occurrence of a Change in Control (as hereinafter defined) of Teradyne.

NOW THEREFORE, in consideration of the premises and of the mutual covenants and agreements hereinafter set forth, the parties hereto hereby agree as follows:

1. Entitlements Upon a Termination Event. If, within twenty-four (24) months following a Change in Control or in contemplation of a Change in Control, there is a Termination Event, and subject to the conditions set forth herein and the performance by Employee of the undertakings and duties set forth herein, Employee shall be entitled to the rights, payments and other benefits set forth below:

(a) Treatment of Awards. Equity Awards that are not subject to Performance Criteria shall be governed by Section 1(b) below, and Cash Awards and Equity Awards that are subject to Performance Criteria shall be governed by Section 1(c) below. The parties hereto acknowledge that, except as otherwise provided herein, the terms of this Agreement are intended to modify the terms of Employee's existing Cash Award and Equity Award agreements and to be a supplement to Cash Award and Equity Award agreements granted on or subsequent to the date hereof.

(b) Acceleration of Equity Awards. All of Employee's unvested or unexercisable Equity Awards or Equity Awards subject to restrictions on transfer imposed by Teradyne or repurchase rights in favor of Teradyne, as applicable, granted prior to, on, or after the date hereof (but only (I) such Equity Awards as have been granted to Employee by Teradyne as of the date of the Change in Control or (II) such Equity Awards as have been assumed by an acquiring company at the time of a Change in Control or such new cash and equity awards that have been substituted by an acquiring company for Equity Awards existing at the time of a Change in Control, each pursuant to the terms of any Teradyne incentive plan) shall automatically become fully vested, exercisable or free of restrictions on transfer imposed by Teradyne or repurchase rights in favor of Teradyne, as applicable, as of the date of such Termination Event, and all Equity Awards granted on or after the date hereof shall, to the extent applicable, remain exercisable for the remainder of the generally applicable term of such Equity Award.

(c) Satisfaction of Performance Criteria. All of Employee's Cash Awards and Equity Awards that are subject to Performance Criteria shall be settled and paid in the following manner: Employee shall be deemed to have satisfied the necessary percentage of the Performance Criteria to which such Cash Awards and Equity Awards are subject as of the date of the Termination Event, that will provide Employee with the target level of such Cash Awards and Equity Awards; and Employee shall be entitled to receive that portion of each Cash Award and Equity Award payable, at the target level. For purposes of the Cash Awards, the payment shall be multiplied by a fraction, the numerator of which shall be the number of calendar months that have passed during the period in which the Performance Criteria are to be measured (treating the month in which the Termination Event occurs as a full calendar month) and the denominator of which shall be the total number of calendar months in such period. For purposes of this Agreement, "target level" is that percentage of the Performance Criteria established at the beginning of each calendar year in order for the Employee to achieve Model Compensation. Unless otherwise required under Section 1(e) below, such Cash Awards and Equity Awards shall be paid to Employee or the restrictions on transfer removed not later than 10 days following the Termination Event.

(d) Salary Continuation. Unless otherwise required under Section 1 (e) below, Teradyne shall pay Employee monthly an amount equal to 1/12th of Employee's current annual Model Compensation as of the Termination Event for a period of 24 months following the date of the Termination Event (the "Salary Continuation Period"). In the event a Termination Event constitutes termination for Good Reason on account of a material reduction in Model Compensation, the payment obligation pursuant to this Section 1(d) shall be calculated without giving effect to any such reductions in Model Compensation. All such continued payments shall be made in accordance with Teradyne's customary pay practices. Subject to Section 1(e)(i) of this Agreement but notwithstanding any other provision of this Agreement to the contrary, the continued payments to Employee contemplated by this Section 1(d) and any benefits provided to Employee that are subject to Section 409A of the Code shall commence on the 60th day following the Termination Event provided Employee has complied with the requirements of Section 1(g) of this Agreement and the release of claims has become irrevocable under applicable law no later than on the 60th day following his Termination Event.

(e) Deferred Compensation/Section 409A.

(i) Notwithstanding any other provision of this Agreement, if the Employee is a " specified employee" at the time of the Employee's "separation from service" as defined in Section 409A of the Code , all payments, benefits, or removal of restrictions on the transfer of equity under this Agreement with respect to the Employee's "separation from service" that constitute compensation deferred under a nonqualified deferred compensation plan as defined in Section 409A of the Code to which such specified employee would otherwise be entitled during the first six months following the date of separation from service shall be made on the first day of the seventh month after the date of separation from service (or, if earlier, the date of death of the Employee).

(ii)For purposes of this Agreement, each amount to be paid or benefit to be provided shall be construed as a separate identified payment for purposes of Section 409A, and any payments that are due within the "short term deferral period" as defined in Section 409A or payments that are made under separation pay plans as described in Treasury Regulation Section 1.409A-1(b)(9)(ii), (iii) or (iv), shall not be treated as deferred compensation unless applicable law requires otherwise. Neither Teradyne nor the Employee shall have the right to accelerate or defer the delivery of any payments or benefits under this Agreement except to the extent specifically permitted or required by Section 409A.

(iii)This Agreement is intended to comply with the provisions of Section 409A and the Agreement shall, to the extent practicable, be construed in accordance therewith. Terms defined in the Agreement shall have the meanings given such terms under Section 409A if and to the extent required to comply with Section 409A. In any event, Teradyne makes no representations or warranty and shall have no liability to Employee or any other person if any provisions of or payments under this Agreement are determined to constitute deferred compensation subject to Code Section 409A but not to satisfy the conditions of that section.

(iv)If any amount is payable under the provisions of paragraph (f), below, as a reimbursement of Employee's expenses, under the provisions of Section 2 and 13, or any other provision of this Agreement that constitutes a reimbursement of expenses under Section 409A then, notwithstanding the other provisions of this Agreement with respect to the payment of such reimbursement, the following limitations shall apply: (A) the expenses eligible for reimbursement may not affect the expenses eligible for reimbursement in any other taxable year; (B) such reimbursement must be made on or before the last day of the year following the year in which the expenses are incurred; (C) the right to reimbursement is not subject to liquidation or exchange for another benefit; and (D) in connection with reimbursements under Section 13 the period during which such expenses can be incurred extends to the end of the period permitted for such claims under the applicable statute of limitations.

(f) Benefit Continuation. During the Salary Continuation Period, Teradyne shall arrange or provide for continued health, dental and vision insurance plan coverage for the Employee at the same levels of coverage in existence prior to the Termination Event subject to Teradyne and Employee each contributing to the applicable insurance premium payments on the same basis and in the same proportions as in existence at the date of the Termination Event. If the Employee is not eligible for continued health, dental and vision insurance plan coverage for any portion of the twenty-four (24) month period defined herein, Teradyne shall provide or reimburse Employee for comparable individual insurance and, if such provision or reimbursement constitutes taxable income to the Employee, such additional amount as is necessary to place the Employee in substantially the same after tax position as he was while an employee of Teradyne with respect to such insurance plan coverages. All other benefits, including but not limited to flex/vacation time accrual, short and long term disability insurance, life insurance, contributions (including company matches) into savings plan and "savings plan plus", profit sharing payments and participation in the Employee stock purchase plan shall cease as of the date of the Termination Event.

To the extent that amounts paid by Teradyne to provide the benefits under this paragraph (f) are deemed to be deferred compensation subject to Section 409A, then such payments shall be made monthly and any payment to preserve the Employee's after tax position shall be made within 60 days after the end of each calendar year in which the taxable provision or reimbursement occurs.

(g) Release. Notwithstanding any other provision of this Agreement to the contrary, no payment, benefit or removal of restriction on the transfer of equity provided for under or by virtue of the provisions of this Agreement shall be paid or otherwise made available unless Teradyne shall have first received from Employee a valid, binding and irrevocable general release, in the form of Attachment A to this Agreement within twenty-one (21) days of the date of the Termination Event. Employee shall sign such release within twenty-one (21) days of a Termination Event subsequent to a Change in Control. Teradyne agrees to provide Employee an estimate relating to payments to be made under this Agreement upon Employee's written request. All rights, benefits, payments and other entitlements contemplated to be provided or paid to Employee under this Agreement shall be forfeited as of the 60th day following Employee's Termination Event if Employee has not provided Teradyne with a valid, irrevocable release of claims as of such 60th day.

(h) Certain Definitions. For purposes of this Agreement, the following terms shall have the following meanings:

"Cash Awards" shall mean any cash-based bonus, cash incentive or other cash awards provided by Teradyne to Employee pursuant to incentive plans that Teradyne maintains, including but not limited to its 2006 Equity and Cash Compensation Incentive Plan.

"Cause" shall mean conduct involving one or more of the following: (i) the substantial and continuing failure of Employee, after notice thereof, to render services to Teradyne in accordance with the terms or requirements of his or her employment as established by the Teradyne Board of Directors from time to time and communicated to the Employee; (ii) Employee's disloyalty, gross negligence, willful misconduct, dishonesty, fraud or breach of fiduciary duty to Teradyne, each in connection with Employee's employment by Teradyne; (iii) Employee's deliberate disregard of the rules or policies of, or breach of an agreement with, Teradyne which results in direct or indirect material loss, damage or injury to Teradyne; (iv) the intentional unauthorized disclosure by Employee of any trade secret or confidential information of Teradyne; (v) the commission by Employee of an act which constitutes unfair competition with Teradyne; or (vi) the conviction of, or the entry of a plea of guilty or nolo contendere by the Employee, to any crime involving moral turpitude or any felony. In the event that Teradyne determines that Cause may exist pursuant to clauses (i), (iii) and (v) above, Teradyne shall give Employee written notice of the facts constituting such Cause and Employee shall have 30 days following receipt of such notice to remedy such Cause.

A "Change in Control" shall be deemed to have occurred upon the occurrence of any of the following events: (i) any consolidation, cash tender offer, reorganization, recapitalization, merger or plan of share exchange following which the capital stock of Teradyne outstanding immediately prior to such transaction constitutes less than a majority of the combined voting power of the then-outstanding securities of the combined corporation or person immediately after such transaction; (ii) any sale, lease, exchange or other transfer of all or substantially all of Teradyne's assets; (iii) the adoption by the Board of Directors of Teradyne of any plan or proposal for the liquidation or dissolution of Teradyne; (iv) a change in the majority of the Board of Directors of Teradyne through one or more contested elections occurring within a three-year period; or (v) any person (as that term is used in Section 13(d)(3) or Section 14(d)(2) of the Securities Exchange Act of 1934, as amended) becomes beneficial owner of 30% or more of the combined voting power of Teradyne's outstanding voting securities, other than (A) as a result of a consolidation, reorganization, recapitalization, merger or plan of share exchange following which the capital stock of Teradyne outstanding immediately prior to such transaction constitutes at least a majority of combined voting power of the then-outstanding securities of the combined corporation or person immediately after such transaction, (B) by any trustee or other fiduciary holding securities under an employee benefit plan of Teradyne, or (C) by a person temporarily acquiring beneficial ownership in its capacity as an underwriter (as defined pursuant to Section 2(a)(11) of the Securities Act of 1933, as amended) in connection with a public offering of Teradyne securities.

"Equity Awards" shall mean the equity ownership, participation or appreciation opportunities provided by Teradyne to Employee pursuant to incentive plans that Teradyne maintains, including but not limited to its 2006 Equity and Cash Compensation Incentive Plan, the Teradyne, Inc. 1991 Employee Stock Option Plan and the Teradyne, Inc. 1997 Employee Stock Option Plan, and any stock options, restricted stock units, restricted stock, stock appreciation rights, phantom stock and other stock-based awards granted thereunder.

"Good Reason" shall mean any one or more of the following: (i) any material reduction of Employee's responsibilities (other than for Cause or as a result of death or disability) as they shall exist on the date of the consummation of the Change in Control; (ii) any material reduction in Employee's Model Compensation as in effect on the date of the consummation of the Change in Control, or as the same may be increased from time to time, or any failure by Teradyne to pay to Employee any bonus accrued, but not yet paid, upon written notice by Employee to Teradyne, within 45 days; (iii) a material reduction in the value of Employee's benefit package from the value of Employee's benefit package on the date of the consummation of the Change in Control; or (iv) a requirement that Employee be based at an office that is greater than 50 miles from the location of Employee's office immediately prior to the Change in Control except for required travel on Teradyne's business to an extent substantially consistent with the business travel obligations which Employee undertook on behalf of Teradyne prior to the date of the consummation of the Change in Control. In the event of a Termination Event in contemplation of a Change in Control, the applicable baseline measurement date shall be six months prior to such Termination Event and not the date of the consummation of the Change in Control.

"Model Compensation" shall mean Employee's annual "Model Compensation" as determined by Teradyne's Compensation Committee or Board of Directors, which consists of (i) a fixed annual salary and (ii) a target annual variable amount.

"Performance Criteria" shall have the meaning ascribed to that term in the Teradyne, Inc. 2006 Equity and Cash Compensation Incentive Plan.

"Termination Event" shall mean (i) any termination of Employee by Teradyne without Cause or (ii) any voluntary termination by Employee for Good Reason; provided, that it shall not be a Termination Event merely because Employee ceases to be employed by Teradyne and becomes employed by a successor to Teradyne involved in the Change in Control that assumes or is otherwise bound by this Agreement as provided in Section 7(a). It is expressly understood that no Termination Event shall be deemed to have occurred merely because, upon the occurrence of a Change in Control, Employee ceases to be employed by Teradyne and does not become employed by a successor to Teradyne after the Change in Control if the successor makes an offer to employ Employee on terms and conditions which, if imposed by Teradyne, would not give Employee a basis on which to terminate employment for Good Reason.

(i) Termination in Contemplation of a Change in Control. For purposes of this Agreement, including without limitation, this Section 1, a Termination Event occurring "in contemplation of a Change in Control" means a Termination Event occurring within 3 months prior to an actual Change in Control at the request or direction of a person who enters or has entered into an agreement the consummation of which would cause a Change in Control or who conditions the entry into such an agreement on the Employee's termination whether or not such person actually enters into such an agreement. A termination by the Employee for Good Reason shall constitute a Termination Event in contemplation of a Change in Control if the actions constituting Good Reason were taken at the request or direction of a person who has entered into an agreement the consummation of which would cause a Change in Control.

2. Reduction of Payments

(a) Notwithstanding any other provision of this Agreement, in the event that the Company undergoes a Change in Ownership or Control (as defined below), the Company shall not be obligated to provide to the Executive a portion of any "Contingent Compensation Payments" (as defined below) that the Executive would otherwise be entitled to receive to the extent necessary to eliminate any "excess parachute payments" (as defined in Section 280G(b)(1) of the Internal Revenue Code of 1986, as amended (the "Code")) for the Executive. For purposes of this Section 2, the Contingent Compensation Payments so eliminated shall be referred to as the "Eliminated Payments" and the aggregate amount (determined in accordance with Treasury Regulation Section 1.280G-1, Q/A-30 or any successor provision) of the Contingent Compensation Payments so eliminated shall be referred to as the "Eliminated Amount."

(b) For purposes of this Section 2, the following terms shall have the following respective meanings:

(i) "Change in Ownership or Control" shall mean a change in the ownership or effective control of the Company or in the ownership of a substantial portion of the assets of the Company determined in accordance with Section 280G(b)(2) of the Code.

(ii) "Contingent Compensation Payment" shall mean any payment (or benefit) in the nature of compensation that is made or made available (under this Agreement or otherwise) to a "disqualified individual" (as defined in Section 280G(c) of the Code) and that is contingent (within the meaning of Section 280G (b)(2)(A)(i) of the Code) on a Change in Ownership or Control of the Company.

(c) If and to the extent that any Contingent Compensation Payments are required to be treated as Eliminated Payments pursuant to this Section 2, then the Payments shall be reduced or eliminated, as determined by the Company, in the following order (i) any cash payments, (ii) any taxable benefits, (iii) any nontaxable benefits and (iv) any vesting of equity awards, in each case in reverse order beginning with the payments or benefits that are to be paid the farthest in time from the date that triggers the applicability of the excise tax, to the extent necessary to maximize the Eliminated Payments.

3. (a) Non-Competition and Non-Solicitation. From the Termination Event through the end of the Salary Continuation Period, Employee shall not directly or indirectly:

(i) Engage in any business or enterprise (whether as an owner, partner, officer, employee, director, investor, lender, consultant, independent contractor or otherwise, except as the holder of not more than 1% of the combined voting power of the outstanding stock of a publicly held company) that is competitive with Teradyne (including but not limited to, any business or enterprise that develops, designs, produces, markets, sells or renders any product or service competitive with any product or service developed, produced, marketed, sold or rendered by Teradyne while Employee was employed by Teradyne);

(ii) Either alone or in association with others, recruit, solicit, hire or engage as an independent contractor, any person who was employed by Teradyne at any time during the period of Employee's employment with Teradyne, except for an individual whose employment with Teradyne has been terminated for a period of six months or longer; and

(iii) Either alone or in association with others, solicit, divert or take away, or attempt to divert or to take away, the business or patronage of any client or customer or entity that was a prospective client or customer of Teradyne during the Employee's employment.

(b) If any restriction set forth in this Section 3 is found by any court of competent jurisdiction to be unenforceable because it extends for too long a period of time or over too great a range of activities or in too broad a geographic area, it shall be interpreted to extend only over the maximum period of time, range of activities or geographic area as to which it may be enforceable.

(c) Employee acknowledges that the restrictions contained in this Section 3 are necessary for the protection of the business and goodwill of Teradyne and are considered by Employee to be reasonable for such purpose. Employee agrees that any breach of this Section 3 will cause Teradyne irreparable harm and therefore, in the event of any such breach, in addition to such other remedies that may be available, Teradyne shall have the right to seek equitable and/or injunctive relief.

(d) The geographic scope of this Section 3 shall extend to anywhere Teradyne or any of its subsidiaries is doing business, has done business or has plans to do business.

(e) Employee agrees that during the Salary Continuation Period, he will make reasonable good faith efforts to give verbal notice to Teradyne of each new business activity he plans to undertake, at least (5) business days prior to beginning any such activity.

(f) If Employee violates the provisions of this Section 3, Teradyne shall be entitled to suspend and recoup any salary continuation payment made per Section 1 (d) above and Employee shall continue to be bound by the restrictions set forth in this Section 3 for an additional period of time equal to the duration of the violation, such additional period not to exceed 24 months.

3A. No Obligation of Employment. Employee understands that the employment relationship between Employee and Teradyne will be "at will" and Employee understands that, prior to any Change in Control, Teradyne may terminate Employee with or without "Cause" at any time, including in contemplation of a Change in Control. Following any Change in Control, Teradyne may also terminate Employee with or without "Cause" at any time subject to Employee's rights and Teradyne's obligations specified in this Agreement.

4. Governing Law. This Agreement shall be governed by and construed in accordance with the internal laws of the Commonwealth of Massachusetts and this Agreement shall be deemed to be performable in Massachusetts.

5. Severability. In case any one or more of the provisions contained in this Agreement for any reason shall be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement and this Agreement shall be construed to the maximum extent permitted by law.

6. Waivers and Modifications. This Agreement may be modified, and the rights, remedies and obligations contained in any provision hereof may be waived, only in accordance with this Section 6. No waiver by either party of any breach by the other or any provision hereof shall be deemed to be a waiver of any later or other breach thereof or as a waiver of any other provision of this Agreement. This Agreement may not be waived, changed, discharged or terminated orally or by any course of dealing between the parties, but only by an instrument in writing signed by the party against whom any waiver, change, discharge or termination is sought.

7. Assignment. (a) Teradyne shall require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business or assets of Teradyne expressly to assume and agree to perform under the terms of this Agreement in the same manner and to the same extent that Teradyne and its subsidiaries would be required to perform it if no such succession had taken place (provided that such a requirement to perform which arises by operation of law shall be deemed to satisfy the requirements for such an express assumption and agreement), and in such event Teradyne (as constituted prior to such succession) shall have no further obligation under or with respect to this Agreement. Failure of Teradyne to obtain such assumption and agreement with respect to Employee prior to the effectiveness of any

such succession shall be a breach of the terms of this Agreement with respect to Employee and shall entitle Employee to compensation from Teradyne (as constituted prior to such succession) in the same amount and on the same terms as Employee would be entitled to hereunder were Employee's employment terminated for Good Reason following a Change in Control, except that for purposes of implementing the foregoing, the date on which any such succession becomes effective shall be deemed the date of the Termination Event. As used in this Agreement, "Teradyne" shall mean Teradyne as hereinbefore defined and any successor to its business or assets as aforesaid which assumes and agrees (or is otherwise required) to perform this Agreement. Nothing in this Section 7(a) shall be deemed to cause any event or condition which would otherwise constitute a Change in Control not to constitute a Change in Control.

(b) Notwithstanding Section 7(a), Teradyne shall remain liable to Employee upon a Termination Event after a Change in Control if Employee is not offered continuing employment by a successor to Teradyne or is offered continuing employment by a successor to Teradyne only on a basis which would constitute Good Reason for termination of employment hereunder.

(c) This Agreement, and Employee's and Teradyne's rights and obligations hereunder, may not be assigned by Employee or, except as provided in Section 7(a), Teradyne, respectively; any purported assignment by Employee or Teradyne in violation hereof shall be null and void.

(d) The terms of this Agreement shall inure to the benefit of and be enforceable by the personal or legal representatives, executors, administrators, permitted successors, heirs, distributees, devisees and legatees of Employee. If Employee shall die while an amount would still be payable to Employee hereunder if they had continued to live, all such amounts, unless otherwise provided herein, shall be paid in accordance with the terms of this Agreement to Employee's devisee, legatee or other designee or, if there is no such designee, Employee's estate.

8. Entire Agreement. This Agreement constitutes the entire understanding of the parties relating to the subject matter hereof and supersedes and cancels all agreements, written or oral, made prior to the date hereof between Employee and Teradyne relating to the subject matter hereof; provided, however, that Employee's existing Cash Award and Equity Award agreements, as modified hereby, shall remain in effect. This Agreement shall not limit any right of Employee to receive any payments or benefits under an employee benefit or Employee compensation plan of Teradyne, initially adopted as of or after the date hereof, which are expressly contingent thereunder upon the occurrence of a Change in Control (including, but not limited to, the acceleration of any rights or benefits thereunder); provided that in no event shall Employee be entitled to any payment or benefit under this Agreement which duplicates a payment or benefit received or receivable by Employee under any severance or similar plan or policy of Teradyne, and in any such case Employee shall only be entitled to receive the greater of the two payments.

9. Notices. All notices hereunder shall be in writing and shall be delivered in person or mailed by certified or registered mail, return receipt requested, addressed as follows:

If to Teradyne, to: Teradyne, Inc.
600 Riverpark Drive
MS NR600-2-2 (Legal Department)
North Reading, MA 01864
Attention: General Counsel

If to Employee, at Employee's address in his employment file on record with the Human Resources Department.

10.Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

11.Section Headings. The descriptive section headings herein have been inserted for convenience only and shall not be deemed to define, limit, or otherwise affect the construction of any provision hereof.

12.Term. The term of this Agreement (the "Term") shall commence upon the Effective Date hereof and terminate upon the earlier of (i) twenty-four (24) months following any Change in Control of Teradyne, (ii) the date prior to any Change in Control of Teradyne that Employee for any reason ceases to be an employee of Teradyne (other than a Termination Event in contemplation of a Change in Control) and (iii) the date following any Change in Control of Teradyne that Employee is terminated for Cause or voluntary terminates his employment (other than for Good Reason).

13.Expenses. All reasonable legal fees and expenses incurred in a legal proceeding by Employee in seeking to obtain or enforce any right or benefit provided by this Agreement against a successor to Teradyne shall be the responsibility of and paid for by the successor to Teradyne (but not Teradyne as constituted prior to such succession). Such payments are to be made within twenty (20) days after Employee's request for payment accompanied with such evidence of fees and expenses incurred as Teradyne's successor reasonably may require; provided that if Employee institutes a proceeding and the judge or other decision-maker presiding over the proceeding affirmatively finds that Employee has failed to prevail substantially, Employee shall pay Employee's own costs and expenses (and, if applicable, return any amounts theretofore paid on Employee's behalf under this Section 13).

14.Payments. Any payments hereunder shall be made out of the general assets of Teradyne. The Employee shall have the status of general unsecured creditor of Teradyne, and this Agreement constitutes a mere promise by Teradyne to make payments under this Agreement in the future as and to the extent provided herein. Unless otherwise determined by Teradyne in an applicable plan or arrangement, no amounts payable hereunder upon a Termination Event shall be deemed salary or compensation for the purpose of computing benefits under any employee benefit plan or other arrangement of Teradyne for the benefit of its employees. Teradyne shall be entitled to withhold from any payments or deemed payments any amount of tax withholding required by law.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

TERADYNE, INC.

By: /s/ Charles J. Gray
Name: Charles J. Gray
Title: Vice President and General Counsel

EMPLOYEE

/s/ Ujjwal Kumar, Group President – Robotics
Name: Ujjwal Kumar

ATTACHMENT A

Release Agreement

In consideration of the payments and benefits described in the Executive Officer Change in Control Agreement dated August 21, 2023, between me and Teradyne, Inc. (including its subsidiaries, the "Company"), all of which I acknowledge I would not otherwise be entitled to receive, I hereby fully, forever, irrevocably and unconditionally release, remise and discharge the Company, its successors and assigns and their respective officers, directors, stockholders, corporate affiliates, subsidiaries, parent companies, agents and employees (each in their individual and corporate capacities) (hereinafter, the "Released Parties") from any and all claims, charges, complaints, demands, actions, causes of action, suits, rights, debts, sums of money, costs, accounts, reckonings, covenants, contracts, agreements, promises, doings, omissions, damages, executions, obligations, liabilities, and expenses (including attorneys' fees and costs), of every kind and nature which I ever had or now have against the Released Parties arising out of my employment with and/or termination or separation from the Company or relating to my relationship as an officer or in any other capacity for the Company, including, but not limited to, all employment discrimination claims under Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000e et seq., the Age Discrimination in Employment Act, 29 U.S.C. § 621 et seq., the Americans With Disabilities Act of 1990, 42 U.S.C. § 12101 et seq., the Family and Medical Leave Act, 29 U.S.C. § 2601 et seq., and the Worker Adjustment and Retraining Notification Act ("WARN"), 29 U.S.C. § 2101 et seq., all as amended, the Employee Retirement Income Security Act of 1974 ("ERISA"), 29 U.S.C. § 1001 et seq., the Massachusetts Wage Payment Statute, G.L. c. 149, § 148 et seq., the Massachusetts Sexual Harassment Statute, G.L. c. 214 § 1C, the Massachusetts Consumer Protection Act, G.L. c. 93A, the Massachusetts Equal Rights Act, G.L. c. 93, the Massachusetts Fair Employment Practices Act, M.G.L. c. 151B, § 1 et seq., the Massachusetts Civil Rights Act, M.G.L. c. 12, §§ 11H and 11I, the Massachusetts Equal Rights Act, M.G.L. c. 93, § 102 and M.G.L. c. 214, § 1C, the Massachusetts Labor and Industries Act, M.G.L. c. 149, § 1 et seq., the Massachusetts Privacy Act, M.G.L. c. 214, § 1B, and the Massachusetts Maternity Leave Act , M.G.L. c. 149, § 105D, all as amended; all common law claims including, but not limited to, actions in tort, defamation and breach of contract; all claims to any non-vested ownership interest in the Company, contractual or otherwise, including but not limited to claims to stock or stock options; and any claim or damage arising out of my employment with, termination or separation from the Company (including a claim for retaliation) under any common law theory or any federal, state or local statute or ordinance not expressly referenced above; provided, however, that notwithstanding the foregoing, the Company agrees and hereby acknowledges that this Release Agreement is not intended to and does not (i) apply to any claims Executive may bring to enforce the terms of the Executive Officer Change in Control Agreement, (ii) release the Company of any obligation it may have pursuant to a written agreement, the Company's articles of organization or bylaws, or as mandated by statute to indemnify me as an officer of the Company; and (iii) release the Company of any obligation to provide and/or pay benefits to me or my estate, conservator or designated beneficiary(ies) under and in accordance with the terms of any applicable Company benefit plan and/or program; provided further, that nothing in this Release Agreement prevents me from filing, cooperating with, or participating in any proceeding before the EEOC or a state Fair Employment Practices Agency (except that I acknowledge that I may not be able to recover any monetary benefits in connection with any such claim, charge or proceeding).

Waiver of Rights and Claims Under the Age Discrimination in Employment Act of 1967: Since I am 40 years of age or older, I have been informed that I have or may have specific rights and/or claims under the Age Discrimination in Employment Act of 1967 (ADEA) and I agree that:

in consideration for the payments and benefits described in the Executive Officer Change in Control Agreement, which I am not otherwise entitled to receive, I specifically and voluntarily waive such rights and/or claims under the ADEA I might have against the Released Parties to the extent such rights and/or claims arose prior to the date this Release Agreement was executed;

I understand that rights or claims under the ADEA which may arise after the date this Release Agreement is executed are not waived by me;

I was advised that I have at least 21 days within which to consider the terms of this Release Agreement and to consult with or seek advice from an attorney of my choice or any other person of your choosing prior to executing this Release Agreement;

I have carefully read and fully understand all of the provisions of this Release Agreement, and I knowingly and voluntarily agree to all of the terms set forth in this Release Agreement; and in entering into this Release Agreement I am not relying on any representation, promise or inducement made by the Company or its attorneys with the exception of those promises described in this document.

Period for Review and Consideration of Agreement:

I acknowledge that I was informed and understand that I have twenty-one (21) days to review this Release Agreement and consider its terms before signing it.

The 21-day review period will not be affected or extended by any revisions, whether material or immaterial, that might be made to this Release Agreement.

Accord and Satisfaction: The amounts set forth in the Executive Officer Change in Control Agreement shall be complete and unconditional payment, settlement, accord and/or satisfaction with respect to all obligations and liabilities of the Released Parties to me, including, without limitation, all claims for back wages, salary, vacation pay, draws, incentive pay, bonuses, cash awards, equity awards, commissions, severance pay, reimbursement of expenses, any and all other forms of compensation or benefits, attorney's fees, or other costs or sums.

Revocation Period: I may revoke this Release Agreement at any time during the seven-day period immediately following my execution hereof. As a result, this Release Agreement shall not become effective or enforceable and the Company shall have no obligation to make any payments or provide any benefits described herein until the seven-day revocation period has expired.

______________________________ Date ______________________
Name: Ujjwal Kumar

______________________________ Date ______________________
Witness

IF YOU DO NOT WISH TO USE THE 21-DAY PERIOD,
PLEASE CAREFULLY REVIEW AND SIGN THIS DOCUMENT

I, Ujjwal Kumar, acknowledge that I was informed and understand that I have 21 days within which to consider the attached Release Agreement, have been advised of my right to consult with an attorney regarding such Agreement and have considered carefully every provision of the Agreement, and that after having engaged in those actions, I prefer to and have requested that I enter into the Agreement prior to the expiration of the 21 day period.

_______________________________ Date _______________________
Name: Ujjwal Kumar

_______________________________ Date _______________________
Witness

TERADYNE | LITEPOINT UNIVERSAL ROBOTS MiR AutoGuide Mobile Robots

Exhibit 10.2

Teradyne Employment Agreement

In consideration of and as a condition of my employment with Teradyne, a Teradyne Corporation (hereinafter referred to as "the Company"), [a wholly owned subsidiary of Teradyne, Inc., a corporation of the Commonwealth of Massachusetts (“Teradyne”)], and in consideration of the mutual covenants contained in this agreement between the Company and me (the “Agreement”), the receipt and sufficiency of which is hereby acknowledged, I, the undersigned individual, agree as follows:

1. **Invention Assignment**. I assign any and all rights that I have, may have or may acquire, in any and all Inventions and Work Product (as defined below), including all intellectual property rights, to the Company or its assigns without further compensation. All Inventions and Work Product, including all intellectual property rights, shall immediately become the sole property of the Company or its assigns. I shall promptly disclose to the Company each Invention and Work Product and shall assist the Company in every proper way to obtain and enforce patents, copyrights or other rights or registrations relating to any Inventions and Work Product. For the purposes of this Agreement, the term “Invention and Work Product” means any invention, modification, discovery, design, development, improvement, process, method, software program, work of authorship, work product, documentation, formulae, data, technique, or know-how that I (either alone or jointly with others) make, conceive, create, discover, invent or reduce to practice during my employment that (i) pertains to the business of the Company, (ii) pertains to any of the products or services developed, manufactured or sold by the Company, (iii) results from tasks assigned to me by the Company, or (iv) results from the use of premises, personal property or intellectual property owned, leased, or contracted for by the Company.

2. **Confidential Information.** I agree that I will not, during or after the period of my employment with the Company, directly or indirectly, use, make available, sell, disclose or otherwise communicate to any third party, other than in my assigned duties and except as required or permitted by law, any confidential information concerning the Company's or its customers’ or suppliers’ intellectual property, trade secrets, organization, finances or business that I learn during the period of my employment. I will observe all government agency rules and regulations relating to the safeguarding of classified information which may be disclosed or entrusted to me in connection with any contract between the Company and a government or any contractor with a government. I acknowledge that I shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that—(A) is made—(i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or
(B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. Accordingly, I have the right to disclose in confidence trade secrets to Federal, State, and local government officials, or to an attorney, for the sole purpose of reporting or investigating a suspected violation of law. I also have the right to disclose trade secrets in a document filed in a lawsuit or other proceeding, but only if the filing is made under seal and protected from public disclosure. Nothing in this Agreement is intended to conflict with 18 U.S.C. § 1833(b) or create liability for disclosures of trade secrets that are expressly allowed by 18 U.S.C. § 1833(b). Upon request or when my employment with

the Company terminates, I will immediately deliver to the Company all copies of any and all materials and writings received from, created for, or belonging to the Company including, but not limited to, those which relate to or contain confidential information.

3. **Non-Competition**. I agree that I will not, during the period of my employment by the Company, directly or indirectly enter the employment of, or render any professional services, except such as are rendered at the request of the Company, to any individual, partnership, association or corporation who or which is a competitor of the Company without the prior permission in writing of the Company. I further agree that I will notify the Company of any outside employment in which I am engaged during the period of my employment with the Company.

4. **Non-Solicitation**. During my employment, and for a period of one (1) year following the termination of employment with the Company for any reason, I (a) shall not call on, solicit or serve any customer, client, supplier, distributor, licensee, licensor, franchisee or other business relation with whom I had had contact or communication in the course of my employment with the Company in the two (2) years immediately prior to my termination or resignation, in order to induce or attempt to induce such person or entity to cease or reduce its business with the Company or any of its affiliates, or in any way interfere with the business relationship between the Company or its affiliates and any such person or entity, or (b) will not solicit, induce, recruit or hire any of the Company's employees either for myself or for any other person or entity, or encourage any such employees to leave their employment with the Company.

5. **At-Will Employment**. This Agreement in no way alters my status as an at-will employee.

6. **No Conflict.** I represent that I am not bound by any agreement preventing me from being employed by and performing my job at the Company or any of its affiliates.

7. **Code of Conduct**. I agree to comply with Teradyne's Code of Conduct as posted on the Company's web site and as modified from time to time.

8. **Equitable Relief**. I agree that any breach of this Agreement by me will cause irreparable damage to the Company and that, in the event of such breach, the Company shall have, in addition to any and all remedies of law, the right to an injunction, specific performance or other equitable relief to prevent the violation of my obligations under this Agreement.

9. **Entire Agreement**. This Agreement supersedes all previous agreements between me and the Company relating to the subject matter hereof. Any amendment to, waiver of, or modification of this Agreement shall be in writing signed by an officer of the Company.

10.**Severability and Construction**. I agree that each provision of this Agreement shall be treated as a separate and independent clause, and the unenforceability of any one clause shall in no way impair the enforceability of any of the other clauses herein. If one or more of the provisions contained in this Agreement shall for any reason be held to be excessively broad as to scope, activity, subject or otherwise so as to be unenforceable at law, such provision or provisions shall be construed by the appropriate judicial body by limiting or reducing it or them, so as to be enforceable to the maximum extent compatible with applicable law.

11.**Assignment**. The term "Company" includes any of its parents, subsidiaries, subdivisions, or affiliates. The Company shall have the right to assign this Agreement to its successors and assigns, and all covenants and agreements hereunder shall inure to the benefit of and be enforceable by its successors or assigns.

12.**Governing Law**. This Agreement shall be governed by and construed in accordance with the laws of the state of Massachusetts, without giving effect to conflict of laws provisions. Jurisdiction shall be exclusively in the state and federal courts of Massachusetts.

13.**Employee Acknowledgement.** I acknowledge that I have had the opportunity to consult legal counsel in regard to this Agreement, that I have read and understand this Agreement, that I am fully aware of its legal effect, and that I have entered into it voluntarily and based on my own judgment and not on any representations or promises other than those contained in this Agreement.

Name: /s/ Ujjwal Kumar Date: June 27, 2023

Employee Signature (full legal name)

Employment Start Date: July 11, 2023

Accepted on behalf of Teradyne by: /s/ Elizabeth Wood

Date: June 27, 2023

Exhibit 31.1

CERTIFICATIONS

I, Gregory S. Smith, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Teradyne, 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.

Date: November 3, 2023

By: /s/ GREGORY S. SMITH

Gregory S. Smith
Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Sanjay Mehta, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Teradyne, 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.

Date: November 3, 2023

By: /s/ SANJAY MEHTA

Sanjay Mehta
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 Teradyne, Inc. (the “Company”) on Form 10-Q for the period ended October 1, 2023, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Gregory S. Smith, 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) of the Securities Exchange Act of 1934, as amended; and

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

/s/ GREGORY S. SMITH

Gregory S. Smith
Chief Executive Officer
November 3, 2023

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 Teradyne, Inc. (the "Company") on Form 10-Q for the period ended October 1, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Sanjay Mehta, 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) of the Securities Exchange Act of 1934, as amended; and

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

/s/ SANJAY MEHTA

Sanjay Mehta
Chief Financial Officer
November 3, 2023