TERADYNE, INC
Form 10-Q
August 11, 2017


**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 July 2, 2017**

**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** | **(I.R.S. Employer** |
| **Incorporation or Organization)** | **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)**

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post 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 | (Do not check if a smaller reporting company) |
| 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 standard 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 August 7, 2017 was 197,831,996 shares.

Table of Contents

**TERADYNE, INC.**

**INDEX**

Table of Contents

## PART I

**Item 1: Financial Statements**

## TERADYNE, INC.

## CONDENSED CONSOLIDATED BALANCE SHEETS

**(Unaudited)**

| | July 2, 2017 | December 31, 2016 |
|---|---|---|
| | (in thousands, except per share amount) | |
| **ASSETS** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 598,349 | $ 307,884 |
| Marketable securities | 809,338 | 871,024 |
| Accounts receivable, less allowance for doubtful accounts of $2,236 and $2,356 at July 2, 2017 and December 31, 2016, respectively | 405,946 | 192,444 |
| Inventories, net | 153,645 | 135,958 |
| Prepayments | 105,960 | 108,454 |
| Other current assets | 6,787 | 8,039 |
| Total current assets | 2,080,025 | 1,623,803 |
| Property, plant and equipment, net | 258,017 | 253,821 |
| Marketable securities | 212,501 | 433,843 |
| Deferred tax assets | 125,204 | 107,405 |
| Other assets | 12,429 | 12,165 |
| Retirement plan assets | 9,231 | 7,712 |
| Acquired intangible assets, net | 90,603 | 100,401 |
| Goodwill | 242,215 | 223,343 |
| Total assets | $ 3,030,225 | $ 2,762,493 |
| **LIABILITIES** | | |
| Current liabilities: | | |
| Accounts payable | $ 103,454 | $ 95,362 |
| Accrued employees compensation and withholdings | 122,246 | 109,944 |
| Deferred revenue and customer advances | 81,087 | 84,478 |
| Other accrued liabilities | 66,176 | 51,382 |
| Contingent consideration | 22,432 | 1,050 |
| Accrued income taxes | 43,812 | 30,480 |

| | | |
|---|---|---|
| Total current liabilities | 439,207 | 372,696 |
| Retirement plan liabilities | 111,688 | 106,938 |
| Long-term deferred revenue and customer advances | 32,679 | 23,463 |
| Deferred tax liabilities | 10,714 | 12,144 |
| Long-term other accrued liabilities | 11,061 | 28,642 |
| Long-term contingent consideration | 16,983 | 37,282 |
| Long-term debt | 359,245 | 352,669 |
| Total liabilities | 981,577 | 933,834 |
| Commitments and contingencies (Note P) | | |
| **SHAREHOLDERS EQUITY** | | |
| Common stock, $0.125 par value, 1,000,000 shares authorized; 197,999 and 199,177 shares issued and outstanding at July 2, 2017 and December 31, 2016, respectively | 24,750 | 24,897 |
| Additional paid-in capital | 1,613,005 | 1,593,684 |
| Accumulated other comprehensive income (loss) | 5,915 | (20,214) |
| Retained earnings | 404,978 | 230,292 |
| Total shareholders equity | 2,048,648 | 1,828,659 |
| Total liabilities and shareholders equity | $ 3,030,225 | $ 2,762,493 |

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, 2016, are an integral part of the condensed consolidated financial statements.

1

Table of Contents

**TERADYNE, INC.**

**CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS**

**(Unaudited)**

| | For the Three Months Ended | | For the Six Months Ended | |
|---|---|---|---|---|
| | July 2, 2017 | July 3, 2016 | July 2, 2017 | July 3, 2016 |
| | (in thousands, except per share amount) | | | |
| Revenues: | | | | |
| Products | $ 610,356 | $ 456,832 | $ 983,560 | $ 814,972 |
| Services | 86,545 | 74,960 | 170,254 | 147,815 |
| Total revenues | 696,901 | 531,792 | 1,153,814 | 962,787 |
| Cost of revenues: | | | | |
| Cost of products | 267,171 | 215,795 | 422,137 | 383,350 |
| Cost of services | 38,511 | 33,127 | 75,525 | 66,234 |
| Total cost of revenues (exclusive of acquired intangible assets amortization shown separately below) | 305,682 | 248,922 | 497,662 | 449,584 |
| Gross profit | 391,219 | 282,870 | 656,152 | 513,203 |
| Operating expenses: | | | | |
| Engineering and development | 81,728 | 76,109 | 157,910 | 149,573 |
| Selling and administrative | 89,131 | 81,425 | 174,037 | 160,599 |
| Acquired intangible assets amortization | 8,166 | 16,244 | 16,118 | 36,238 |
| Restructuring and other | 2,288 | 2,608 | 4,799 | 4,195 |
| Goodwill impairment | | 254,946 | | 254,946 |
| Acquired intangible assets impairment | | 83,339 | | 83,339 |
| Total operating expenses | 181,313 | 514,671 | 352,864 | 688,890 |
| Income (loss) from operations | 209,906 | (231,801) | 303,288 | (175,687) |
| Non-operating (income) expense: | | | | |
| Interest income | (3,292) | (1,666) | (6,812) | (3,308) |
| Interest expense | 5,509 | 691 | 10,911 | 1,401 |
| Other (income) expense, net | 812 | (9) | 296 | (155) |
| Income (loss) before income taxes | 206,877 | (230,817) | 298,893 | (173,625) |
| Income tax provision (benefit) | 31,901 | (7,271) | 38,696 | (65) |
| Net income (loss) | $ 174,976 | $ (223,546) | $ 260,197 | $ (173,560) |

Net income (loss) per common share:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Basic | $ | 0.88 | $ | (1.10) | $ | 1.30 | $ | (0.85) |
| Diluted | $ | 0.87 | $ | (1.10) | $ | 1.29 | $ | (0.85) |
| Weighted average common shares basic | | 198,774 | | 203,018 | | 199,390 | | 203,645 |
| Weighted average common shares diluted | | 201,529 | | 203,018 | | 201,732 | | 203,645 |
| Cash dividend declared per common share | $ | 0.07 | $ | 0.06 | $ | 0.14 | $ | 0.12 |

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, 2016, are an integral part of the condensed consolidated financial statements.

2

Table of Contents

**TERADYNE, INC.**

**CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

**(Unaudited)**

| | For the Three Months Ended | | For the Six Months Ended | |
|---|---|---|---|---|
| | July 2, 2017 | July 3, 2016 | July 2, 2017 | July 3, 2016 |
| | (in thousands) | | | |
| Net income (loss) | $ 174,976 | $ (223,546) | $ 260,197 | $ (173,560) |
| Other comprehensive income (loss), net of tax: | | | | |
| Foreign currency translation adjustments, net of tax of $0, $0, $0, $0 | 15,981 | (5,041) | 24,944 | 5,229 |
| Available-for-sale marketable securities: | | | | |
| Unrealized gains on marketable securities arising during period, net of tax of $765, $1,102, $1,185, $2,354, respectively | 985 | 2,375 | 1,498 | 5,446 |
| Less: Reclassification adjustment for gains included in net income (loss), net of tax of $(42), $(13), $(106), $(2), respectively | (83) | (51) | (177) | (134) |
| | 902 | 2,324 | 1,321 | 5,312 |
| Defined benefit pension and post-retirement plan: | | | | |
| Amortization of prior service (credit) cost included in net periodic pension and post-retirement expense/income, net of tax of $(38), $(47), $(77), $(93), respectively | (68) | (83) | (136) | (163) |
| Prior service income arising during the period, net of tax of $0, $34, $0, $34, respectively | | 59 | | 59 |
| | (68) | (24) | (136) | (104) |
| Other comprehensive income (loss) | 16,815 | (2,741) | 26,129 | 10,437 |
| Comprehensive income (loss) | $ 191,791 | $ (226,287) | $ 286,326 | $ (163,123) |

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, 2016, are an integral part of the condensed consolidated financial statements.

Table of Contents

**TERADYNE, INC.**

**CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS**

**(Unaudited)**

| | For the Six Months Ended | |
|---|---|---|
| | July 2, 2017 | July 3, 2016 |
| | (in thousands) | |
| Cash flows from operating activities: | | |
| Net income (loss) | $ 260,197 | $ (173,560) |
| Adjustments to reconcile net income (loss) to net cash provided by operating activities: | | |
| Depreciation | 32,474 | 32,168 |
| Amortization | 22,412 | 37,180 |
| Stock-based compensation | 17,312 | 15,457 |
| Provision for excess and obsolete inventory | 5,295 | 12,115 |
| Contingent consideration fair value adjustment | 2,133 | 2,478 |
| Deferred taxes | (3,563) | (21,458) |
| Retirement plan actuarial gains | (2,504) | (1,862) |
| Goodwill impairment | | 254,946 |
| Acquired intangible assets impairment | | 83,339 |
| Impairment of fixed assets | | 4,179 |
| Property insurance recovery | | (5,051) |
| Other | 1,153 | 576 |
| Changes in operating assets and liabilities: | | |
| Accounts receivable | (214,189) | (138,230) |
| Inventories | (8,149) | 30,222 |
| Prepayments and other assets | 4,425 | (13,657) |
| Accounts payable and other accrued expenses | 34,504 | (6,040) |
| Deferred revenue and customer advances | 5,312 | 106,072 |
| Retirement plan contributions | (1,983) | (2,298) |
| Income taxes | 14,363 | 6 |
| Net cash provided by operating activities | 169,192 | 216,582 |
| Cash flows from investing activities: | | |
| Purchases of property, plant and equipment | (45,967) | (46,593) |
| Purchases of available-for-sale marketable securities | (334,819) | (437,311) |
| Proceeds from sales of available-for-sale marketable securities | 313,254 | 334,798 |
| Proceeds from maturities of available-for-sale marketable securities | 307,607 | 128,024 |
| Proceeds from property insurance | | 5,051 |
| Net cash provided by (used for) investing activities | 240,075 | (16,031) |

| | | |
|---|---|---|
| Cash flows from financing activities: | | |
| Issuance of common stock under stock purchase and stock option plans | 15,215 | 17,896 |
| Repurchase of common stock | (94,328) | (56,783) |
| Dividend payments | (27,925) | (24,425) |
| Payments related to net settlement of employee stock compensation awards | (12,438) | (9,152) |
| Payments of contingent consideration | (1,050) | (11,697) |
| Net cash used for financing activities | (120,526) | (84,161) |
| Effects of exchange rate changes on cash and cash equivalents | 1,724 | |
| Increase in cash and cash equivalents | 290,465 | 116,390 |
| Cash and cash equivalents at beginning of period | 307,884 | 264,705 |
| Cash and cash equivalents at end of period | $ 598,349 | $ 381,095 |

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, 2016, are an integral part of the condensed consolidated financial statements.

Table of Contents

## TERADYNE, INC.

## NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

**(Unaudited)**

### A. THE COMPANY

Teradyne, Inc. ( Teradyne ) is a leading global supplier of automation equipment for test and industrial applications. Teradyne designs, develops, manufactures and sells automatic test systems used to test semiconductors, wireless products, data storage and complex electronics systems in the consumer electronics, wireless, automotive, industrial, computing, communications, and aerospace and defense industries. Teradyne s industrial automation products include collaborative robots used by global manufacturing and light industrial customers to improve quality, increase manufacturing efficiency and decrease manufacturing costs. Teradyne s automatic test equipment and industrial automation products and services include:

semiconductor test ( Semiconductor Test ) systems;

defense/aerospace ( Defense/Aerospace ) test instrumentation and systems, storage test ( Storage Test ) systems, and circuit-board test and inspection ( Production Board Test ) systems (collectively these products represent System Test );

industrial automation ( Industrial Automation ) products; and

wireless test ( Wireless Test ) systems.

### 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 were reclassified to conform to the current year presentation. The December 31, 2016 condensed consolidated balance sheet data was derived from audited financial statements, but does not include all disclosures required by accounting principles generally accepted in the United States of America.

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 March 1, 2017, for the year ended December 31, 2016.

*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.

*Stock-Based Compensation*

In March 2016, the Financial Accounting Standards Board ( FASB ) issued Accounting Standards Update ( ASU ) 2016-09, *Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting.* Teradyne adopted this ASU in the first quarter of 2017. This ASU changes how Teradyne accounts for certain aspects of share-based payment awards to employees, including the accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification in the statements of cash flows.

Adoption of this ASU required recognition of a cumulative effect adjustment to retained earnings for any prior year excess tax benefits or tax deficiencies not previously recorded. The cumulative effect adjustment of $39 million was recorded as an increase to retained earnings and deferred tax assets.

This ASU also required a change in how Teradyne recognizes the excess tax benefits or tax deficiencies related to stock-based compensation. Prior to adopting ASU 2016-09, these excess tax benefits or tax deficiencies were credited or charged to additional paid-in capital in Teradyne s consolidated balance sheets. In accordance with ASU 2016-09, starting in first quarter of 2017, these excess tax benefits or tax deficiencies are recognized as a discrete tax benefit or discrete tax expense to the current income tax provision in Teradyne s consolidated statements of operations.

ASU 2016-09 requires companies to adopt the amendment related to accounting for excess tax benefits or tax deficiencies on a prospective basis. For the three and six months ended July 2, 2017, Teradyne recognized a discrete tax benefit of $0.8 and $6.0 million, respectively, related to net excess tax benefit.

In addition, under ASU 2016-09, all excess tax benefits related to share-based payments are reported as cash flows from operating activities. Previously, excess tax benefits from share-based payments arrangements were reported as cash flows from financing activities. The classification amendment was applied prospectively. This ASU also clarifies that all cash payments made to taxing authorities on the employees behalf for withheld shares should be presented as financing activities on the statement of cash flows. Previously, Teradyne reported cash payments made to taxing authorities as operating activities on the statement of cash flows. This change was applied retrospectively.

Upon adoption of ASU 2016-09, Teradyne made an accounting policy election to continue accounting for forfeitures by applying an estimated forfeiture rate.

*Contingencies and Litigation*

Teradyne may be subject to certain legal proceedings, lawsuits and other claims as discussed in Note P. Teradyne accrues for a loss contingency, including legal proceedings, lawsuits, pending claims and other legal matters, when the likelihood of a loss is probable and the amount of the loss can be reasonably estimated. When the reasonable estimate of the loss is within a range of amounts, and no amount in the range constitutes a better estimate than any other amount, Teradyne accrues the amount at the low end of the range. Teradyne adjusts the accruals from time to time as additional information is received, but the loss incurred may be significantly greater than or less than the amount accrued. Loss contingencies are disclosed when they are material and there is at least a reasonable possibility that a loss has been incurred. Attorney fees related to legal matters are expensed as incurred.

## C. RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

On March 10, 2017, the FASB issued ASU 2017-07, *Compensation Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.* This ASU provides guidance on presentation of net periodic pension cost and net periodic postretirement benefit cost. The new standard requires the service cost component to be presented in the same line item as other employee compensation costs arising from services rendered during the period. The other components of net benefit cost such as interest cost, amortization of prior service cost, and actuarial gains or losses, are required to be presented separately outside of income or loss from operations. The presentation of service cost should be applied retrospectively. The guidance is effective for fiscal years beginning after December 15, 2017. Early adoption is permitted. This guidance will impact the presentation of Teradyne s consolidated financial statements. Current presentation of service cost components is consistent with the requirements of the new standard. Upon adoption of the new standard, Teradyne will present interest cost, amortization of prior service cost, and actuarial gains or losses within other (income) expense, net.

6

Table of Contents

On January 26, 2017, the FASB issued ASU 2017-04, *Intangibles Goodwill and Other (Topic 350): Simplifying the Accounting for Goodwill Impairment.* The new guidance removes Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. Goodwill impairment will now be the amount by which a reporting unit s carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. All other goodwill impairment guidance will remain largely unchanged. Entities will continue to have the option to perform a qualitative assessment to determine if a quantitative impairment test is necessary. The same one-step impairment test will be applied to goodwill at all reporting units, even those with zero or negative carrying amounts. Entities will be required to disclose the amount of goodwill at reporting units with zero or negative carrying amounts. The revised guidance will be applied prospectively, and is effective in 2020. Early adoption is permitted for any impairment tests performed after January 1, 2017. Teradyne is currently evaluating the impact of this ASU on its financial position, results of operations and statements of cash flows.

In October 2016, the FASB issued ASU 2016-16, *Accounting for Income Taxes: Intra-Entity Asset Transfers of Assets Other than Inventory*. Under current Generally Accepted Accounting Principles ( GAAP ), the tax effects of intra-entity asset transfers are deferred until the transferred asset is sold to a third party or otherwise recovered through use. The new guidance requires recognition of the tax expense from the sale of the asset in the seller s tax jurisdiction when the transfer occurs, even though the pre-tax effects of that transaction are eliminated in consolidation. Any deferred tax asset that arises in the buyer s jurisdiction would also be recognized at the time of the transfer. The new guidance does not apply to intra-entity transfers of inventory. The income tax consequences from the sale of inventory from one member of a consolidated entity to another will continue to be deferred until the inventory is sold to a third party. The new guidance will be effective in fiscal years beginning after December 15, 2017. Early adoption is permitted. The modified retrospective approach will be required for transition to the new guidance, with a cumulative-effect adjustment recorded in retained earnings as of the beginning of the period of adoption. Teradyne does not expect this ASU to have a material impact on its financial position, results of operations and statements of cash flows.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842).* The guidance in this ASU supersedes the lease recognition requirements in Accounting Standards Codification ( ASC ) Topic 840, *Leases.* The new standard establishes a right-of-use ( ROU ) model that requires a lessee to record an ROU asset and a lease liability on the balance sheet for all leases with terms longer than twelve months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the statements of operation. The new standard is effective for annual periods beginning after December 15, 2018 with early adoption permitted. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. Teradyne is currently evaluating the impact of this ASU on its financial position and results of operations.

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*. This ASU provides guidance for the recognition, measurement, presentation, and disclosure of financial instruments. The new pronouncement revises accounting related to equity investments and the presentation of certain fair value changes for financial liabilities measured at fair value. Among other things, it amends the presentation and disclosure requirements of equity securities that do not result in consolidation and are not accounted for under the equity method. Changes in the fair value of these equity securities will be recognized directly in net income. This pronouncement is effective for fiscal years beginning after December 15, 2017. Teradyne is currently evaluating the impact of this ASU on its financial position and results of operations.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606),* which will replace numerous requirements in U.S. GAAP, including industry-specific requirements, and provide companies with a single revenue recognition model for recognizing revenue from contracts with customers. The core principle of the new standard is that a company should recognize revenue to show the transfer of promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled to in exchange for those goods or services. In August 2015, FASB issued ASU 2015-14, which deferred the effective date of the new revenue standard by one year. For Teradyne, the standard will be effective in the first quarter of 2018. The two permitted transition methods under the new standard are the full retrospective method, in which case the standard would be applied to each prior reporting period presented, or the modified retrospective method, in which case the cumulative effect of applying the standard would be recognized at the date of initial application. Teradyne is in the process of assessing the impact of this ASU, including identification of changes to policies, processes and controls and the presentation necessary to meet the additional disclosure requirements. Teradyne has selected the modified retrospective transition method. Teradyne is still conducting its assessment and will continue to evaluate the impact of this ASU on its financial position and results of operations.

**D. INVENTORIES**

Inventories, net consisted of the following at July 2, 2017 and December 31, 2016:

| | July 2, 2017 | December 31, 2016 |
|---|---|---|
| | (in thousands) | |
| Raw material | $ 64,235 | $ 58,530 |
| Work-in-process | 15,842 | 22,946 |
| Finished Goods | 73,568 | 54,482 |
| | $ 153,645 | $ 135,958 |

Inventory reserves for the periods ending July 2, 2017 and December 31, 2016 were $114.8 million and $116.0 million, respectively.

**E. 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 accounts for its investments in debt and equity securities in accordance with the provisions of ASC 320-10, *Investments Debt and Equity Securities.* ASC 320-10 requires that certain debt and equity securities be classified into one of three categories: trading, available-for-sale or held-to-maturity securities. As of July 2, 2017, Teradyne s investments in debt and equity securities were classified as available-for-sale and recorded at their fair market value.

On a quarterly basis, Teradyne reviews its investments to identify and evaluate those that have an indication of a potential other-than-temporary impairment. Factors considered in determining whether a loss is other-than-temporary include:

The length of time and the extent to which the market value has been less than cost;

The financial condition and near-term prospects of the issuer; and

The intent and ability to retain the investment in the issuer for a period of time sufficient to allow for any anticipated recovery in market value.

Teradyne uses the market and income approach techniques to value its financial instruments and there were no changes in valuation techniques during the three and six months ended July 2, 2017 and July 3, 2016. As defined in ASC 820-10, *Fair Value Measurements and Disclosures,* fair value is the price that would be received from the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. ASC 820-10 requires that assets and liabilities carried at fair value be classified and disclosed in one of the following three categories:

Level 1: Quoted prices in active markets for identical assets as of the reporting date;

Level 2: Inputs other than Level 1, that are observable either directly or indirectly as of the reporting date. For example, a common approach for valuing fixed income securities is the use of matrix pricing. Matrix pricing is a mathematical technique used to value securities by relying on the securities relationship to other benchmark quoted prices, and is considered a Level 2 input; or

Level 3: Unobservable inputs that are not supported by market data. Unobservable inputs are developed based on the best information available, which might include Teradyne s own data.

Teradyne s available-for-sale debt and equity securities are classified as Level 1 and Level 2. Acquisition-related contingent consideration is classified within Level 3. Teradyne determines the fair value of acquisition-related contingent consideration using a Monte Carlo simulation model. Assumptions utilized in the model include forecasted revenues, revenue volatility and discount rate. 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.

Realized gains recorded in the three and six months ended July 2, 2017 were $0.2 million and $0.5 million, respectively. Realized losses recorded in the three and six months ended July 2, 2017 were $0.1 million and $0.2 million, respectively. Realized gains in the three and six months ended July 3, 2016 were $0.3 million and $0.4 million, respectively. Realized losses recorded in the three and six months ended July 3, 2016 were $0.2 million and $0.3 million, respectively. Realized gains are included in interest income and realized losses are included in interest expense. Unrealized gains and losses are included in accumulated other comprehensive income (loss). The cost of securities sold is based on the specific identification method.

During the three and six months ended July 2, 2017 and July 3, 2016, there were no transfers in or out of Level 1, Level 2 or Level 3 financial instruments.

Table of Contents

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 July 2, 2017 and December 31, 2016.

| | July 2, 2017 | | | |
|---|---|---|---|---|
| | 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 | $ 295,337 | $ | $ | $ 295,337 |
| Cash equivalents | 179,293 | 123,719 | | 303,012 |
| Available-for-sale securities: | | | | |
| U.S. Treasury securities | | 812,477 | | 812,477 |
| Commercial paper | | 73,275 | | 73,275 |
| Corporate debt securities | | 64,453 | | 64,453 |
| U.S. government agency securities | | 28,121 | | 28,121 |
| Certificates of deposit and time deposits | | 22,253 | | 22,253 |
| Equity and debt mutual funds | 20,675 | | | 20,675 |
| Non-U.S. government securities | | 585 | | 585 |
| Total | $ 495,305 | $ 1,124,883 | $ | $ 1,620,188 |
| Derivative assets | | 23 | | 23 |
| Total | $ 495,305 | $ 1,124,906 | $ | $ 1,620,211 |
| Liabilities | | | | |
| Contingent consideration | $ | $ | $ 39,415 | $ 39,415 |
| Derivative liabilities | | 304 | | 304 |
| Total | $ | $ 304 | $ 39,415 | $ 39,719 |

Reported as follows:

| | (Level 1) | (Level 2) | (Level 3) | Total |
|---|---|---|---|---|
| | (in thousands) | | | |
| Assets | | | | |
| Cash and cash equivalents | $ 474,630 | $ 123,719 | $ | $ 598,349 |
| Marketable securities | | 809,338 | | 809,338 |
| Long-term marketable securities | 20,675 | 191,826 | | 212,501 |

| | | | | |
|---|---|---|---|---|
| Prepayments | | 23 | | 23 |
| | $ 495,305 | $ 1,124,906 | $ | $ 1,620,211 |
| Liabilities | . | | | |
| Other current liabilities | $ | $ 304 | $ | $ 304 |
| Contingent consideration | | | 22,432 | 22,432 |
| Long-term contingent consideration | | | 16,983 | 16,983 |
| | $ | $ 304 | $ 39,415 | $ 39,719 |

Table of Contents

| | December 31, 2016 | | | |
|---|---|---|---|---|
| | 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 | $ 214,722 | $ | $ | $ 214,722 |
| Cash equivalents | 37,458 | 55,704 | | 93,162 |
| Available for sale securities: | | | | |
| U.S. Treasury securities | | 900,038 | | 900,038 |
| Commercial paper | | 161,630 | | 161,630 |
| Corporate debt securities | | 100,153 | | 100,153 |
| Certificates of deposit and time deposits | | 82,133 | | 82,133 |
| U.S. government agency securities | | 42,014 | | 42,014 |
| Equity and debt mutual funds | 18,171 | | | 18,171 |
| Non-U.S. government securities | | 728 | | 728 |
| Total | $ 270,351 | $ 1,342,400 | $ | $ 1,612,751 |
| Derivative assets | | 1 | | 1 |
| Total | $ 270,351 | $ 1,342,401 | $ | $ 1,612,752 |
| Liabilities | | | | |
| Contingent consideration | $ | $ | $ 38,332 | $ 38,332 |
| Derivative liabilities | | 131 | | 131 |
| Total | $ | $ 131 | $ 38,332 | $ 38,463 |

Reported as follows:

| | (Level 1) | (Level 2) | (Level 3) | Total |
|---|---|---|---|---|
| | (in thousands) | | | |
| Assets | | | | |
| Cash and cash equivalents | $ 252,180 | $ 55,704 | $ | $ 307,884 |
| Marketable securities | | 871,024 | | 871,024 |
| Long-term marketable securities | 18,171 | 415,672 | | 433,843 |
| Prepayments | | 1 | | 1 |
| | $ 270,351 | $ 1,342,401 | $ | $ 1,612,752 |
| Liabilities | | | | |

| | | | | |
|---|---|---|---|---|
| Other accrued liabilities | $ | $ 131 | $ | $ 131 |
| Contingent consideration | | | 1,050 | 1,050 |
| Long-term contingent consideration | | | 37,282 | 37,282 |
| | $ | $ 131 | $ 38,332 | $ 38,463 |

Table of Contents

Changes in the fair value of Level 3 contingent consideration for the three and six months ended July 2, 2017 and July 3, 2016 were as follows:

| | For the Three Months Ended | | For the Six Months Ended | |
|---|---|---|---|---|
| | July 2, 2017 | July 3, 2016 | July 2, 2017 | July 3, 2016 |
| | (in thousands) | | | |
| Balance at beginning of period | $ 37,916 | $ 23,609 | $ 38,332 | $ 37,436 |
| Payments (a) | | | (1,050) | (15,000) |
| Fair value adjustment (b)(c) | 1,499 | 1,305 | 2,133 | 2,478 |
| Balance at end of period | $ 39,415 | $ 24,914 | $ 39,415 | $ 24,914 |

(a) In the six months ended July 2, 2017, Teradyne paid $1.1 million of contingent consideration for the earn-out in connection with the acquisition of Avionics Interface Technology, LLC ( AIT ). In the six months ended July 3, 2016, based on Universal Robot s calendar year 2015 EBITA results, Teradyne paid $15.0 million or 100% of the eligible EBITA contingent consideration amount in connection with the acquisition of Universal Robots.

(b) In the three and six months ended July, 2, 2017, the fair value of contingent consideration for the earn-out in connection with the acquisition of Universal Robots was increased by $1.5 million and $2.1 million, respectively, primarily due to a decrease in the discount rate. In the three and six months ended July 3, 2016, the fair value of contingent consideration for the earn-out in connection with the acquisition of Universal Robots was increased by $0.8 million and $1.9 million, respectively, primarily due to a decrease in the discount rate.

(c) In the three and six months ended July 3, 2016, the fair value of contingent consideration for the earn-out in connection with acquisition of AIT was increased by $0.6 million due to an increase in forecasted revenue.

The following table provides quantitative information associated with the fair value measurement of Teradyne s Level 3 financial instruments:

| Liability | July 2, 2017 Fair Value (in thousands) | Valuation Technique | Unobservable Inputs | Weighted Average |
|---|---|---|---|---|
| Contingent consideration | $22,432 | Monte Carlo | Revenue for the period July 1, 2015 | 12.8% |
| | | Simulation | December 31, 2017 volatility | |
| (Universal Robots) | | | Discount Rate | 2.9% |
| | $16,983 | Monte Carlo | Revenue for the period July 1, 2015 | 12.8% |
| | | Simulation | December 31, 2018 volatility | |

| | |
|---|---|
| Discount Rate | 2.9% |

As of July 2, 2017, the significant unobservable inputs used in the Monte Carlo simulation to fair value the Universal Robots contingent consideration include forecasted revenue, revenue volatility and discount rate. Increases or decreases in the inputs would result in a higher or lower fair value measurement. The maximum payment for each of the two Universal Robots revenue earn-outs is $25.0 million.

Table of Contents

The carrying amounts and fair values of Teradyne s financial instruments at July 2, 2017 and December 31, 2016 were as follows:

| | July 2, 2017 | | December 31, 2016 | |
|---|---|---|---|---|
| | Carrying Value | Fair Value | Carrying Value | Fair Value |
| | | (in thousands) | | |
| Assets | | | | |
| Cash and cash equivalents | $ 598,349 | $ 598,349 | $ 307,884 | $ 307,884 |
| Marketable securities | 1,021,839 | 1,021,839 | 1,304,867 | 1,304,867 |
| Derivative assets | 23 | 23 | 1 | 1 |
| Liabilities | | | | |
| Contingent consideration | 39,415 | 39,415 | 38,332 | 38,332 |
| Derivative liabilities | 304 | 304 | 131 | 131 |
| Convertible debt (1) | 359,245 | 526,976 | 352,669 | 486,754 |

(1) The carrying value represents the bifurcated debt component only, while the fair value is based on quoted market prices for the convertible note which includes the equity conversion features.

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 tables summarize the composition of available-for-sale marketable securities at July 2, 2017 and December 31, 2016:

| | July 2, 2017 | | | | |
|---|---|---|---|---|---|
| | Available-for-Sale | | | | Fair Market Value of Investments with Unrealized Losses |
| | Cost | Unrealized Gain | Unrealized (Loss) | Fair Market Value | |
| | | | (in thousands) | | |
| U.S. Treasury securities | $ 814,699 | $ 69 | $ (2,291) | $ 812,477 | $ 808,057 |
| Commercial paper | 73,291 | | (16) | 73,275 | 65,401 |
| Corporate debt securities | 62,766 | 1,954 | (267) | 64,453 | 33,059 |
| U.S. government agency securities | 28,135 | 7 | (21) | 28,121 | 20,800 |
| Certificates of deposit and time deposits | 22,245 | 8 | | 22,253 | |
| Equity and debt mutual funds | 17,570 | 3,122 | (17) | 20,675 | 1,371 |
| Non-U.S. government securities | 578 | 7 | | 585 | |
| | $ 1,019,284 | $ 5,167 | $ (2,612) | $ 1,021,839 | $ 928,688 |

Reported as follows:

| | Cost | Unrealized Gain | Unrealized (Loss) | Fair Market Value | Fair Market Value of Investments with Unrealized Losses |
|---|---|---|---|---|---|
| | | | (in thousands) | | |
| Marketable securities | $ 810,544 | $ 15 | $ (1,221) | $ 809,338 | $ 770,963 |
| Long-term marketable securities | 208,740 | 5,152 | (1,391) | 212,501 | 157,725 |
| | $ 1,019,284 | $ 5,167 | $ (2,612) | $ 1,021,839 | $ 928,688 |

Table of Contents

| | December 31, 2016 Available-for-Sale | | | | Fair Market Value of Investments with Unrealized Losses |
|---|---|---|---|---|---|
| | Cost | Unrealized Gain | Unrealized (Loss) (in thousands) | Fair Market Value | |
| U.S. Treasury securities | $ 901,975 | $ 97 | $ (2,034) | $ 900,038 | $ 572,284 |
| Commercial paper | 161,672 | 24 | (66) | 161,630 | 84,034 |
| Corporate debt securities | 99,708 | 1,065 | (620) | 100,153 | 53,642 |
| Certificates of deposit and time deposits | 82,080 | 54 | (1) | 82,133 | 7,760 |
| U.S. government agency securities | 42,026 | 7 | (19) | 42,014 | 13,461 |
| Equity and debt mutual funds | 16,505 | 1,724 | (58) | 18,171 | 1,661 |
| Non-U.S. government securities | 745 | 6 | (23) | 728 | 137 |
| | $ 1,304,711 | $ 2,977 | $ (2,821) | $ 1,304,867 | $ 732,979 |

Reported as follows:

| | Cost | Unrealized Gain | Unrealized (Loss) (in thousands) | Fair Market Value | Fair Market Value of Investments with Unrealized Losses |
|---|---|---|---|---|---|
| Marketable securities | $ 871,321 | $ 134 | $ (431) | $ 871,024 | $ 423,128 |
| Long-term marketable securities | 433,390 | 2,843 | (2,390) | 433,843 | 309,851 |
| | $ 1,304,711 | $ 2,977 | $ (2,821) | $ 1,304,867 | $ 732,979 |

As of July 2, 2017, the fair market value of investments with unrealized losses totaled $928.7 million. Of this value, $1.8 million had unrealized losses of $0.2 million for greater than one year and $926.9 million had unrealized losses of $2.4 million for less than one year.

As of December 31, 2016, the fair market value of investments with unrealized losses totaled $733.0 million. Of this value, $2.9 million had unrealized losses of $0.3 million for greater than one year and $730.1 million had unrealized losses of $2.5 million for less than one year.

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 July 2, 2017 and December 31, 2016 were temporary.

The contractual maturities of investments held at July 2, 2017 were as follows:

| | July 2, 2017 | |
|---|---|---|
| | Cost | Fair Market Value |
| | (in thousands) | |
| Due within one year | $ 810,544 | $ 809,338 |
| Due after 1 year through 5 years | 139,051 | 138,811 |
| Due after 5 years through 10 years | 14,062 | 13,731 |
| Due after 10 years | 38,057 | 39,284 |
| Total | $ 1,001,714 | $ 1,001,164 |

Contractual maturities of investments held at July 2, 2017 exclude equity and debt mutual funds as they do not have contractual maturity dates.

Table of Contents

**Derivatives**

Teradyne conducts business in a number of foreign countries, with certain transactions denominated in local currencies. The purpose of Teradyne s foreign currency management is to minimize the effect of exchange rate fluctuations on certain foreign currency denominated monetary assets and liabilities. Teradyne does not use derivative financial instruments for trading or speculative purposes.

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.

The notional amount of foreign currency forward contracts at July 2, 2017 and December 31, 2016 was $94.1 million and $83.9 million, respectively. The fair value of the outstanding contracts was a loss of $0.3 million at July 2, 2017 and a loss of $0.1 million at December 31, 2016.

For the three and six months ended July 2, 2017, Teradyne recorded net realized gains related to foreign currency forward contracts hedging net monetary assets and liabilities of $1.6 million and $0.6 million, respectively.

For the three and six months ended July 3, 2016, Teradyne recorded net realized losses related to foreign currency forward contracts hedging net monetary positions of $6.9 million and $10.2 million, respectively.

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.

The following table summarizes the fair value of derivative instruments at July 2, 2017 and December 31, 2016:

| | Balance Sheet Location | July 2, 2017 | December 31, 2016 |
|---|---|---|---|
| | | (in thousands) | |
| Derivatives not designated as hedging instruments: | | | |
| Foreign exchange contracts assets | Prepayments | $ 23 | $ 1 |
| Foreign exchange contracts liabilities | Other current liabilities | (304) | (131) |
| Total derivatives | | $ (281) | $ (130) |

The following table summarizes the effect of derivative instruments recognized in the statement of operations during the three and six months ended July 2, 2017 and July 3, 2016.

| Location of (Gains) Losses Recognized in Statement of Operations | For the Three Months Ended | | For the Six Months Ended | |
|---|---|---|---|---|
| | July 2, 2017 | July 3, 2016 | July 2, 2017 | July 3, 2016 |
| | (in thousands) | | | |

| | | | | | |
|---|---|---|---|---|---|
| Derivatives not designated as hedging instruments: | | | | | |
| Foreign exchange contracts | Other (income) expense, net | $ (1,586) | $ 6,901 | $ (575) | $ 10,199 |
| Total Derivatives | | $ (1,586) | $ 6,901 | $ (575) | $ 10,199 |

The table does not reflect the corresponding gains and losses from the remeasurement of monetary assets and liabilities denominated in foreign currencies. For the three and six months ended July 2, 2017, net losses from the remeasurement of monetary assets and liabilities denominated in foreign currencies were $2.4 million and $0.9 million, respectively. For the three and six months ended July 3, 2016, net gains from the remeasurement of monetary assets and liabilities denominated in foreign currencies were $6.9 million and $10.4 million, respectively.

**F. DEBT**

**Convertible Senior Notes**

On December 12, 2016, Teradyne completed a private offering of $460.0 million convertible senior unsecured notes (the Notes ). The Notes will mature on December 15, 2023, unless earlier repurchased or converted. The Notes bear interest from December 12, 2016 at a rate of 1.25% per year payable semi-annually in arrears on June 15 and December 15 of each year, beginning on June 15, 2017.

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, 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 the 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 conversion obligation by paying or delivering cash, shares of its common stock or a combination of cash and shares of its common stock, at Teradyne s election. The conversion rate for the Notes will initially be 31.4102 shares per $1,000 principal amount, which is equivalent to an initial conversion price of approximately $31.84 per share of Teradyne s common stock. The conversion rate is subject to adjustment under certain circumstances.

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 initial conversion price of the Notes of $31.84. The Note Hedge Transactions cover, subject to customary anti-dilution adjustments, approximately 14.4 million shares of Teradyne s common stock.

The convertible note hedge is considered indexed to Teradyne s stock as the terms of the Note Hedge Transactions do not contain an exercise contingency and the settlement amount equals the difference between the fair value of a fixed number of Teradyne s shares and a fixed strike price. Because the only variable that can affect the settlement amount is Teradyne s stock price, which is an input to the fair value of a fixed-for-fixed option contract, the convertible note hedge is considered indexed to Teradyne s stock.

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. The Warrant Transactions cover, subject to customary anti-dilution adjustments, approximately 14.4 million shares of common stock. The strike price of the warrants will initially be $39.95 per share (subject to adjustment). 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.

Table of Contents

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.

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.

Teradyne s effective annual interest rate on the Notes is 5.0%. The Notes are classified as long-term debt in the balance sheet based on their December 15, 2023 maturity date. Debt issuance costs of approximately $7.2 million are being amortized to interest expense over the seven year term of the Notes. As of July 2, 2017, unamortized debt issuance costs were $6.7 million.

The notes are classified as long-term debt in the consolidated balance sheets at July 2, 2017 and December 31, 2016. The below tables represent the key components of Teradyne s convertible senior notes:

| | July 2, 2017 | December 31, 2016 |
|---|---|---|
| | (in thousands) | |
| Debt Principal | $ 460,000 | $ 460,000 |
| Unamortized discount | 100,755 | 107,331 |
| Net Carrying amount of convertible debt | $ 359,245 | $ 352,669 |

| | For the Three Months Ended July 2, 2017 | For the Six Months Ended July 2, 2017 |
|---|---|---|
| | (in thousands) | |
| Contractual interest expense on the coupon | $ 1,438 | $ 2,875 |
| Amortization of the discount component and debt issue fees recognized as interest expense | 3,308 | 6,576 |
| Total interest expense on the convertible debt | $ 4,746 | $ 9,451 |

As of July 2, 2017, the remaining unamortized discount was $100.8 million, which will be amortized over 6.5 years using the effective interest rate method. The carrying amount of the equity component was $100.8 million. As of July 2, 2017, the conversion rate was equal to the initial conversion price of approximately $31.84 per share and the if-converted value of the Notes was $433.9 million.

**Revolving Credit Facility**

On April 27, 2015, Teradyne entered into a Credit Agreement (the Credit Agreement ) with Barclays Bank PLC, as administrative agent and collateral agent, and the lenders party thereto. The Credit Agreement provides for a five-year, senior secured revolving credit facility of up to $350 million (the Credit Facility ). The Credit Agreement further provides that, subject to customary conditions, Teradyne may seek to obtain from existing or new lenders incremental commitments under the Credit Facility in an aggregate principal amount not to exceed $150 million.

Table of Contents

Proceeds from the Credit Facility may be used for general corporate purposes and working capital. Teradyne incurred $2.3 million in costs related to the revolving credit facility. These costs are being amortized over the five-year term of the revolving credit facility and are included in interest expense in the statements of operations. As of August 11, 2017, Teradyne has not borrowed any funds under the Credit Facility.

The interest rates 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 1.00% per annum or LIBOR plus a margin ranging from 1.00% to 2.00% per annum, based on the Consolidated Leverage Ratio of Teradyne and its Restricted Subsidiaries. In addition, Teradyne will pay a commitment fee on the unused portion of the commitments under the Credit Facility ranging from 0.125% to 0.350% 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 LIBOR breakage costs.

The Credit Agreement contains customary events of default, representations, warranties and affirmative and negative covenants that, among other things, limit Teradyne s and its Restricted Subsidiaries 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. As of August 11, 2017, Teradyne was in compliance with all covenants.

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.

**G. PREPAYMENTS**

Prepayments consist of the following and are included in prepayments on the balance sheet:

| | July 2, 2017 | December 31, 2016 |
|---|---|---|
| | (in thousands) | |
| Contract manufacturer and supplier prepayments | $ 72,400 | $ 77,017 |
| Prepaid taxes | 9,686 | 4,664 |
| Prepaid maintenance and other services | 7,952 | 7,676 |
| Other prepayments | 15,922 | 19,097 |
| Total prepayments | $ 105,960 | $ 108,454 |

**H. DEFERRED REVENUE AND CUSTOMER ADVANCES**

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:

| | July 2, 2017 | December 31, 2016 |
|---|---|---|
| | (in thousands) | |
| Extended warranty | $ 29,377 | $ 28,200 |
| Maintenance and training | 57,544 | 46,803 |
| Customer advances, undelivered elements and other | 26,845 | 32,938 |
| Total deferred revenue and customer advances | $ 113,766 | $ 107,941 |

Table of Contents

## I. PRODUCT WARRANTY

Teradyne generally provides a one-year warranty on its products, commencing upon installation, acceptance, delivery 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 warranty balance below is included in other accrued liabilities on the balance sheet.

| | For the Three Months Ended | | For the Six Months Ended | |
|---|---|---|---|---|
| | July 2, 2017 | July 3, 2016 | July 2, 2017 | July 3, 2016 |
| | (in thousands) | | | |
| Balance at beginning of period | $ 7,054 | $ 7,496 | $ 7,203 | $ 6,925 |
| Accruals for warranties issued during the period | 5,294 | 4,888 | 8,315 | 8,378 |
| Adjustments related to pre-existing warranties | 7 | (420) | (464) | (177) |
| Settlements made during the period | (3,262) | (3,180) | (5,961) | (6,342) |
| Balance at end of period | $ 9,093 | $ 8,784 | $ 9,093 | $ 8,784 |

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 extended warranty balance below is included in short and long-term deferred revenue and customer advances on the balance sheet.

| | For the Three Months Ended | | For the Six Months Ended | |
|---|---|---|---|---|
| | July 2, 2017 | July 3, 2016 | July 2, 2017 | July 3, 2016 |
| | (in thousands) | | | |
| Balance at beginning of period | $ 24,969 | $ 29,427 | $ 28,200 | $ 30,024 |
| Deferral of new extended warranty revenue | 10,442 | 6,966 | 14,490 | 12,398 |
| Recognition of extended warranty deferred revenue | (6,034) | (5,971) | (13,313) | (12,000) |
| Balance at end of period | $ 29,377 | $ 30,422 | $ 29,377 | $ 30,422 |

## J. STOCK-BASED COMPENSATION

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

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.

Time-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 first anniversary of the grant date. 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.

Commencing in January 2014, Teradyne granted performance-based restricted stock units ( PRSUs ) to its executive officers with a performance metric based on relative total shareholder return ( TSR ). For TSR grants issued in 2014 and 2015, Teradyne s three-year TSR performance is measured against the Philadelphia Semiconductor Index. For TSR grants issued in 2016 and 2017, 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 200% to 0% of the target shares. The TSR

Table of Contents

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 three-year service period. 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.

In January 2017 and 2016, Teradyne granted PRSUs to its executive officers with 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 200% to 0% 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 three-year service period. 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.

Beginning with PRSUs granted in January 2014, if the 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.

During the six months ended July 2, 2017 and July 3, 2016, Teradyne granted 0.1 million and 0.1 million TSR PRSUs, respectively, with a grant date fair value of $35.66 and $20.29, respectively. The fair value was estimated using the Monte Carlo simulation model with the following assumptions:

| | **For the Six Months Ended** | |
|---|---|---|
| | **July 2, 2017** | **July 3, 2016** |
| Risk-free interest rate | 1.5% | 1.0% |
| Teradyne volatility-historical | 26.6% | 27.0% |
| NYSE Composite Index volatility-historical | 13.4% | 13.1% |
| Dividend yield | 1.0% | 1.2% |

Expected volatility was based on the historical volatility of Teradyne  s stock and the NYSE Composite Index for the 2017 and 2016 grant 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 $0.28 per share for 2017 grants and $0.24 per share for 2016 grants, divided by Teradyne  s stock price on the grant date of $28.56 for the 2017 grant and $19.43 for the 2016 grant.

During the six months ended July 2, 2017, Teradyne granted 0.1 million of PBIT PRSUs with a grant date fair value of $27.72.

During the six months ended July 2, 2017, Teradyne granted 0.8 million of service-based restricted stock unit awards to employees at a weighted average grant date fair value of $27.98, 0.1 million of service-based restricted stock unit awards to non-employee directors at a weighted average grant date fair value of $35.21, and

Table of Contents

0.1 million of service-based stock options to executive officers at a weighted average grant date fair value of $7.13.

During the six months ended July 3, 2016, Teradyne granted 0.1 million PBIT PRSUs with a grant date fair value of $18.71.

During the six months ended July 3, 2016, Teradyne granted 1.2 million of service-based restricted stock unit awards to employees at a weighted average grant date fair value of $18.49, 0.1 million of service-based restricted stock unit awards to non-employee directors at a weighted average grant date fair value of $18.71 and 0.1 million of service-based stock options to executive officers at a weighted average grant date fair value of $5.30.

Restricted stock unit awards granted to employees vest in equal annual installments over four years. Stock options vest in equal annual installments over four years and have a term of seven years from the date of grant.

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

| | For the Six Months Ended | |
|---|---|---|
| | July 2, 2017 | July 3, 2016 |
| Expected life (years) | 5.0 | 5.0 |
| Risk-free interest rate | 2.0% | 1.4% |
| Volatility-historical | 27.8% | 32.9% |
| Dividend yield | 1.0% | 1.2% |

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 $0.28 per share for 2017 grants and $0.24 per share for 2016 grants, divided by Teradyne s stock price on the grant date, of $28.56 for the 2017 grant and $19.43 for the 2016 grant.

**K. ACCUMULATED OTHER COMPREHENSIVE (LOSS) INCOME**

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

| | Foreign Currency Translation Adjustment | Unrealized Gains (Losses) on Marketable Securities | Retirement Plan Prior Service Credit | Total |
|---|---|---|---|---|
| | | (in thousands) | | |
| ***Six Months Ended July 2, 2017*** | | | | |
| Balance at December 31, 2016, net of tax of $0, $209, $(778) | $ (21,921) | $ (60) | $ 1,767 | $ (20,214) |

| | | | | |
|---|---|---|---|---|
| Other comprehensive income before reclassifications, net of tax of $0, $1,185, $0 | 24,944 | 1,498 | | 26,442 |
| Amounts reclassified from accumulated other comprehensive income, net of tax of $0, $(106), $(77) | | (177) | (136) | (313) |
| Net current period other comprehensive income (loss), net of tax of $0, $1,079 $(77) | 24,944 | 1,321 | (136) | 26,129 |
| Balance at July 2, 2017, net of tax of $0, $1,288, $(855) | $ 3,023 | $ 1,261 | $ 1,631 | $ 5,915 |

Table of Contents

| | Foreign Currency Translation Adjustments | Unrealized Gains (Losses) on Marketable Securities | Retirement Plan Prior Service Credit | Total |
|---|---|---|---|---|
| | | (in thousands) | | |
| *Six Months Ended July 3, 2016* | | | | |
| Balance at December 31, 2015, net of tax of $0, $(459), $(622) | $ (8,759) | $ (1,414) | $ 2,029 | $ (8,144) |
| Other comprehensive income before reclassifications, net of tax of $0, $2,354, $34 | 5,229 | 5,446 | 59 | 10,734 |
| Amounts reclassified from accumulated other comprehensive income (loss), net of tax of $0, $(2), $(93) | | (134) | (163) | (297) |
| Net current period other comprehensive income (loss), net of tax of $0, $2,352, $(59) | 5,229 | 5,312 | (104) | 10,437 |
| Balance as July 3, 2016, net of tax of $0, $1,893, $(681) | $ (3,530) | $ 3,898 | $ 1,925 | $ 2,293 |

Reclassifications out of accumulated other comprehensive (loss) income to the statement of operations for the three and six months ended July 2, 2017 and July 3, 2016 were as follows:

| Details about Accumulated Other Comprehensive Income Components | For the Three Months Ended | | For the Six Months Ended | | Affected Line Item in the Statements of Operations |
|---|---|---|---|---|---|
| | July 2, 2017 | July 3, 2016 | July 2, 2017 | July 3, 2016 | |
| | (in thousands) | | | | |
| Available-for-sale marketable securities: | | | | | |
| Unrealized gains, net of tax of $42, $13, $106, $2 | $ 83 | $ 51 | $ 177 | $ 134 | Interest income |
| Defined benefit pension and postretirement plan: | | | | | |
| Amortization of prior service benefit, net of tax of $38, $47, $77, $93 | 68 | 83 | 136 | 163 | (a) |
| Total reclassifications, net of tax of $80, $60, $183, $95 | $ 151 | $ 134 | $ 313 | $ 297 | Net income |

(a) The amortization of prior service credit is included in the computation of net periodic pension cost and postretirement benefit; 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.

Goodwill is considered impaired when the net book value of a reporting unit exceeds its estimated fair value.

In the second quarter of 2016, the Wireless Test reporting unit (which is Teradyne s Wireless Test operating and reportable segment) reduced headcount by 11% as a result of a sharp decline in projected demand attributable to an estimated smaller future wireless test market. The decrease in projected demand was due to lower forecasted buying from Teradyne s largest Wireless Test segment customer (who had previously contributed between 51% and 73% of annual Wireless Test sales since the LitePoint acquisition in 2011) as a result of the customer s numerous operational efficiencies; slower smartphone growth rates; and a slowdown of new wireless technology adoption. Teradyne considered the headcount reduction and sharp decline in projected demand to be a triggering event for an interim goodwill impairment test.

Teradyne used the income and market approaches to determine the fair value of the Wireless Test reporting unit for step 1 of the goodwill impairment test. With respect to the income approach, Teradyne used the discounted cash flow method, which included seven year future cash flow projections and an estimated terminal value. The cash flow projections were prepared using Teradyne s forecast, which was based upon underlying estimates of the total market size, and Teradyne s market share in the wireless test market developed using Teradyne and independent third party data. The estimated terminal value was calculated using the Gordon Growth model. The market approach used a revenue multiple to develop an estimate of fair value. The revenue multiple was estimated using enterprise value as a ratio of next twelve months revenue for comparable companies. Teradyne equally weighted the income and market approaches to determine the fair value of the Wireless Test reporting unit. The carrying amount of the Wireless Test reporting unit exceeded its fair value; therefore, the second step of the goodwill impairment test was performed to calculate implied goodwill and to measure the amount of the impairment loss.

Teradyne allocated the fair value of the Wireless Test reporting unit to all of its assets and liabilities (including unrecognized intangible assets). The net book value of raw materials inventory was estimated as an approximation of current replacement costs. The fair value of finished goods inventory was estimated at the present value of selling price less direct selling costs and profit on the selling effort. The selling price used in the inventory fair values was based upon the product gross margins included in Teradyne s forecast. The fair value of the deferred revenue liability was estimated by assessing the costs required to service the obligation plus a reasonable profit margin. The fair value for personal property assets, which consisted of furniture and fixtures, machinery and equipment, computer equipment, software and leasehold improvements, was estimated using the replacement cost approach, which approximated carrying value. The fair value of intangible assets was estimated using the income approach and, in particular, developed technology and trademarks/trade names were valued using the relief-from-royalty method and customer relationships and customer backlog were valued using the discounted cash flow method. Royalty rates were estimated using rates applicable to wireless testing equipment and other similar technologies. Based upon this allocation, Teradyne determined that goodwill was valued at $8.0 million and recorded an impairment loss of $254.9 million in the second quarter of 2016.

The changes in the carrying amount of goodwill by reportable segments for the six months ended July 2, 2017, were as follows:

| | **Industrial Automation** | **System Test** | **Wireless Test** | **Semiconductor Test** | **Total** |
|---|---|---|---|---|---|
| | | | **(in thousands)** | | |
| Balance at December 31, 2016 | | | | | |
| Goodwill | $ 204,851 | $ 158,699 | $ 361,819 | $ 260,540 | $ 985,909 |
| Accumulated impairment losses | | (148,183) | (353,843) | (260,540) | (762,566) |
| | 204,851 | 10,516 | 7,976 | | 223,343 |
| Foreign currency translation adjustment | 18,872 | | | | 18,872 |
| Balance at July 2, 2017 | | | | | |
| Goodwill | 223,723 | 158,699 | 361,819 | 260,540 | 1,004,781 |

| | | | | | |
|---|---|---|---|---|---|
| Accumulated impairment losses | (148,183) | (353,843) | | (260,540) | (762,566) |
| | $ 223,723 | $ 10,516 | $ 7,976 | $ | $ 242,215 |

*Acquired 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

23

Table of Contents

are no longer appropriate. As a result of the Wireless Test segment goodwill impairment review in the second quarter of 2016, Teradyne performed an impairment test of the Wireless Test segment s intangible and long-lived assets. The impairment test is based on a comparison of the estimated undiscounted cash flows to the carrying value of the asset group. If undiscounted cash flows for the asset group are less than the carrying amount, the asset group is written down to its estimated fair value based on a discounted cash flow analysis. The cash flow estimates used to determine the impairment contain management s best estimates using appropriate assumptions and projections at that time. The fair value of intangible assets was estimated using the income approach and, in particular, developed technology and trademarks/trade names were valued using the relief-from-royalty method and customer relationships were valued using the discounted cash flow method. Royalty rates were estimated using rates applicable to wireless testing equipment and other similar technologies. As a result of the analysis, Teradyne recorded an $83.3 million impairment charge in the second quarter of 2016 in acquired intangible assets impairment on the statements of operations.

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

| | July 2, 2017 | | | |
|---|---|---|---|---|
| | Gross Carrying Amount | Accumulated Amortization | Cumulative Foreign Currency Translation Adjustment | Net Carrying Amount |
| | (in thousands) | | | |
| Developed technology | $ 270,877 | $ (215,973) | $ (524) | $ 54,380 |
| Customer relationships | 92,741 | (81,294) | (55) | 11,392 |
| Tradenames and trademarks | 50,100 | (25,233) | (136) | 24,731 |
| Non-compete agreement | 320 | (220) | | 100 |
| Customer backlog | 170 | (170) | | |
| Total acquired intangible assets | $ 414,208 | $ (322,890) | $ (715) | $ 90,603 |

| | December 31, 2016 | | | |
|---|---|---|---|---|
| | Gross Carrying Amount | Accumulated Amortization | Cumulative Foreign Currency Translation Adjustment | Net Carrying Amount |
| | (in thousands) | | | |
| Developed technology | $ 270,877 | $ (206,376) | $ (5,093) | $ 59,408 |
| Customer relationships | 92,741 | (76,707) | (538) | 15,496 |
| Tradenames and trademarks | 50,100 | (23,435) | (1,308) | 25,357 |
| Non-compete agreement | 320 | (180) | | 140 |
| Customer backlog | 170 | (170) | | |

| | | | | |
|---|---|---|---|---|
| Total acquired intangible assets | $ 414,208 | $ (306,868) | $ (6,939) | $ 100,401 |

Aggregate acquired intangible asset amortization expense was $8.2 million and $16.1 million, respectively, for the three and six months ended July 2, 2017 and $16.2 million and $36.2 million, respectively, for the three and six months ended July 3, 2016.

Table of Contents

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

| Year | Amortization Expense (in thousands) |
|---|---|
| 2017 (remainder) | 14,353 |
| 2018 | 28,527 |
| 2019 | 24,604 |
| 2020 | 10,800 |
| 2021 | 3,621 |
| Thereafter | 8,698 |

**M. NET INCOME (LOSS) PER COMMON SHARE**

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

| | For the Three Months Ended | | For the Six Months Ended | |
|---|---|---|---|---|
| | July 2, 2017 | July 3, 2016 | July 2, 2017 | July 3, 2016 |
| | (in thousands, except per share amounts) | | | |
| Net income (loss) for basic and diluted net income (loss) per common share | $ 174,976 | $ (223,546) | $ 260,197 | $ (173,560) |