

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2020

OR

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

For the transition period from _____ to _____

Commission File Number: 000-24612

ADTRAN, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

901 Explorer Boulevard

Huntsville, Alabama

(Address of principal executive offices)

63-0918200

(I.R.S. Employer
Identification No.)

35806-2807

(Zip Code)

Registrant's telephone number, including area code: (256) 963-8000

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 \$0.01 per share	ADTN	The NASDAQ Global Select Market

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

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

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

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

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

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

As of May 7, 2020, the registrant had 47,957,531 shares of common stock, \$0.01 par value per share, outstanding.

ADTRAN, Inc.

Quarterly Report on Form 10-Q
For the three months ended March 31, 2020

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

The Private Securities Litigation Reform Act of 1995 provides a safe harbor for forward-looking statements made by or on behalf of ADTRAN, Inc. (“ADTRAN”, the “Company”, “we”, “our” or “us”). ADTRAN and its representatives may from time to time make written or oral forward-looking statements, including statements contained in this report, our other filings with the Securities and Exchange Commission (the “SEC”) and other communications with our stockholders. Any statement that does not directly relate to a historical or current fact is a forward-looking statement. Generally, the words, “believe”, “expect”, “intend”, “estimate”, “anticipate”, “will”, “may”, “could” and similar expressions identify forward-looking statements. We caution you that any forward-looking statements made by us or on our behalf are subject to uncertainties and other factors that could affect the accuracy of such statements. The following are some of the risks that could affect our financial performance or could cause actual results to differ materially from those expressed or implied in our forward-looking statements:

- Our operating results may fluctuate in future periods, which may adversely affect our stock price.
- Our revenues for a particular period can be difficult to predict, and a shortfall in revenue may harm our operating results.
- General economic conditions may reduce our revenues and harm our operating results.
- The ongoing COVID-19 pandemic could adversely affect our business, results of operations and financial condition, including possible disruptions in our supply chain, workforce and/or customer demand.
- Our exposure to the credit risks of our customers and distributors may make it difficult to collect accounts receivable and could adversely affect our operating results, financial condition and cash flows.
- We expect gross margins to vary over time, and our levels of product and services gross margins may not be sustainable.
- We must continue to update and improve our products and develop new products to compete and to keep pace with improvements in communications technology.
- Our products may not continue to comply with evolving regulations governing their sale, which may harm our business.
- We are subject to complex and evolving U.S. and foreign laws and regulations regarding privacy, data protection and other matters. Violations of these laws and regulations may harm our business.
- A material weakness in our internal control over financial reporting, such as the material weakness described in Part I, Item 4 of this Form 10-Q, could, if not remediated, result in a loss of investor confidence in the reliability of our financial statements, which in turn could negatively affect the price of our common stock.
- Failure to comply with the U.S. Foreign Corrupt Practices Act and similar laws associated with our global activities could subject us to penalties or other adverse consequences.
- Our operating results may be adversely affected due to uncertain global economic and financial market conditions.
- Our failure or the failure of our contract manufacturers to comply with applicable environmental regulations could adversely impact our results of operations.
- If our products do not interoperate with our customers’ networks, installations may be delayed or cancelled, which could harm our business.
- The lengthy sales and approval process required by major and other service providers for new products could result in fluctuations in our revenue.
- Although we engage in research and development activities to develop new, innovative solutions and improve the application of developed technologies, we may miss certain market opportunities enjoyed by larger companies with substantially greater research and development resources.
- We depend heavily on sales to certain customers; the loss of any of these customers would significantly reduce our revenues and net income.
- If we are unable to integrate acquisitions successfully, it could adversely affect our operating results, financial condition and cash flow.
- Our strategy of outsourcing a portion of our manufacturing requirements to subcontractors located in various international regions may result in us not meeting our cost, quality or performance standards.
- Our dependence on a limited number of suppliers for certain raw materials and key components may prevent us from delivering our products on a timely basis, which could have a material adverse effect on customer relations and operating results.
- We compete in markets that have become increasingly competitive, which may result in reduced gross profit margins and market share.
- Our estimates regarding future warranty obligations may change due to product failure rates, installation and shipment volumes, field service repair obligations and other rework costs incurred in correcting product failures. If our estimates change, the liability for warranty obligations may be increased or decreased, impacting future cost of goods sold.
- Managing our inventory is complex and may include write-downs of excess or obsolete inventory.
- The continuing growth of our international operations could expose us to additional risks, increase our costs and adversely affect our operating results, financial condition and cash flow.
- We may be adversely affected by fluctuations in currency exchange rates.
- Our success depends on our ability to reduce the selling prices of succeeding generations of our products.
- Breaches in our information systems and cyber-attacks could compromise our intellectual property and cause significant damage to our business and reputation.

- Our failure to maintain rights to intellectual property used in our business could adversely affect the development, functionality and commercial value of our products.
- Software under license from third parties for use in certain of our products may not continue to be available to us on commercially reasonable terms.
- Our use of open source software could impose limitations on our ability to commercialize our products.
- We may incur liabilities or become subject to litigation that would have a material effect on our business.
- Consolidation and deterioration in the CLEC market could result in a significant decrease in our revenue.
- We depend on distributors who maintain inventories of our products. If the distributors reduce their inventories of these products, our sales could be adversely affected.
- If we are unable to successfully develop and maintain relationships with system integrators, service providers and enterprise value-added resellers, our sales may be negatively affected.
- If we fail to manage our exposure to worldwide financial and securities markets successfully, our operating results and financial statements could be materially impacted.
- New or revised tax regulations, changes in our effective tax rate or assessments arising from tax audits may have an adverse impact on our results.
- We are required to periodically evaluate the value of our deferred tax assets and long-lived assets, including the value of our intangibles and goodwill resulting from business acquisitions. Any future valuation allowances or impairment charges required may adversely affect our operating results.
- We may not fully realize the anticipated benefits of our restructuring plans. Our restructuring efforts may adversely affect our business and our operating results.
- Our success depends on attracting and retaining key personnel.
- Regulatory and potential physical impacts of climate change and other natural events may affect our customers and our production operations, resulting in adverse effects on our operating results.
- The price of our common stock has been volatile and may continue to fluctuate significantly.

The foregoing list of risks is not exclusive. For a more detailed description of the risk factors associated with our business, see Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on February 25, 2020 (the “2019 Form 10-K”), as well as the risk factors set forth in Part II, Item 1A of this Form 10-Q. We caution investors that other factors may prove to be important in the future in affecting our operating results. New factors emerge from time to time, and it is not possible for us to predict all of these factors, nor can we assess the impact each factor, or a combination of factors, may have on our business.

You are further cautioned not to place undue reliance on these forward-looking statements because they speak only of our views as of the date that the statements were made. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

GLOSSARY OF SELECTED TERMS

Below are certain acronyms, concepts and defined terms commonly used in our industry and in this Quarterly Report on Form 10-Q, along with their meanings:

Acronym/Concept/ Defined Term	Meaning
carrier	Entity that provides voice, data or video services to consumers and businesses
CLEC	Competitive Local Exchange Carrier
CPE	Customer-Premises Equipment
CSP	Communication Service Provider
DSO	Days Sales Outstanding
FCC	Federal Communications Commission
FTTN	Fiber to the Node
Gfast	A digital subscriber line protocol standard for local loops (telephone lines) shorter than 500 meters with performance targets between 100 Mbps (as defined below) and 1 gigabit per second, depending on loop length
LAN	Local Area Network
MSO	Multiple System Operator
PON	Passive Optical Network
RSP	Regional Service Provider
SD-Access	Software Defined Access
Service Provider	An entity that provides voice, data or video services to consumers and businesses
System Integrator	Person or company that specializes in bringing together component subsystems into a whole and ensuring that those subsystems function together
U.S.	United States
VDSL2	Very high-speed Digital Subscriber Line 2
WAN	Wide Area Network

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

ADTRAN, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited)
(In thousands, except per share amounts)

	March 31, 2020	December 31, 2019
ASSETS		
Current Assets		
Cash and cash equivalents	\$ 71,285	\$ 73,773
Short-term investments	5,984	33,243
Accounts receivable, less allowance for doubtful accounts of \$38 as of March 31, 2020 and December 31, 2019	86,465	90,531
Other receivables	23,121	16,566
Inventory, net	99,515	98,305
Prepaid expenses and other current assets	7,419	7,892
Total Current Assets	293,789	320,310
Property, plant and equipment, net	66,500	68,086
Deferred tax assets, net	7,447	7,561
Goodwill	6,968	6,968
Intangibles, net	26,472	27,821
Other assets	17,958	19,883
Long-term investments	79,136	94,489
Total Assets	\$ 498,270	\$ 545,118
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Accounts payable	\$ 47,685	\$ 44,870
Bonds payable	—	24,600
Unearned revenue	12,465	11,963
Accrued expenses and other liabilities	12,748	13,876
Accrued wages and benefits	13,247	13,890
Income tax payable, net	3,273	3,512
Total Current Liabilities	89,418	112,711
Non-current unearned revenue	4,476	6,012
Pension liability	15,546	15,886
Deferred compensation liability	18,321	21,698
Other non-current liabilities	6,794	8,385
Total Liabilities	134,555	164,692
Commitments and contingencies (see Note 17)		
Stockholders' Equity		
Common stock, par value \$0.01 per share; 200,000 shares authorized; 79,652 shares issued and 47,957 shares outstanding as of March 31, 2020 and 79,652 shares issued and 48,020 shares outstanding as of December 31, 2019	797	797
Additional paid-in capital	276,423	274,632
Accumulated other comprehensive loss	(17,809)	(16,417)
Retained earnings	790,849	806,702
Treasury stock at cost: 31,697 and 31,638 shares at March 31, 2020 and December 31, 2019, respectively	(686,545)	(685,288)
Total Stockholders' Equity	363,715	380,426
Total Liabilities and Stockholders' Equity	\$ 498,270	\$ 545,118

See accompanying notes to condensed consolidated financial statements.

ADTRAN, INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME (LOSS)
(Unaudited)
(In thousands, except per share amounts)

	Three Months Ended March 31,	
	2020	2019
Sales		
Network Solutions	\$ 97,372	\$ 125,822
Services & Support	17,151	17,969
Total Sales	114,523	143,791
Cost of Sales		
Network Solutions	51,626	70,734
Services & Support	11,297	12,445
Total Cost of Sales	62,923	83,179
Gross Profit	51,600	60,612
Selling, general and administrative expenses	26,620	35,132
Research and development expenses	29,859	31,647
Asset impairments	65	—
Operating Loss	(4,944)	(6,167)
Interest and dividend income	356	591
Interest expense	(1)	(127)
Net investment gain (loss)	(10,877)	5,926
Other income, net	1,129	855
Income (Loss) Before Income Taxes	(14,337)	1,078
Income tax (expense) benefit	4,368	(308)
Net Income (Loss)	\$ (9,969)	\$ 770
Weighted average shares outstanding – basic	47,957	47,782
Weighted average shares outstanding – diluted	47,957	47,853
Earnings (loss) per common share – basic	\$ (0.21)	\$ 0.02
Earnings (loss) per common share – diluted	\$ (0.21)	\$ 0.02

See accompanying notes to condensed consolidated financial statements.

ADTRAN, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(Unaudited)
(In thousands)

	Three Months Ended March 31,	
	2020	2019
Net Income (Loss)	\$ (9,969)	\$ 770
Other Comprehensive Loss, net of tax		
Net unrealized gains on available-for-sale securities	117	185
Defined benefit plan adjustments	141	121
Foreign currency translation	(1,650)	(1,160)
Other Comprehensive Loss, net of tax	(1,392)	(854)
Comprehensive Loss, net of tax	\$ (11,361)	\$ (84)

See accompanying notes to condensed consolidated financial statements.

ADTRAN, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(Unaudited)
(In thousands)

	Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance as of January 1, 2019	79,652	\$ 797	\$ 267,670	\$ 883,975	\$ (691,747)	\$ (14,416)	\$ 446,279
Net income	—	—	—	770	—	—	770
Adoption of new accounting standards	—	—	—	(381)	—	385	4
Other comprehensive loss, net of tax	—	—	—	—	—	(854)	(854)
Dividend payments (\$0.09 per share)	—	—	—	(4,301)	—	—	(4,301)
Dividends accrued on unvested RSUs	—	—	—	(18)	—	—	(18)
PSUs, RSUs and restricted stock vested	—	—	—	(865)	857	—	(8)
Purchases of treasury stock	—	—	—	—	(184)	—	(184)
Stock-based compensation expense	—	—	1,859	—	—	—	1,859
Balance as of March 31, 2019	<u>79,652</u>	<u>\$ 797</u>	<u>\$ 269,529</u>	<u>\$ 879,180</u>	<u>\$ (691,074)</u>	<u>\$ (14,885)</u>	<u>\$ 443,547</u>

	Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance as of January 1, 2020	79,652	\$ 797	\$ 274,632	\$ 806,702	\$ (685,288)	\$ (16,417)	\$ 380,426
Net loss	—	—	—	(9,969)	—	—	(9,969)
Other comprehensive loss, net of tax	—	—	—	—	—	(1,392)	(1,392)
Dividend payments (\$0.09 per share)	—	—	—	(4,328)	—	—	(4,328)
Dividends accrued on unvested RSUs	—	—	—	(32)	—	—	(32)
Deferred compensation adjustments, net of tax	—	—	—	—	(2,758)	—	(2,758)
PSUs, RSUs and restricted stock vested	—	—	—	(1,524)	1,501	—	(23)
Stock-based compensation expense	—	—	1,791	—	—	—	1,791
Balance as of March 31, 2020	<u>79,652</u>	<u>\$ 797</u>	<u>\$ 276,423</u>	<u>\$ 790,849</u>	<u>\$ (686,545)</u>	<u>\$ (17,809)</u>	<u>\$ 363,715</u>

See accompanying notes to condensed consolidated financial statements.

ADTRAN, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)
(In thousands)

	<u>March 31,</u>	
	<u>2020</u>	<u>2019</u>
Cash flows from operating activities:		
Net income (loss)	\$ (9,969)	\$ 770
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Depreciation and amortization	4,365	4,496
Asset impairments	65	—
Amortization of net premium on available-for-sale investments	61	6
Net (gain) loss on long-term investments	10,877	(5,926)
Net (gain) loss on disposal of property, plant and equipment	52	(6)
Stock-based compensation expense	1,791	1,859
Deferred income taxes	(63)	235
Changes in operating assets and liabilities:		
Accounts receivable, net	3,052	170
Other receivables	(6,707)	2,001
Inventory, net	(1,598)	5,974
Prepaid expenses and other assets	2,206	2,809
Accounts payable, net	2,712	166
Accrued expenses and other liabilities	(6,680)	(2,355)
Income taxes payable	(188)	(487)
Net cash provided by (used in) operating activities	(24)	9,712
Cash flows from investing activities:		
Purchases of property, plant and equipment	(1,406)	(1,872)
Proceeds from sales and maturities of available-for-sale investments	46,440	17,039
Purchases of available-for-sale investments	(16,879)	(15,318)
Acquisition of note receivable	(523)	—
Net cash provided by (used in) investing activities	27,632	(151)
Cash flows from financing activities:		
Purchases of treasury stock	—	(184)
Dividend payments	(4,328)	(4,301)
Repayment of bonds payable	(24,600)	—
Net cash used in financing activities	(28,928)	(4,485)
Net increase (decrease) in cash and cash equivalents	(1,320)	5,076
Effect of exchange rate changes	(1,168)	(1,461)
Cash and cash equivalents, beginning of period	73,773	105,504
Cash and cash equivalents, end of period	\$ 71,285	\$ 109,119
Supplemental disclosure of non-cash investing activities:		
Purchases of property, plant and equipment included in accounts payable	\$ 302	\$ 273

See accompanying notes to condensed consolidated financial statements.

ADTRAN, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements of ADTRAN® Inc. and its subsidiaries (“ADTRAN”, the “Company”, “we”, “our” or “us”) have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission (the “SEC”) applicable to interim financial information presented in Quarterly Reports on Form 10-Q. Accordingly, certain information and notes required by generally accepted accounting principles in the United States of America (“U.S. GAAP”) for complete financial statements are not included herein. The December 31, 2019 Condensed Consolidated Balance Sheet is derived from audited financial statements but does not include all disclosures required by U.S. GAAP.

In the opinion of management, all adjustments necessary to fairly state these interim statements have been recorded and are of a normal and recurring nature. The results of operations for an interim period are not necessarily indicative of the results for the full year. The interim financial statements should be read in conjunction with the consolidated financial statements and notes thereto included in ADTRAN’s Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on February 25, 2020.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenue and expense during the reporting period. The more significant estimates include excess and obsolete inventory reserves, warranty reserves, customer rebates, determination and accrual of deferred revenue components of element sales agreements, estimated costs to complete obligations associated with deferred and accrued revenues and network installations, estimated income tax provision and income tax contingencies, fair value of stock-based compensation, assessment of goodwill and other intangibles for impairment, estimated lives of intangible assets, estimated pension liability and fair value of investments. Actual amounts could differ significantly from these estimates.

We assessed certain accounting matters that generally require consideration of forecasted financial information in context with the information reasonably available to us and the unknown future impacts of the novel coronavirus (“COVID-19”) as of March 31, 2020 and through the date of this report. The accounting matters assessed included, but were not limited to, the allowance for doubtful accounts, stock-based compensation, carrying value of goodwill, intangibles and other long-lived assets, financial assets, valuation allowances for tax assets and revenue recognition. While there was not a material impact to our consolidated financial statements as of and for the quarter ended March 31, 2020 resulting from these assessments, future assessments of our current expectations at that time of the magnitude and duration of the COVID-19 pandemic, as well as other factors, could result in material impacts to our consolidated financial statements in future reporting periods.

Correction of Immaterial Misstatements

During the three months ended June 30, 2019, it was determined that a \$1.0 million cash inflow related to an insurance recovery was incorrectly classified as a cash flow from operations instead of a cash flow from investing activities within the unaudited Condensed Consolidated Statement of Cash Flows for the three months ended March 31, 2019. The Company corrected this misstatement in the unaudited Condensed Consolidated Statement of Cash Flows as an out of period adjustment as of and for the six months ended June 30, 2019 to correctly reflect the \$1.0 million insurance recovery as a cash inflow from investing activities. Management had previously determined that this misstatement was not material to any of its previously issued financial statements on either a quantitative or qualitative basis.

During the three months ended March 31, 2020, it was determined that certain investments held in the Company’s stock for a deferred compensation plan accounted for as a Rabbi trust were incorrectly classified as Long-term investments with the fair value of such investments incorrectly marked to market at each period end rather than classified as Treasury stock held at historical cost. This plan has been in existence since 2011. The Company corrected this misstatement as an out of period adjustment in the three months ended March 31, 2020 by remeasuring the investment assets to their historical cost basis through the recording of a Net investment gain of \$1.5 million in the unaudited Condensed Consolidated Statement of Income (Loss) and then correcting the classification by decreasing the Long-term investment balance at its remeasured cost basis of \$2.8 million to Treasury stock in the unaudited Condensed Consolidated Balance Sheet as of March 31, 2020. Management has determined that this misstatement was not material to any of its previously issued financial statements and that correction of the misstatement is also not expected to be material to the 2020 annual financial results on either a quantitative or qualitative basis.

Recently Adopted Accounting Pronouncements

During 2020, we adopted the following accounting standards, which had the following impacts on our consolidated financial statements:

In June 2016, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. ASU 2016-13 requires the measurement and recognition of expected credit losses for financial instruments held at amortized cost. In November 2018, the FASB issued ASU 2018-19, *Codification Improvements to Topic 326 Financial Instruments – Credit Losses*, that clarifies receivables arising from operating leases are not within the scope of the credit losses standard, but rather should be accounted for in accordance with the standard for leases. In April 2019, the FASB issued ASU 2019-04, *Codification Improvements to Topic 326, Financial Instruments–Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments*, which clarifies the accounting for transfers between classifications of debt securities and clarifies that entities should include expected recoveries on financial assets in the calculation of the current expected credit loss allowance. In addition, renewal options that are not unconditionally cancelable should be considered in the determination of expected credit losses. In May 2019, the FASB issued ASU 2019-05, *Financial Instruments – Credit Losses (Topic 326): Targeted Transition Relief*, which amends ASU 2016-13 to allow companies, upon adoption, to elect the fair value option on financial instruments that were previously recorded at amortized cost if they meet certain criteria. In November 2019, the FASB issued ASU 2019-11, *Codification improvements to Topic 326, Financial Instruments – Credit Losses*, which makes various narrow-scope amendments to the new credit losses standard, such as providing disclosure relief for accrued interest receivables. All of these ASUs were codified as part of ASC Topic 326 and were effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. The Company adopted this standard on January 1, 2020, using a modified-retrospective approach and, therefore, elected to carry forward legacy disclosures for comparative periods and did not adjust the comparative period financial information. Additionally, the Company made an accounting policy election, at the class of financing receivable, not to measure the allowance for credit losses for accrued interest receivables, as the Company writes off the uncollectable accrued interest receivable by reversing any previously recorded interest income in a timely manner (as soon as these amounts are determined to be uncollectable). The adoption of this standard did not have a material effect on our consolidated financial statements. See Note 18 for additional information.

In January 2017, the FASB issued ASU 2017-04, *Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. ASU 2017-04 simplifies the measurement of goodwill by eliminating step 2 of the goodwill impairment test. Under ASU 2017-04, entities are required to compare the fair value of a reporting unit to its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit’s fair value. ASU 2017-04 was effective for annual or interim impairment tests performed in fiscal years beginning after December 15, 2019. The Company adopted ASU 2017-04 on January 1, 2020, and the amendments were applied prospectively. The adoption of this standard did not have a material effect on our consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement*, which changes the fair value measurement disclosure requirements of ASC 820, *Fair Value Measurement*. The amendments in this ASU are the result of a broader disclosure project, *Concepts Statement No. 8 – Conceptual Framework for Financial Reporting – Chapter 8 – Notes to Financial Statements*, which the FASB finalized on August 28, 2018. The FASB used the guidance in the Concepts Statement to improve the effectiveness of ASC 820’s disclosure requirements. ASU 2018-13 provides users of financial statements with information about assets and liabilities measured at fair value in the statement of financial position or disclosed in the notes to the financial statements. More specifically, ASU 2018-13 requires disclosures about the valuation techniques and inputs that are used to arrive at measures of fair value, including judgments and assumptions that are made in determining fair value. In addition, ASU 2018-13 requires disclosures regarding the uncertainty in the fair value measurements as of the reporting date and how changes in fair value measurements affect performance and cash flows. The Company adopted ASU 2018-13 on January 1, 2020, and the adoption of this standard did not have a material effect on our consolidated financial statements.

In August 2018, the FASB issued ASU 2018-15, *Intangibles-Goodwill and Other-Internal – Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. ASU 2018-15 clarifies certain aspects of ASU 2015-05, *Customer’s Accounting for Fees Paid in a Cloud Computing Arrangement*. Specifically, ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementations costs incurred to develop or obtain internal use software. The Company adopted ASU 2018-15 on January 1, 2020, retrospectively. The adoption of this standard resulted in a reclassification of \$5.6 million from property, plant and equipment to other assets for certain previously capitalized costs related to information technology implementation projects that had not yet been placed in service on the consolidated balance sheet as of March 31, 2020 and December 31, 2019. There was minimal impact to previously reported net cash provided by (used in) operations on the statement of cash flows and no impact to the statements of income (loss) as no portion of the capitalized asset was depreciated in prior periods.

The following table illustrates the impact of adoption of ASU 2018-15 on the Condensed Consolidated Balance Sheet as of December 31, 2019:

<i>(In thousands)</i>	As of December 31, 2019		
	Pre-Adoption	Effect of Adoption	As Presented Now
Condensed Consolidated Balance Sheet			
Property, plant and equipment, net	\$ 73,708	\$ (5,622)	\$ 68,086
Other assets	\$ 14,261	\$ 5,622	\$ 19,883

The following table illustrates the impact of adoption of ASU 2018-15 on the Condensed Consolidated Statement of Income and Condensed Consolidated Statement of Cash Flows for the three months ended March 31, 2019:

<i>(In thousands)</i>	Three Months Ended March 31, 2019		
	Pre-Adoption	Effect of Adoption	As Presented Now
Condensed Consolidated Statement of Income			
Net income	\$ 770	\$ —	\$ 770
Condensed Consolidated Statement of Cash Flows			
Net cash provided by operating activities	\$ 9,712	\$ —	\$ 9,712

Recent Accounting Pronouncements Not Yet Adopted

In August 2018, the FASB issued ASU 2018-14, *Compensation – Retirement Benefits – Defined Benefit Plans – General (Subtopic 715-20): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans*, which makes changes to and clarifies the disclosure requirements related to defined benefit pension and other postretirement plans. ASU 2018-14 requires additional disclosures related to the reasons for significant gains and losses affecting the benefit obligation and an explanation of any other significant changes in the benefit obligation or plan assets that are not otherwise apparent in other disclosures required by ASC 715. ASU 2018-14 also clarifies the guidance in ASC 715 to require disclosure of the projected benefit obligation (“PBO”) and fair value of plan assets for pension plans with PBOs in excess of plan assets and the accumulated benefit obligation (“ABO”) and fair value of plan assets for pension plans with ABOs in excess of plan assets. ASU 2018-14 is effective for public business entities for fiscal years ending after December 15, 2020. The Company is currently evaluating the impact this guidance will have on its related disclosures.

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, which simplifies the accounting for income taxes by removing various exceptions, such as the exception to the incremental approach for intra-period tax allocation when there is a loss from continuing operations and income or a gain from other items. The amendments in this update also simplify the accounting for income taxes related to income-based franchise taxes and require that an entity reflect enacted tax laws or rates in the annual effective tax rate computation in the interim period that includes the enactment date. ASU 2019-12 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020, with early adoption permitted. The Company is currently evaluating the impact of this new standard on its consolidated financial statements.

2. REVENUE

The following is a description of the principal activities from which revenue is generated by reportable segment:

Network Solutions Segment - Includes hardware products and software-defined next-generation virtualized solutions used in service provider or business networks, as well as prior generation products.

Services & Support Segment - Includes maintenance, network implementation, solutions integration and managed services, which include hosted cloud services and subscription services.

See Note 15 for additional information on reportable segments.

Sales by Category

In addition to our reporting segments, revenue is also reported for the following three categories – Access & Aggregation, Subscriber Solutions & Experience and Traditional & Other Products.

The following table disaggregates revenue by reportable segment and revenue category for the three months ended March 31, 2020 and 2019:

<i>(In thousands)</i>	Three Months Ended					
	March 31, 2020			March 31, 2019		
	Network Solutions	Services & Support	Total	Network Solutions	Services & Support	Total
Access & Aggregation	\$ 53,055	\$ 12,911	\$ 65,966	\$ 85,673	\$ 14,105	\$ 99,778
Subscriber Solutions & Experience	39,983	2,196	42,179	34,719	2,034	36,753
Traditional & Other Products	4,334	2,044	6,378	5,430	1,830	7,260
Total	\$ 97,372	\$ 17,151	\$ 114,523	\$ 125,822	\$ 17,969	\$ 143,791

Revenue allocated to remaining performance obligations represents contract revenues that have not yet been recognized for contracts with a duration greater than one year. As of March 31, 2020, we did not have any significant performance obligations related to customer contracts that had an original expected duration of one year or more, other than maintenance services, which are satisfied over time. As a practical expedient, for certain contracts we recognize revenue equal to the amounts we are entitled to invoice which correspond to the value of completed performance obligations to date. The amount related to these performance obligations was \$14.3 million and \$13.6 million as of March 31, 2020 and December 31, 2019, respectively. The Company expects to recognize 69% of the \$14.3 million as of March 31, 2020 over the next 12 months with the remainder to be recognized thereafter.

The following table provides information about receivables, contract assets and unearned revenue from contracts with customers:

<i>(In thousands)</i>	March 31, 2020		December 31, 2019	
Accounts receivable, net	\$	86,465	\$	90,531
Contract assets ⁽¹⁾	\$	1,354	\$	2,812
Unearned revenue	\$	12,465	\$	11,963
Non-current unearned revenue	\$	4,476	\$	6,012

(1) Included in other receivables on the Condensed Consolidated Balance Sheets.

Of the outstanding unearned revenue balances as of December 31, 2019 and December 31, 2018, \$5.7 million and \$6.9 million was recognized as revenue during the three months ended March 31, 2020 and March 31, 2019, respectively.

3. INCOME TAXES

Our effective tax rate decreased from an expense of 28.6% for the three months ended March 31, 2019, to a benefit of 30.5% for the three months ended March 31, 2020. The decrease in the effective tax rate between the two periods was primarily driven by a tax benefit of \$7.4 million recognized during the three months ended March 31, 2020 as a result of the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") signed into law on March 27, 2020, which allowed for the carryback of federal net operating losses, partially offset with tax expense in our international operations and changes in our valuation allowance related to our domestic operations. The increase in the valuation allowance against our domestic deferred tax assets was recorded in the amount of \$6.1 million during the three months ended March 31, 2020.

The Company continually reviews the adequacy of its valuation allowance and recognizes the benefits of deferred tax assets only as the reassessment indicates that it is more likely than not that the deferred tax assets will be recognized in accordance with ASC 740, *Income Taxes*. As of March 31, 2020, the Company had deferred tax assets totaling \$62.2 million, and a valuation allowance totaling \$54.7 million had been established against those deferred tax assets. The remaining \$7.4 million in deferred tax assets not offset by a valuation allowance is located in various foreign jurisdictions where the Company believes it is more likely than not we will realize these deferred tax assets. Our assessment of the realizability of our deferred tax assets includes the evaluation of evidence, some of which requires significant judgement, including historical operating results, the evaluation of our three-year cumulative income position, future taxable income projections and tax planning strategies. Should management's conclusion change in the future and additional valuation allowance or a partial or full release of the valuation allowance is necessary, it could have a material effect on our consolidated financial statements.

Supplemental balance sheet information related to deferred tax assets as of March 31, 2020 and December 31, 2019 is as follows:

<i>(In thousands)</i>	March 31, 2020		
	Deferred Tax Assets	Valuation Allowance	Deferred Tax Assets, net
Domestic	\$ 52,355	\$ (52,355)	\$ —
International	9,797	(2,350)	7,447
Total	\$ 62,152	\$ (54,705)	\$ 7,447

<i>(In thousands)</i>	December 31, 2019		
	Deferred Tax Assets	Valuation Allowance	Deferred Tax Assets, net
Domestic	\$ 46,266	\$ (46,266)	\$ —
International	9,911	(2,350)	7,561
Total	\$ 56,177	\$ (48,616)	\$ 7,561

4. PENSION BENEFIT PLAN

The following table summarizes the components of net periodic pension cost related to a defined benefit pension plan covering employees in certain foreign countries for the three months ended March 31, 2020 and 2019:

<i>(In thousands)</i>	Three Months Ended March 31,	
	2020	2019
Service cost	\$ 310	\$ 375
Interest cost	108	162
Expected return on plan assets	(410)	(355)
Amortization of actuarial losses	237	203
Net periodic pension cost	\$ 245	\$ 385

The components of net periodic pension cost, other than the service cost component, are included in other income (expense), net in the Condensed Consolidated Statements of Income (Loss). Service cost is included in cost of sales, selling, general and administrative expenses and research and development expenses in the Condensed Consolidated Statements of Income (Loss).

5. STOCK-BASED COMPENSATION

The following table summarizes stock-based compensation expense related to stock options, performance stock units (“PSUs”), restricted stock units (“RSUs”) and restricted stock for the three months ended March 31, 2020 and 2019:

<i>(In thousands)</i>	Three Months Ended March 31,	
	2020	2019
Stock-based compensation expense included in cost of sales	\$ 115	\$ 104
Selling, general and administrative expense	1,075	1,063
Research and development expense	601	692
Stock-based compensation expense included in operating expenses	1,676	1,755
Total stock-based compensation expense	1,791	1,859
Tax benefit for expense associated with stock options, PSUs, RSUs and restricted stock	(427)	(443)
Total stock-based compensation expense, net of tax	\$ 1,364	\$ 1,416

PSUs, RSUs and Restricted Stock

The following table summarizes PSUs, RSUs and restricted stock outstanding as of December 31, 2019 and March 31, 2020 and the changes that occurred during the three months ended March 31, 2020.

	Number of Shares (in thousands)	Weighted Avg. Grant Date Fair Value (per share)
Unvested PSUs, RSUs and restricted stock outstanding, December 31, 2019	1,891	\$ 14.58
PSUs, RSUs and restricted stock granted	394	\$ 8.18
PSUs, RSUs and restricted stock vested	(13)	\$ 12.32
PSUs, RSUs and restricted stock forfeited	(422)	\$ 21.12
Unvested PSUs, RSUs and restricted stock outstanding, March 31, 2020	1,850	\$ 11.75

During the three months ended March 31, 2020, the Company issued 0.3 million performance-based PSUs to its executive officers and certain employees. The grant-date fair value of these performance-based awards is based on the closing price of the Company's stock on the date of grant. These awards vest over a three-year period, subject to the grantee's continued employment, with the ability to earn shares in a range of 0% to 142.8% of the awarded number of PSUs based on the achievement of defined performance targets. Equity-based compensation expense with respect to these awards will be adjusted over the vesting period to reflect the probability of achievement of performance targets defined in the award agreements.

The fair value of RSUs and restricted stock is equal to the closing price of our stock on the business day immediately preceding the grant date. The fair value of PSUs with market conditions is calculated using a Monte Carlo simulation valuation method.

As of March 31, 2020, total unrecognized compensation expense related to non-vested market-based PSUs, RSUs and restricted stock was approximately \$15.3 million, which will be recognized over the remaining weighted-average period of 2.6 years. Unrecognized compensation expense will be adjusted for actual forfeitures.

As of March 31, 2020, 1.4 million shares were available for issuance under shareholder-approved equity plans in connection with the grant and exercise of stock options, PSUs, RSUs or restricted stock.

Stock Options

The following table summarizes stock options outstanding as of December 31, 2019 and March 31, 2020 and the changes that occurred during the three months ended March 31, 2020:

	Number of Stock Options (in thousands)	Weighted Avg. Exercise Price (per share)	Weighted Avg. Remaining Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Stock options outstanding, December 31, 2019	3,572	\$ 22.88	3.4	\$ —
Stock options exercised	—	\$ —		
Stock options forfeited	—	\$ —		
Stock options expired	(125)	\$ 23.49		
Stock options outstanding, March 31, 2020	3,447	\$ 22.86	3.1	\$ —
Stock options exercisable, March 31, 2020	3,444	\$ 22.86	3.1	\$ —

As of March 31, 2020, total unrecognized compensation expense related to non-vested stock options was approximately \$7 thousand, which will be recognized over the remaining weighted-average period of 0.6 years. Unrecognized compensation expense will be adjusted for actual forfeitures.

There were no stock options granted during the three months ended March 31, 2020 and 2019. All of the options were previously issued at exercise prices that approximated fair market value at the date of grant.

The aggregate intrinsic value of stock options represents the total pre-tax intrinsic value (the difference between ADTRAN's closing stock price on the last trading day of the quarter and the exercise price, multiplied by the number of in-the-money options) that would have been received by the option holders had all option holders exercised their options on March 31, 2020. The amount of aggregate intrinsic value will change based on the fair market value of ADTRAN's stock and was zero as of March 31, 2020. The total pre-tax intrinsic value of options exercised during the three months ended March 31, 2020 was zero.

6. INVESTMENTS

Debt Securities and Other Investments

As of March 31, 2020, the following debt securities and other investments were included on the Condensed Consolidated Balance Sheet and recorded at fair value:

(In thousands)	Amortized Cost	Gross Unrealized		Fair Value
		Gains	Losses	
Corporate bonds	\$ 8,967	\$ 43	\$ (87)	\$ 8,923
Municipal fixed-rate bonds	931	3	—	934
Asset-backed bonds	6,052	17	(76)	5,993
Mortgage/Agency-backed bonds	8,389	140	(62)	8,467
U.S. government bonds	12,788	319	(6)	13,101
Other	442	—	—	442
Available-for-sale debt securities held at fair value	\$ 37,569	\$ 522	\$ (231)	\$ 37,860

As of December 31, 2019, the following debt securities and other investments were included on the Condensed Consolidated Balance sheet and recorded at fair value:

(In thousands)	Amortized Cost	Gross Unrealized		Fair Value
		Gains	Losses	
Corporate bonds	\$ 9,304	\$ 80	\$ —	\$ 9,384
Municipal fixed-rate bonds	930	—	—	930
Asset-backed bonds	6,867	26	(3)	6,890
Mortgage/Agency-backed bonds	6,944	26	(8)	6,962
U.S. government bonds	12,311	21	(9)	12,323
Foreign government bonds	372	—	(1)	371
Variable rate demand notes	800	—	—	800
Available-for-sale debt securities held at fair value	\$ 37,528	\$ 153	\$ (21)	\$ 37,660

As of March 31, 2020, contractual maturities related to debt securities and other investments were as follows:

(In thousands)	Corporate bonds	Municipal fixed-rate bonds	Asset- backed bonds	Mortgage / Agency- backed bonds	U.S. government bonds	Other
One to two years	3,702	934	389	584	5,376	—
Two to three years	1,947	—	1,559	1,769	7,285	—
Three to five years	—	—	2,174	107	379	—
Five to ten years	—	—	1,505	1,655	—	—
More than ten years	—	—	265	4,352	—	—
Total	\$ 8,923	\$ 934	\$ 5,993	\$ 8,467	\$ 13,101	\$ 442

Actual maturities may differ from contractual maturities as some borrowers have the right to call or prepay obligations with or without call or prepayment penalties.

Realized gains and losses on sales of debt securities are computed under the specific identification method. The following table presents gross realized gains and losses related to our debt securities:

(In thousands)	Three Months Ended March 31,	
	2020	2019
Gross realized gains on debt securities	\$ 43	\$ 41
Gross realized losses on debt securities	(20)	(19)
Total gain recognized, net	\$ 23	\$ 22

The Company's investment policy provides limitations for issuer concentration, which limits, at the time of purchase, the concentration in any one issuer to 5% of the market value of our total investment portfolio. The Company did not purchase any available-for-sale debt security with credit deterioration during the three months ended March 31, 2020.

Marketable Equity Securities

Our marketable equity securities consist of publicly traded stock, funds and certain other investments measured at fair value or cost (where appropriate).

During the three months ended March 31, 2019, an outstanding note receivable of \$4.3 million was repaid and reissued in the form of debt and equity. Of the outstanding \$4.3 million, \$3.4 million was issued as an equity investment, which represented a non-cash investing activity. We elected to record this equity investment that does not have a readily determinable fair value using the measurement alternative. Under the measurement alternative, equity investments that do not have a readily determinable fair value can be recorded at cost less impairment, if any, adjusted for observable price changes for an identical or similar investment. The carrying value of this investment under the measurement alternative was \$3.4 million as of December 31, 2019. During the three months ended March 31, 2020, an impairment charge of \$1.6 million was recorded related to this equity investment, which is included in net investment gain (loss) on the Condensed Consolidated Statement of Income (Loss). As a result, the carrying value of this investment was \$1.8 million as of March 31, 2020. The remaining amount, \$0.9 million of the original \$4.3 million note receivable, was reissued as a new note receivable, which is included in long-term investments on the Condensed Consolidated Balance Sheets as of March 31, 2020 and December 31, 2019, and represented a non-cash operating activity during the three months ended March 31, 2019. No impairment charge was recognized related to the note receivable as it is a secured loan.

Realized and unrealized gains and losses related to marketable equity securities for the three months ended March 31, 2020 and 2019 were as follows:

<i>(In thousands)</i>	Three Months Ended	
	March 31,	
	2020	2019
Realized losses on equity securities sold	\$ (2,436)	\$ (14)
Unrealized gains (losses) on equity securities held	(8,464)	5,918
Total gain (loss) recognized, net	\$ (10,900)	\$ 5,904

U.S. GAAP establishes a three-level valuation hierarchy based upon observable and unobservable inputs for fair value measurement of financial instruments:

- Level 1 – Observable outputs; values based on unadjusted quoted prices for identical assets or liabilities in an active market;
- Level 2 – Significant inputs that are observable; values based on quoted prices in markets that are not active or model inputs that are observable either directly or indirectly;
- Level 3 – Significant unobservable inputs; values based on prices or valuation techniques that require inputs that are both unobservable and significant to the overall fair value measurement. These inputs could include information supplied by investees.

The Company's cash equivalents and investments held at fair value are categorized into this hierarchy as follows:

(In thousands)	Fair Value Measurements as of March 31, 2020 Using			
	Fair Value	Quoted Prices in Active Market for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents				
Money market funds	\$ 4,826	\$ 4,826	\$ —	\$ —
Commercial paper	500	—	500	—
Available-for-sale debt securities				
Corporate bonds	8,923	—	8,923	—
Municipal fixed-rate bonds	934	—	934	—
Asset-backed bonds	5,993	—	5,993	—
Mortgage/Agency-backed bonds	8,467	—	8,467	—
U.S. government bonds	13,101	13,101	—	—
Other	442	—	—	442
Marketable equity securities				
Marketable equity securities – various industries	24,823	24,823	—	—
Deferred compensation plan assets	17,349	17,349	—	—
Other investments	2,106	2,106	—	—
Total	\$ 87,464	\$ 62,205	\$ 24,817	\$ 442

(In thousands)	Fair Value Measurements as of December 31, 2019 Using			
	Fair Value	Quoted Prices in Active Market for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents				
Money market funds	\$ 1,309	\$ 1,309	\$ —	\$ —
Available-for-sale debt securities				
Corporate bonds	9,384	—	9,384	—
Municipal fixed-rate bonds	930	—	930	—
Asset-backed bonds	6,890	—	6,890	—
Mortgage/Agency-backed bonds	6,962	—	6,962	—
U.S. government bonds	12,323	12,323	—	—
Foreign government bonds	371	—	371	—
Variable rate demand notes	800	—	800	—
Marketable equity securities				
Marketable equity securities – various industries	35,501	35,501	—	—
Equity in escrow	298	298	—	—
Deferred compensation plan assets	21,698	21,698	—	—
Other investments	2,442	2,442	—	—
Total	\$ 98,908	\$ 73,571	\$ 25,337	\$ —

The fair value of our Level 2 securities is calculated using a weighted average market price for each security. Market prices are obtained from a variety of industry standard data providers, large financial institutions and other third-party sources. These multiple market prices are used as inputs into a distribution-curve-based algorithm to determine the daily market value of each security.

The fair value of Level 3 securities is calculated based on unobservable inputs. Quantitative information with respect to unobservable inputs consists of third-party valuations performed in accordance with ASC 820 – *Fair Value Measurement*. Inputs used in preparing the third-party valuation included the following assumptions, among others: estimated discount rates and fair market yields.

7. INVENTORY

As of March 31, 2020 and December 31, 2019, inventory consisted of the following:

<i>(In thousands)</i>	March 31, 2020	December 31, 2019
Raw materials	\$ 35,922	\$ 36,987
Work in process	778	1,085
Finished goods	62,815	60,233
Total inventory, net	\$ 99,515	\$ 98,305

Inventory reserves are established for estimated excess and obsolete inventory equal to the difference between the cost of the inventory and the estimated net realizable value of the inventory based on estimated reserve percentages, which consider historical usage, known trends, inventory age and market conditions. As of March 31, 2020 and December 31, 2019, inventory reserves were \$35.0 million and \$34.1 million, respectively.

8. PROPERTY, PLANT AND EQUIPMENT

At March 31, 2020 and December 31, 2019, property, plant and equipment consisted of the following:

<i>(In thousands)</i>	March 31, 2020	December 31, 2019
Land	\$ 4,575	\$ 4,575
Building and land improvements	34,805	34,797
Building	68,141	68,157
Furniture and fixtures	19,964	19,959
Computer hardware and software	68,957	68,777
Engineering and other equipment	131,140	130,430
Total property, plant and equipment	327,582	326,695
Less: accumulated depreciation	(261,082)	(258,609)
Total property, plant and equipment, net	\$ 66,500	\$ 68,086

Long-lived assets used in operations are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable and the undiscounted cash flows estimated to be generated by the asset are less than the asset's carrying value. Due to the current economic environment, particularly related to COVID-19, the Company assessed impairment triggers related to long-lived assets during the first quarter of 2020. Based on this assessment, no triggers occurred to perform an impairment test, and no impairment losses of long-lived assets were recorded.

Depreciation expense was \$3.0 million and \$3.2 million for the three months ended March 31, 2020 and 2019, respectively, which is recorded in cost of sales, selling, general and administrative expenses and research and development expenses in the Condensed Consolidated Statements of Income (Loss).

9. GOODWILL

Goodwill was \$7.0 million as of March 31, 2020 and December 31, 2019, of which \$6.6 million and \$0.4 million was allocated to our Network Solutions and Services & Support reportable segments, respectively.

The Company evaluates the carrying value of goodwill during the fourth quarter of each year and between annual evaluations if events occur or circumstances change that could more likely than not reduce the fair value of the reporting unit below its carrying amount. We assess qualitative factors to determine whether the fair value of the reporting unit to which the goodwill is assigned is less than its carrying amount and recognize an impairment charge for the amount by which the carrying value exceeds the fair value of the reporting unit. Due to the current economic environment, particularly related to COVID-19, the Company performed a triggering event assessment, in which no triggers were identified. Therefore, no interim impairment test of goodwill was performed as of March 31, 2020 and no impairment of goodwill was recorded.

10. INTANGIBLE ASSETS

Intangible assets as of March 31, 2020 and December 31, 2019 consisted of the following:

<i>(In thousands)</i>	March 31, 2020			December 31, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value	Gross Carrying Amount	Accumulated Amortization	Net Book Value
Customer relationships	\$ 20,665	\$ (6,099)	\$ 14,566	\$ 22,356	\$ (7,233)	\$ 15,123
Developed technology	8,200	(1,693)	6,507	10,170	(3,379)	6,791
Licensed technology	5,900	(1,338)	4,562	5,900	(1,174)	4,726
Supplier relationships	2,800	(2,800)	—	2,800	(2,508)	292
Licensing agreements	560	(97)	463	560	(79)	481
Patents	500	(243)	257	500	(226)	274
Trade names	210	(93)	117	310	(176)	134
Total	\$ 38,835	\$ (12,363)	\$ 26,472	\$ 42,596	\$ (14,775)	\$ 27,821

The Company evaluates the carrying value of intangible assets whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable and the undiscounted cash flows estimated to be generated by the asset are less than the asset's carrying value. Due to the current economic environment, particularly related to COVID-19, the Company assessed impairment triggers related to intangible assets during the first quarter of 2020. Based on this assessment, no triggers occurred to perform an impairment test, and no impairment losses of intangible assets were recorded.

Amortization expense was \$1.3 million for the three months ended March 31, 2020 and 2019 and was included in cost of sales, selling, general and administrative expenses and research and development expenses in the Condensed Consolidated Statements of Income (Loss).

As of March 31, 2020, estimated future amortization expense of intangible assets was as follows:

<i>(In thousands)</i>	
2020	\$ 3,111
2021	4,091
2022	3,467
2023	3,316
2024	3,223
Thereafter	9,264
Total	\$ 26,472

11. LEASES

Operating Leases

Operating leases consist of office space, automobiles and various other equipment in the U.S. and in certain international locations in which we do business. Other contracts, such as manufacturing agreements and service agreements, are reviewed to determine if they contain any embedded leases. As of March 31, 2020, the operating leases had remaining lease terms of one month to five years, some of which include options to extend the leases for up to nine years, and some of which include options to terminate the leases within three months. As of March 31, 2020 and December 31, 2019, the Company's operating lease assets and operating lease liabilities were as follows:

<i>(In thousands)</i>	Classification	March 31, 2020	December 31, 2019
Assets			
Operating lease asset	Other assets	\$ 7,474	\$ 8,452
Total lease asset		\$ 7,474	\$ 8,452
Liabilities			
Current operating lease liability	Accrued expenses	\$ 2,506	\$ 2,676
Non-current operating lease liability	Other non-current liabilities	5,012	5,818
Total lease liability		\$ 7,518	\$ 8,494

Lease expense related to short-term leases (initial term of less than 12 months) was \$9 thousand and \$0.2 million for the three months ended March 31, 2020 and 2019, respectively, and was included in cost of sales, selling, general and administrative expenses and research and development expenses in the Condensed Consolidated Statements of Income (Loss). Lease expense related to variable lease payments that do not depend on an index or rate, such as real estate taxes and insurance reimbursements, was \$0.2 million and \$0.1 million for the three months ended March 31, 2020 and 2019, respectively.

Components of lease expense included in the Condensed Consolidated Statements of Income (Loss) for the three months ended March 31, 2020 and 2019 were as follows:

<i>(In thousands)</i>	Three Months Ended	
	March 31,	
	2020	2019
Selling, general and administrative expenses	\$ 327	\$ 349
Research and development expenses	425	454
Cost of sales	21	16
Total operating lease expense	\$ 773	\$ 819

As of March 31, 2020 and December 31, 2019, operating lease liabilities included on the Condensed Consolidated Balance Sheets by future maturity were as follows:

<i>(In thousands)</i>	March 31, 2020	December 31, 2019
2020	\$ 2,066	\$ 2,856
2021	2,326	2,412
2022	1,630	1,705
2023	1,076	1,160
2024	468	482
Thereafter	259	264
Total lease payments	7,825	8,879
Less: Interest	(307)	(385)
Present value of lease liabilities	\$ 7,518	\$ 8,494

Future operating lease payments include \$0.6 million related to options to extend lease terms that are reasonably certain of being exercised. There are no legally binding leases that have not yet commenced.

An incremental borrowing rate is used based on information available at the commencement date in determining the present value of lease payments. The incremental borrowing rate was determined on a portfolio basis by grouping leases with similar terms as well as grouping leases based on a U.S. dollar or Euro functional currency. The actual rate is then determined based on a credit spread over LIBOR as well as the Bloomberg Curve Matrix for the U.S. Communications section. The following table provides information about the weighted average lease terms and weighted average discount rates as of March 31, 2020:

	As of March 31, 2020
Weighted average remaining lease term (in years)	
Operating leases with USD functional currency	2.2
Operating leases with Euro functional currency	4.2
Weighted average discount rate	
Operating leases with USD functional currency	3.87%
Operating leases with Euro functional currency	1.83%

Supplemental cash flow information related to operating leases is as follows:

<i>(In thousands)</i>	Three Months Ended	
	March 31,	
	2020	2019
Cash paid for amounts included in the measurement of operating lease assets / liabilities		
Cash used in operating activities related to operating leases	\$ 707	\$ 811
Right-of-use assets obtained in exchange for lease obligations	\$ 85	\$ 10,387

Net Investment in Sales-Type Leases

We are the lessor in sales-type lease arrangements for network equipment, which have initial terms of up to five years, and consisted of the following as of March 31, 2020 and December 31, 2019

<i>(In thousands)</i>	March 31, 2020	December 31, 2019
Current minimum lease payments receivable ⁽¹⁾	\$ 1,049	\$ 1,201
Non-current minimum lease payments receivable ⁽²⁾	715	889
Total minimum lease payments receivable	1,764	2,090
Less: Current unearned revenue	298	365
Less: Non-current unearned revenue	124	163
Net investment in sales-type leases	\$ 1,342	\$ 1,562

(1) Included in other receivables on the Condensed Consolidated Balance Sheets.

(2) Included in other assets on the Condensed Consolidated Balance Sheets.

Components of gross profit related to sales-type leases recognized at the lease commencement date and interest and dividend income included in the Condensed Consolidated Statements of Income (Loss) for the three months ended March 31, 2020 and 2019 were as follows:

<i>(In thousands)</i>	Three Months Ended March 31,	
	2020	2019
Sales - Network Solutions	\$ 38	\$ 1,512
Less: Cost of sales - Network Solutions	16	591
Gross profit	\$ 22	\$ 921
Interest and dividend income	\$ 13	\$ 87

12. ALABAMA STATE INDUSTRIAL DEVELOPMENT AUTHORITY FINANCING AND ECONOMIC INCENTIVES

In conjunction with the 1995 expansion of our Huntsville, Alabama facility, we were approved for participation in an incentive program offered by the State of Alabama Industrial Development Authority (the "Authority"). Pursuant to the program, in January 1995, the Authority issued \$20.0 million of its taxable revenue bonds (the "Taxable Revenue Bonds") and loaned the proceeds from the sale of the Taxable Revenue Bonds to the Company. Further advances on the Taxable Revenue Bonds were made by the Authority, bringing the total amount to \$50.0 million. The Taxable Revenue Bonds' bore interest, payable monthly with an interest rate of 2% per annum. The Taxable Revenue Bonds' aggregate principal amount outstanding as of December 31, 2019 of \$24.6 million matured on January 1, 2020 and was repaid in full on January 2, 2020, using the funds held in a certificate of deposit by the Company. This certificate of deposit, which totaled \$25.6 million, was included in short-term investments on the Condensed Consolidated Balance Sheet as of December 31, 2019.

13. STOCKHOLDERS' EQUITY

Stock Repurchase Program

Since 1997, the Company's Board of Directors has approved multiple share repurchase programs that have authorized repurchases of its common stock, which are implemented through open market or private purchases from time to time as conditions warrant. During the three months ended March 31, 2020, we did not repurchase shares of our common stock. As of March 31, 2020, we had the authority to purchase an additional 2.5 million shares of our common stock under the current authorization of up to 5.0 million shares.

Other Comprehensive Loss

The following tables present the changes in accumulated other comprehensive loss, net of tax, by component for the three months ended March 31, 2020 and 2019:

	Three Months Ended March 31, 2020				
	Unrealized Gains (Losses) on Available-for-Sale Securities	Defined Benefit Plan Adjustments	Foreign Currency Adjustments	ASU 2018-02 Adoption (1)	Total
<i>(In thousands)</i>					
As of December 31, 2019	\$ (284)	\$ (9,226)	\$ (7,292)	\$ 385	\$ (16,417)
Other comprehensive loss before reclassifications	(931)	—	(1,650)	—	(2,581)
Amounts reclassified from accumulated other comprehensive income (loss)	1,048	141	—	—	1,189
Net current period other comprehensive income (loss)	117	141	(1,650)	—	(1,392)
As of March 31, 2020	<u>\$ (167)</u>	<u>\$ (9,085)</u>	<u>\$ (8,942)</u>	<u>\$ 385</u>	<u>\$ (17,809)</u>

	Three Months Ended March 31, 2019				
	Unrealized Gains (Losses) on Available-for-Sale Securities	Defined Benefit Plan Adjustments	Foreign Currency Adjustments	ASU 2018-02 Adoption (1)	Total
<i>(In thousands)</i>					
As of December 31, 2018	\$ (563)	\$ (8,041)	\$ (5,812)	\$ —	\$ (14,416)
Other comprehensive income (loss) before reclassifications	231	—	(1,160)	—	(929)
Amounts reclassified from accumulated other comprehensive income (loss)	(46)	121	—	—	75
Amounts reclassified to retained earnings (1)	—	—	—	385	385
Net current period other comprehensive income (loss)	185	121	(1,160)	385	(469)
As of March 31, 2019	<u>\$ (378)</u>	<u>\$ (7,920)</u>	<u>\$ (6,972)</u>	<u>\$ 385</u>	<u>\$ (14,885)</u>

- (1) With the adoption of ASU 2018-02 on January 1, 2019, stranded tax effects related to the Tax Cuts and Jobs Act of 2017 were reclassified to retained earnings.

The following tables present the details of reclassifications out of accumulated other comprehensive loss for the three months ended March 31, 2020 and 2019:

<i>(In thousands)</i>	Three Months Ended March 31, 2020	
	Amount Reclassified from Accumulated Other Comprehensive Income (Loss)	Affected Line Item in the Statement Where Net Income Is Presented
Unrealized gains (losses) on available-for-sale securities:		
Net realized losses on sales of securities	\$ (1,416)	Net investment gain (loss)
Defined benefit plan adjustments – actuarial losses	(204)	(1)
Total reclassifications for the period, before tax	(1,620)	
Tax benefit	431	
Total reclassifications for the period, net of tax	\$ (1,189)	

(1) Included in the computation of net periodic pension cost. See Note 4.

<i>(In thousands)</i>	Three Months Ended March 31, 2019	
	Amount Reclassified from Accumulated Other Comprehensive Income (Loss)	Affected Line Item in the Statement Where Net Income Is Presented
Unrealized gains (losses) on available-for-sale securities:		
Net realized gains on sales of securities	\$ 62	Net investment gain (loss)
Defined benefit plan adjustments – actuarial losses	(175)	(1)
Total reclassifications for the period, before tax	(113)	
Tax benefit	38	
Total reclassifications for the period, net of tax	\$ (75)	

(1) Included in the computation of net periodic pension cost. See Note 4.

The following table presents the tax effects related to the change in each component of other comprehensive loss for the three months ended March 31, 2020 and 2019:

<i>(In thousands)</i>	Three Months Ended March 31, 2020			Three Months Ended March 31, 2019		
	Before-Tax Amount	Tax (Expense) Benefit	Net-of-Tax Amount	Before-Tax Amount	Tax (Expense) Benefit	Net-of-Tax Amount
Unrealized gain (loss) on available-for-sale securities	\$ (1,258)	\$ 327	\$ (931)	\$ 312	\$ (81)	\$ 231
Reclassification adjustment for amounts related to available-for-sale investments included in net income (loss)	1,416	(368)	1,048	(62)	16	(46)
Reclassification adjustment for amounts related to defined benefit plan adjustments included in net income (loss)	204	(63)	141	175	(54)	121
Foreign currency translation adjustment	(1,650)	—	(1,650)	(1,160)	—	(1,160)
Total Other Comprehensive Loss	\$ (1,288)	\$ (104)	\$ (1,392)	\$ (735)	\$ (119)	\$ (854)

14. EARNINGS (LOSS) PER SHARE

A summary of the calculation of basic and diluted earnings (loss) per share for the three months ended March 31, 2020 and 2019 is as follows:

<i>(In thousands, except per share amounts)</i>	Three Months Ended	
	March 31,	
	2020	2019
Numerator		
Net income (loss)	\$ (9,969)	\$ 770
Denominator		
Weighted average number of shares – basic	47,957	47,782
Effect of dilutive securities		
PSUs, RSUs and restricted stock	—	71
Weighted average number of shares – diluted	47,957	47,853
Earnings (loss) per share – basic	\$ (0.21)	\$ 0.02
Earnings (loss) per share – diluted	\$ (0.21)	\$ 0.02

For the three months ended March 31, 2020, 0.4 million shares of unvested PSUs, RSUs and restricted stock were excluded from the calculation of diluted earnings per share due to their anti-dilutive effect.

For the three months ended March 31, 2020 and 2019, 5.9 million and 2.9 million stock options, respectively, were outstanding but were not included in the computation of diluted earnings per share. These stock options were excluded because their exercise prices were greater than the average market price of the common shares during the quarter, therefore making them anti-dilutive under the treasury stock method.

15. SEGMENT INFORMATION

The chief operating decision maker regularly reviews the Company's financial performance based on two reportable segments: (1) Network Solutions and (2) Services & Support. Network Solutions includes hardware and software products and next-generation virtualized solutions used in service provider or business networks, as well as prior-generation products. Services & Support includes a portfolio of maintenance, network installation and solution integration services, which include hosted cloud services and subscription services.

The performance of our segments is evaluated based on gross profit; therefore, selling, general and administrative expenses, research and development expenses, interest and dividend income, interest expense, net investment gain (loss), other income (expense) and (provision) benefit for income taxes are reported on a company-wide basis only. There is no inter-segment revenue. Asset information by reportable segment is not produced and, therefore, is not reported.

The following table presents information about the sales and gross profit of our reportable segments for the three months ended March 31, 2020 and 2019.

<i>(In thousands)</i>	Three Months Ended			
	March 31, 2020		March 31, 2019	
	Sales	Gross Profit	Sales	Gross Profit
Network Solutions	\$ 97,372	\$ 45,746	\$ 125,822	\$ 55,088
Services & Support	17,151	5,854	17,969	5,524
Total	\$ 114,523	\$ 51,600	\$ 143,791	\$ 60,612

Sales by Category

In addition to our reporting segments, revenue is also reported for the following three categories – Access & Aggregation, Subscriber Solutions & Experience and Traditional & Other Products.

The table below presents sales information by category for the three months ended March 31, 2020 and 2019:

<i>(In thousands)</i>	Three Months Ended March 31,	
	2020	2019
Access & Aggregation	\$ 65,966	\$ 99,778
Subscriber Solutions & Experience	42,179	36,753
Traditional & Other Products	6,378	7,260
Total	\$ 114,523	\$ 143,791

Sales by Geographic Area

The following table presents sales information by geographic area for the three months ended March 31, 2020 and 2019:

<i>(In thousands)</i>	Three Months Ended March 31,	
	2020	2019
United States	\$ 78,991	\$ 72,528
International	35,532	71,263
Total	\$ 114,523	\$ 143,791

16. LIABILITY FOR WARRANTY RETURNS

Our products generally include warranties of 90 days to five years for product defects. Warranty returns are accrued at the time revenue is recognized based on an estimate of the cost to repair or replace the defective products. We engage in extensive product quality programs and processes, including actively monitoring and evaluating the quality of our component suppliers. Products continue to become more complex in both size and functionality as many of our product offerings migrate from line card applications to total systems. The increasing complexity of products will cause warranty incidences, when they arise, to be more costly. Estimates regarding future warranty obligations may change due to product failure rates, material usage and other rework costs incurred in correcting a product failure. In addition, from time to time, specific warranty accruals may be recorded if unforeseen problems arise. Should actual experience relative to these factors be worse than estimated, additional warranty expense will be incurred. Alternatively, if actual costs incurred are less than estimated, a portion of the warranty reserves will be reversed in future periods. The liability for warranty obligations totaled \$7.6 million and \$8.4 million as of March 31, 2020 and December 31, 2019, respectively, and are included in accrued expenses and other liabilities in the accompanying Condensed Consolidated Balance Sheets. During the three months ended March 31, 2020, we had a reversal of prior provisions related to warranty expirations, the impact of which is reflected in the table below.

A reconciliation of warranty expense and related write-off activity for the three months ended March 31, 2020 and 2019 is as follows:

<i>(In thousands)</i>	Three Months Ended March 31,	
	2020	2019
Balance at beginning of period	\$ 8,394	\$ 8,623
Plus: Amounts charged to cost and expenses	(55)	1,131
Less: Deductions	(704)	(952)
Balance at end of period	\$ 7,635	\$ 8,802

17. COMMITMENTS AND CONTINGENCIES

Securities Class Action Lawsuit

On October 17, 2019, a purported stockholder class action lawsuit, captioned *Burbridge v. ADTRAN, Inc. et al.*, Docket No. 19-cv-09619, was filed in the United States District Court for the Southern District of New York against the Company, two of its current executive officers and one of its former executive officers. The complaint alleges violations of federal securities laws and seeks unspecified compensatory damages on behalf of purported purchasers of ADTRAN securities between February 28, 2019 and October 9, 2019. The lawsuit claims that the defendants made materially false and misleading statements regarding, and/or failed to disclose material adverse facts about, the Company's business, operations and prospects, specifically relating to the Company's internal control over financial reporting, excess and obsolete inventory reserves, financial results and demand from certain customers. The lawsuit was transferred to the U.S. District Court for the Northern District of Alabama on January 7, 2020, and co-lead plaintiffs have been appointed to represent the putative class. The plaintiffs filed an amended complaint on April 30, 2020. The defendants intend to file a motion to dismiss the amended complaint. We deny the allegations in the complaint, as amended, and intend to vigorously defend against this lawsuit. At this time, we are unable to predict the outcome of or estimate the possible loss or range of loss, if any, associated with this lawsuit.

Shareholder Derivative Lawsuit

On March 31, 2020, a shareholder derivative suit, captioned *Johnson (Derivatively on behalf of ADTRAN) v. T. Stanton, M. Foliano, R. Shannon, and Board of Directors*, case no. 5:20-cv-00447, was filed in the U.S. District Court of Northern Alabama against two of the Company's current executive officers, one of its former executive officers and its Board of Directors. The derivative suit, which is purportedly brought on behalf of ADTRAN, makes similar allegations as the shareholder class action and accuses the directors and officers of breaches of fiduciary duty in connection with those allegations. The Company expects that the derivative lawsuit will be stayed by the Court pending resolution of the class action. The Company and its defendants disagree with the claims made in the complaint, and the defendants intend to vigorously defend against this lawsuit. At this time, we are unable to predict the outcome of or estimate the possible loss or range of loss, if any, associated with this lawsuit.

Other Legal Matters

In addition to the litigation described above, from time to time we are subject to or otherwise involved in various lawsuits, claims, investigations and legal proceedings that arise out of or are incidental to the conduct of our business (collectively, "Legal Matters"), including those relating to employment matters, patent rights, regulatory compliance matters, stockholder claims, and contractual and other commercial disputes. Such Legal Matters, even if not meritorious, could result in the expenditure of significant financial and managerial resources. Additionally, an unfavorable outcome in any legal matter, including in a patent dispute, could require the Company to pay damages, entitle claimants to other relief, such as royalties, or could prevent the Company from selling some of its products in certain jurisdictions. While the Company cannot predict with certainty the results of the Legal Matters in which it is currently involved, the Company does not expect that the ultimate outcome of such Legal Matters will individually or in the aggregate have a material adverse effect on its business, results of operations, financial condition or cash flows.

Performance Bonds

Certain contracts, customers and/or jurisdictions in which we do business require us to provide various guarantees of performance such as bid bonds, performance bonds and customs bonds. As of March 31, 2020 and December 31, 2019, we had commitments related to these bonds totaling \$7.6 million and \$9.3 million, respectively, which expire at various dates through August 2024. Although the triggering events vary from contract to contract, in general we would only be liable for the amount of these guarantees in the event of default under each contract, the probability of which we believe is remote.

Investment Commitment

We have committed to invest up to an aggregate of \$7.9 million in two private equity funds, of which \$7.7 million has been applied as of March 31, 2020

18. CURRENT EXPECTED CREDIT LOSSES

Under ASC 326 – *Financial Instruments – Credit Losses*, the Company estimates credit losses for the contractual life of assets that are measured at amortized cost and are within the scope of this guidance, which included its account receivable, net investment in sales-type leases, contract assets under the revenue recognition model and outstanding note receivable. Where appropriate, the Company pooled assets if similar risk characteristics existed. Additionally, the Company analyzed its available-for-sale debt securities to determine if any were impaired and, therefore, a credit loss was needed.

Assets Measured at Amortized Cost

Accounts Receivable

The Company records accounts receivable in the normal course of business as products are shipped or services are performed and invoiced, but payment has not yet been remitted by the customer. As of January 1, 2020 and March 31, 2020, the Company's outstanding accounts receivable balance was \$90.5 million and \$86.5 million, respectively. The Company assessed the need for an allowance for credit losses related to its outstanding accounts receivable using the historical loss-rate method as well as assessing asset-specific risks. The Company's historical losses related to accounts receivable have been immaterial as evidenced by its historical allowance and write-offs due to uncollectability. The assessment of asset-specific risks included the evaluation of relevant available information, from internal and external sources, relating to current conditions that may affect a customer's ability to pay, such as the customer's current financial condition, credit rating by geographic location, as provided by a third party and/or by customer, if needed, and overall macro-economic conditions in which the customer operates. The Company pooled assets by geographic location to determine if an allowance should be applied to its accounts receivable balance, assessing the specific country risk rating and overall economics of that particular country. If elevated risk existed, or customer specific risk indicated the accounts receivable balance was at risk, the Company further analyzed the need for an allowance related to specific accounts receivable balances. Additionally, the Company determined that significant changes to customer country risk rating from period-to-period and from the end of the prior year to the end of the current quarter would require further review and analysis by the Company.

Accounts receivable balances are considered past due when payment has not been received by the date indicated on the relevant invoice or based on agreed upon terms between the customer and the Company.

No allowance for credit loss was recorded on January 1, 2020 (the "implementation date") or during the three months ended March 31, 2020 related to accounts receivable. The Company's allowance for credit losses related to accounts receivable was \$38 thousand as of March 31, 2020 and December 31, 2019, all of which was expensed prior to January 1, 2020.

Contract Assets

The Company records contract assets when it has recognized revenue but has not yet billed the customer. As of January 1, 2020 and March 31, 2020, the Company's outstanding contract asset balance was \$2.8 million and \$1.4 million, respectively, which is included in other receivables on the Condensed Consolidated Balance Sheets as of March 31, 2020 and December 31, 2019. The Company assessed the need for an allowance for credit losses related to its outstanding contract assets using the historical loss-rate method as well as asset-specific risks. The Company's historical losses related to contract assets receivable have been immaterial as evidenced by historical write-offs due to uncollectability. Asset-specific risk included the evaluation of relevant available information, from internal and external sources, relating to current conditions that may affect a customer's ability to pay once invoiced, such as the customer's financial condition, credit rating by geographic location as provided by a third party and/or by customer, if needed, and overall macro-economic conditions in which the customer operates. The Company pooled assets by geographic location to determine if an allowance should be applied to its contract asset balance, assessing the specific country risk rating and overall economics of that particular country. If elevated risk existed, or customer specific risk indicated the contract balance was at risk, the Company further analyzed the need for an allowance related to specific customer balances. Additionally, the Company determined that significant changes to customer country risk rating from period-to-period and from the end of the prior year to the end of the current quarter would require further review and analysis by the Company.

No allowance for credit loss was recorded on the implementation date or during the three months ended March 31, 2020 related to contract assets.

Net Investment in Sales-Type Leases

The Company is the lessor in sales-type lease arrangements for network equipment. As of January 1, 2020 and March 31, 2020, the Company's outstanding net investment in sales-type leases was \$1.6 million and \$1.3 million, respectively, which is included in other receivables and other assets on the Condensed Consolidated Balance Sheets as of March 31, 2020 and December 31, 2019. The Company assessed the need for an allowance for credit losses related to future receivables under its outstanding sales-type leases using the historical loss-rate method as well as asset-specific risks. The Company's historical losses related to contract assets receivable have been immaterial as evidenced by historical write-offs due to uncollectability. Asset-specific risk included the evaluation of relevant available information, from internal and external sources, relating to current conditions that may affect a customer's ability to pay once invoiced, such as the customers financial condition, credit rating by geographic location as provided by a third party and/or by customer, if needed, and overall macro-economic conditions in which the customer operates.

The following table presents amortized cost basis in sales-type leases based on payment activity:

<i>(In thousands)</i>	Sales-Type Leases Amortized Cost Basis by Origination Year						
	2020	2019	2018	2017	2016	Prior	Total
Payment performance							
Performing	\$ 36	\$ 294	\$ 582	\$ 231	\$ 165	\$ 34	\$ 1,342
Non-performing	—	—	—	—	—	—	—
Total	<u>\$ 36</u>	<u>\$ 294</u>	<u>\$ 582</u>	<u>\$ 231</u>	<u>\$ 165</u>	<u>\$ 34</u>	<u>\$ 1,342</u>

Sales-type lease receivables are considered past due when payment has not been received based on agreed upon terms between the customer and the Company. No allowance for credit loss was recorded on the implementation date or during the three months ended March 31, 2020 related to sales-type leases.

Secured Loan Receivable

The Company has a secured loan receivable totaling \$0.9 million as of March 31, 2020 and January 1, 2020, which originated in February 2019, and is included in long-term investments on the Condensed Consolidated Balance Sheets as of March 31, 2020 and December 31, 2019. The Company assessed the need for an allowance for credit loss related to its secured loan receivable using the historical loss-rate method as well as asset-specific risks. The Company's historical losses related to this receivable have been \$0. Asset-specific risks included the evaluation of relevant available information, from internal and external sources, relating to current conditions that may affect the customer's ability to repay the loan upon maturity, such as the customer's current financial condition, credit rating specific to the customer as determined by a third party and current overall economic conditions, as well as a company valuation prepared by a third party which was based on reasonable and supportable forecasts as provided by management. Accrued interest receivable on the secured loan receivable, which is included in other receivables on the Condensed Consolidated Balance Sheets as of March 31, 2020 and December 31, 2019, totaled \$24 thousand and \$41 thousand as of January 1, 2020 and March 31, 2020, respectively, and was excluded from the estimate of credit losses for both periods based on the Company's accounting policy election.

No allowance for credit loss was recorded on the implementation date or during the three months ended March 31, 2020 related to the secured loan receivable.

Off-Balance Sheet Arrangements

The Company did not have any off-balance sheet arrangements as of January 1, 2020 or March 31, 2020.

Available-for-Sale Debt Securities

As of January 1, 2020 and March 31, 2020, the Company's available-for-sale debt securities totaled \$37.7 million and \$37.9 million, respectively. These securities were analyzed at the individual investment level, by CUSIP, to limit credit losses, if applicable, to reflect only the amount by which the fair value of the security was less than its amortized cost. The Company noted that, as of January 1, 2020 and March 31, 2020, there was no intent to sell any of its available-for-sale debt securities before maturity and therefore, the Company assessed the need for an allowance for each of its available-for-sale debt securities in which the fair value was less than its amortized cost as of January 1, 2020 and March 31, 2020. Accrued interest receivable on available-for-sale debt securities, which is included in other receivables on the Condensed Consolidated Balance Sheets as of March 31, 2020 and December 31, 2019, totaled \$0.1 million as of January 1, 2020 and March 31, 2020, and was excluded from the estimate of credit losses for both periods based on the Company's accounting policy election.

The following table outlines the available-for-sale debt securities in an unrealized loss position as of January 1, 2020:

<i>(In thousands)</i>	Continuous Unrealized Loss Position for Less than 12 Months		Continuous Unrealized Loss Position for 12 Months or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Corporate bonds	203	—	—	—	203	—
Municipal fixed-rate bonds	930	—	—	—	930	—
Asset-backed bonds	797	(3)	—	—	797	(3)
Mortgage/Agency-backed bonds	2,594	(6)	136	(2)	2,730	(8)
U.S. government bonds	4,070	(9)	—	—	4,070	(9)
Total	<u>\$ 8,594</u>	<u>\$ (18)</u>	<u>\$ 136</u>	<u>\$ (2)</u>	<u>\$ 8,730</u>	<u>\$ (20)</u>

The Company had 60 positions in available-for-sale debt securities that were in an unrealized loss position as of March 31, 2020, which are presented in the table below:

<i>(In thousands)</i>	Continuous Unrealized Loss Position for Less than 12 Months		Continuous Unrealized Loss Position for 12 Months or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Corporate bonds	4,166	(87)	—	—	4,166	(87)
Municipal fixed-rate bonds	—	—	—	—	—	—
Asset-backed bonds	3,901	(76)	—	—	3,901	(76)
Mortgage/Agency-backed bonds	1,577	(62)	—	—	1,577	(62)
U.S. government bonds	1,242	(6)	—	—	1,242	(6)
Total	\$ 10,886	\$ (231)	\$ —	\$ —	\$ 10,886	\$ (231)

For those available-for-sale debt securities whose fair value was less than its amortized cost basis, the Company analyzed additional criteria such as adverse conditions specifically related to the security, an industry or geographic area, failure of the issuer of the security to make scheduled interest or principal payments, if applicable, and any changes to the rating of the security by a rating agency to determine if a credit loss existed. The Company used information provided by its investment manager to determine if any scheduled interest or principal payments had not been received and used a third party to determine if any changes to credit ratings had occurred. The Company noted that all principal and interest payments had been received as scheduled and that there had been no changes in credit ratings year-over-year or period-over-period that warranted further review.

No allowance for credit loss was recorded on the implementation date or during the three months ended March 31, 2020 related to the Company's available-for-sale debt securities.

19. RESTRUCTURING

During the second half of 2019, the Company implemented a restructuring plan to realign its expense structure with the reduction in revenue experienced in recent years and overall Company objectives. Management assessed the efficiency of operations and, in turn, consolidated locations and personnel, among other things, where possible. As part of this restructuring plan, the Company announced plans to reduce its overall operating expenses, both in the U.S. and internationally.

In February 2019, the Company announced the restructuring of certain of our workforce predominantly in Germany, which included the closure of our office location in Munich, Germany accompanied by relocation or severance benefits for the affected employees. Voluntary early retirement was offered to certain other employees, which was announced in March 2019.

A reconciliation of the beginning and ending restructuring liability, which is included in accrued wages and benefits in the Consolidated Balance Sheets as of March 31, 2020 and December 31, 2019, is as follows:

<i>(In thousands)</i>	March 31, 2020
Balance as of December 31, 2019	\$ 1,568
Plus: Amounts charged to cost and expense	553
Less: Amounts paid	(1,988)
Balance as of March 31, 2020	\$ 133

<i>(In thousands)</i>	December 31, 2019
Balance as of December 31, 2018	\$ 185
Plus: Amounts charged to cost and expense	6,014
Less: Amounts paid	(4,631)
Balance as of December 31, 2019	\$ 1,568

Restructuring expenses included in the Condensed Consolidated Statements of Income (Loss) were as follows:

<i>(In thousands)</i>	Three Months Ended March 31,	
	2020	2019
Selling, general and administrative expenses	\$ 83	\$ 844
Research and development expenses	436	584
Cost of sales	34	635
Total restructuring expenses	\$ 553	\$ 2,063

The following table represents the components of restructuring expense by geographic area:

<i>(In thousands)</i>	Three Months Ended March 31,	
	2020	2019
Domestic	\$ 551	\$ 284
International	2	1,779
Total restructuring expenses	\$ 553	\$ 2,063

20. SUBSEQUENT EVENTS

On May 6, 2020, we announced that our Board of Directors declared a quarterly cash dividend of \$0.09 per common share to be paid to the Company's stockholders of record as of the close of business on May 21, 2020. The payment date will be June 4, 2020 in the aggregate amount of approximately \$4.3 million.

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

The following discussion should be read in conjunction with the consolidated financial statements and the related notes that appear in Part I, Item 1 of this document. In addition, the following discussion should be read in conjunction with our audited consolidated financial statements for the year ended December 31, 2019, Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, Part I, Item 1, Business, and Item 1A, Risk Factors, included in our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on February 25, 2020 (the "2019 Form 10-K").

This discussion is designed to provide the reader with information that will assist in understanding our condensed consolidated financial statements, the changes in certain key items in those financial statements from period to period, and the primary factors that accounted for those changes, as well as how certain accounting principles affect our condensed consolidated financial statements. See "Cautionary Note Regarding Forward-Looking Statements" on page 3 of this report for a description of important factors that could cause actual results to differ from expected results. See also Part I, Item 1A, Risk Factors, of the 2019 Form 10-K and Part II, Item 1A, Risk Factors, of this Form 10-Q.

OVERVIEW

ADTRAN is a leading global provider of networking and communications equipment, serving a diverse domestic and international customer base in multiple countries that includes Tier-1, -2 and -3 service providers, cable/MSOs and distributed enterprises. Our innovative solutions and services enable voice, data, video and internet communications across a variety of network infrastructures and are currently in use by millions worldwide. We support our customers through our direct global sales organization and our distribution networks. Our success depends upon our ability to increase unit volume and market share through the introduction of new products and succeeding generations of products having lower selling prices and increased functionality as compared to both the prior generation of a product and to the products of competitors. In order to service our customers and grow revenue, we are constantly conducting research and development of new products addressing customer needs and testing those products for the particular specifications of the particular customers. We are focused on being a top global supplier of access infrastructure and related value-added solutions from the cloud edge to the subscriber edge. We offer a broad portfolio of flexible software and hardware network solutions and services that enable service providers to meet today's service demands, while enabling them to transition to the fully-converged, scalable, highly-automated, cloud-controlled voice, data, internet and video network of the future. In addition to our corporate headquarters in Huntsville, Alabama, we have research and development facilities in strategic global locations.

An important part of our strategy is to reduce the cost of each succeeding product generation and then lower the product's selling price based on the cost savings achieved in order to gain market share and/or improve gross margins. As a part of this strategy, we seek to be a high-quality, and in most instances the low-cost, provider of products in our markets. Our success to date is attributable in large measure to our ability to design our products initially with a view to their subsequent redesign, allowing both increased functionality and reduced manufacturing costs in each succeeding product generation. This strategy enables us to sell succeeding generations of products to existing customers, while increasing our market share by selling these enhanced products to new customers.

While we ended the first quarter of 2020 with a year-over-year revenue decrease of 20.4%, we continued to have good geographical diversity with 31.0% of our revenue coming from international markets. Additionally, we had three 10% revenue customers geographically diversified with two in the U.S and one in Europe. Our domestic revenue grew 8.9% during the three months ended March 31, 2020 compared to the same quarter in the prior year, which was driven by an increase in sales to RSPs and additional fiber deployments across all customers. In addition, we saw an increase in sales to a Tier-1 customer with diversified business among our fiber access and CPE, service provider CPE and services as well as sales to Tier-3 customers. In Europe, we saw an increase in revenue from a Tier-1 customer as its spending increased after a slow-down in spending during the second half of 2019. Additionally, the same Tier-1 customer continued expansion of its vectoring and super-vectoring VDSL2 solutions and we experienced continued increases in our service provider CPE business during the three months ended March 31, 2020.

During the first quarter of 2020, there was a downturn in the global financial markets and a slowdown in the global economy due to the COVID-19 pandemic. In March 2020, the World Health Organization declared the outbreak of COVID-19 a pandemic. COVID-19 continues to spread throughout the U.S. and the world and has resulted in authorities implementing numerous measures to contain the virus, including travel bans and restrictions, quarantines, shelter-in-place orders, and business limitations and shutdowns. While we are unable to accurately predict the full impact that COVID-19 will have on our results from operations, financial condition, liquidity and cash flows due to numerous uncertainties, including the duration and severity of the pandemic and containment measures, our compliance with these measures has impacted our day-to-day operations and could disrupt our business and operations, as well as that of our key customers, suppliers and other counterparties, for an indefinite period of time. We have experienced some impact to our supply chain, including a slow-down in supply chain deliveries and some raw material and freight-related cost increases. Additionally, COVID-19 had some impact on our financial results for the first quarter. In the early stages of the downturn, we have seen increased demand in networking requirements and utilization due to social distancing guidelines issued by governments. While we expect that we may experience some slow-down in demand and potential supply-chain issues, as the pandemic continues, we do not at this time expect the overall impact of COVID-19 to materially impact our operations, results of operations and cash flows.

Among our customers, we made progress with our fiber and fiber-extension solutions, including Gfast and PON, while also continuing to engage various Services & Support opportunities that we expect will contribute in 2020 and beyond. In addition, we believe we are at the beginning of a significant investment cycle for fiber deployment driven by technology advancements, regulatory influences and vendor disruption. The transition to next-generation network architectures is beginning, and we are seeing demand for our next-generation SD-Access solutions. In the latter part of 2020, we anticipate that payments to service providers under government funding programs such as the FCC Rural Digital Opportunity Fund will begin.

In addition to classifying our operations into two reportable segments, we report revenue across three categories of products and services – (1) Access & Aggregation, (2) Subscriber Solutions & Experience and (3) Traditional & Other Products.

Our Access & Aggregation solutions are used by CSPs to connect their network infrastructure to subscribers. This revenue category includes hardware- and software-based products and services that aggregate and/or originate access technologies. ADTRAN solutions within this category include a wide array of modular or fixed platforms designed to deliver the best technology and economy based on subscriber density and environmental conditions.

Our Subscriber Solutions & Experience portfolio is used by service providers to terminate their infrastructure at the customer's premises while providing an immersive and interactive experience for the subscriber. These solutions include copper and fiber WAN termination, LAN switching, Wi-Fi access, and cloud software services, for both residential and business markets.

Our Traditional & Other Products category generally includes a mix of prior-generation technologies' products and services, as well as other products and services that do not fit within the other revenue categories.

Our operating results have fluctuated, and may continue to fluctuate, on a quarterly basis due to a number of factors, including customer order activity and backlog. A substantial portion of our shipments in any fiscal period relates to orders received and shipped within that fiscal period for customers under agreements containing non-binding purchase commitments. Further, a significant percentage of orders require delivery within a few days. These factors normally result in a varying order backlog and limited order flow visibility. Additionally, backlog levels may vary because of seasonal trends, the timing of customer projects, and other factors that affect customer order lead times. Because many of our customers require prompt delivery of products, we are required to maintain sufficient inventory levels to satisfy anticipated customer demand. If near-term demand for our products declines, or if potential sales in any quarter do not occur as anticipated, our financial results could be adversely affected. Operating expenses are relatively fixed in the short term; therefore, a shortfall in quarterly revenues could significantly impact our financial results in a given quarter.

Our operating results may also fluctuate as a result of a number of other factors, including a decline in general economic and market conditions, specifically the decline that has resulted from the COVID-19 pandemic, foreign currency exchange rate movements, increased competition, customer order patterns, changes in product and services mix, timing differences between price decreases and product cost reductions, product warranty returns, expediting costs, tariffs and announcements of new products by us or our competitors. Additionally, maintaining sufficient inventory levels to assure prompt delivery of our products increases the amount of inventory that may become obsolete and increases the risk that the obsolescence of this inventory may have an adverse effect on our business and operating results. Also, not maintaining sufficient inventory levels to assure prompt delivery of our products may cause us to incur expediting costs to meet customer delivery requirements, which may negatively impact our operating results in a given quarter. During 2019, the Company implemented restructuring plans to realign its expense structure with the reduction in revenue experienced in recent years and with overall Company objectives. Management assessed the efficiency of our operations and consolidated locations and personnel, among other things, and has implemented certain cost savings initiatives, where possible. We expect to continue to see a reduction in our operating expenses, both in the U.S. and internationally, as a result of our implementation of these restructuring plans.

Our historical financial performance is not necessarily a meaningful indicator of future results, and in general, management expects that our financial results may vary from period to period. Factors that could materially affect our business, financial condition or operating results are included in Part I, Item 1A of the 2019 Form 10-K and in Part II, Item 1A of this Form 10-Q.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

There have been no material changes to our critical accounting policies and estimates from those disclosed in our 2019 Form 10-K.

EFFECT OF RECENT ACCOUNTING PRONOUNCEMENTS

See Note 1 of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this report for a full description of recent accounting pronouncements, including the expected dates of adoption and estimated effects on results of operations and financial condition, which is incorporated herein by reference.

RESULTS OF OPERATIONS – THREE MONTHS ENDED MARCH 31, 2020 COMPARED TO THREE MONTHS ENDED MARCH 31, 2019

The following table presents selected financial information derived from our Condensed Consolidated Statements of Income (Loss) expressed as a percentage of sales for the periods indicated. Amounts may not foot due to rounding.

	Three Months Ended	
	March 31,	
	2020	2019
Sales		
Network Solutions	85.0 %	87.5 %
Services & Support	15.0	12.5
Total Sales	100.0	100.0
Cost of Sales		
Network Solutions	45.1	49.2
Services & Support	9.9	8.7
Total Cost of Sales	54.9	57.8
Gross Profit	45.1	42.2
Selling, general and administrative expenses	23.2	24.4
Research and development expenses	26.1	22.0
Asset impairments	0.1	—
Operating Loss	(4.3)	(4.3)
Interest and dividend income	0.3	0.4
Interest expense	—	(0.1)
Net investment gain (loss)	(9.5)	4.1
Other income, net	1.0	0.6
Income (Loss) Before Income Taxes	(12.5)	0.7
Income tax (expense) benefit	3.8	(0.2)
Net Income (Loss)	(8.7) %	0.5 %

SALES

Our sales decreased 20.4% from \$143.8 million for the three months ended March 31, 2019 to \$114.5 million for the three months ended March 31, 2020. The decrease in sales for the three months ended March 31, 2020 was primarily attributable to a \$33.8 million decrease in Access & Aggregation sales and a \$0.9 million decrease in sales of our Traditional & Other Products, partially offset by a \$5.4 million increase in Subscriber Solutions & Experience sales.

Network Solutions segment sales decreased 22.6% from \$125.8 million for the three months ended March 31, 2019 to \$97.4 million for the three months ended March 31, 2020. The decrease in sales for the three months ended March 31, 2020 was primarily attributable to the slowdown in shipments to two Tier-1 customers. For the three months ended March 31, 2020, sales in the Access & Aggregation and Traditional & Other Products categories decreased, partially offset by an increase in Subscriber Solutions & Experience category sales. The decrease in Access & Aggregation sales for the three months ended March 31, 2020 was primarily attributable to decreased sales of FTTN products. The increase in Subscriber Solutions & Experience sales for the three months ended March 31, 2020 was primarily attributable to increased sales of SP Business CPE Network Termination and Fiber CPE. While we expect that revenue from Traditional & Other Products will continue to decline over time, this revenue may fluctuate and continue for years because of the time required for our customers to transition to newer technologies.

Services & Support segment sales decreased 4.6% from \$18.0 million for the three months ended March 31, 2019 to \$17.2 million for the three months ended March 31, 2020. The decrease in sales for the three months ended March 31, 2020 was primarily attributable to a decrease in maintenance services for Access & Aggregation products.

International sales, which are included in the amounts for both the Network Solutions and Services & Support segments discussed above, decreased 50.1% from \$71.3 million for the three months ended March 31, 2019 to \$35.5 million for the three months ended March 31, 2020. International sales, as a percentage of total sales, decreased from 49.6% for the three months ended March 31, 2019 to 31.0% for the three months ended March 31, 2020. The decrease in sales for the three months ended March 31, 2020, was primarily attributable the slowdown in shipments to two international Tier-1 customers.

Our international revenue is largely focused on broadband infrastructure and is affected by the decisions of our customers as to timing for installation of new technologies, expansion of their networks and/or network upgrades. Our international customers must make these decisions in the regulatory and political environment in which they operate – both nationally and in some instances, regionally – whether of a multi-country region or a more local region within a country. The competitive landscape in certain international markets is also affected by the increased presence of Asian manufacturers that seek to compete aggressively on price. Our revenue and operating income in some international markets have been, and may continue to be, negatively impacted by a strengthening U.S. dollar, adverse changes in trade policy and disruptions in international trade due to the COVID-19 pandemic. Consequently, while we expect the global trend towards deployment of more robust broadband speeds and access to continue creating additional market opportunities for us in the long-run, the factors described above may result in negative pressure on revenue and operating income.

COST OF SALES

As a percentage of sales, cost of sales decreased from 57.8% for the three months ended March 31, 2019 to 54.9% for the three months ended March 31, 2020. The decrease was primarily attributable to changes in customer and product mix, a regional revenue shift, changes in services and support mix and a decrease in fixed personnel costs as a result of a restructuring program initiated in 2019.

Network Solutions cost of sales, as a percentage of that segment's sales, decreased from 56.2% for the three months ended March 31, 2019 to 53.0% for the three months ended March 31, 2020. The decrease in cost of sales as a percentage of sales for the three months ended March 31, 2020 was primarily attributable to changes in customer and product mix, a regional revenue shift and a decrease in fixed personnel costs as a result of a restructuring program initiated in 2019.

An important part of our strategy is to reduce the cost of each succeeding generation of product and then lower the product's selling price based on the cost savings achieved in order to gain market share and/or improve gross margins. This may cause variations in our gross profit percentage due to timing differences between the recognition of cost reductions and the lowering of product selling prices.

Services & Support cost of sales, as a percentage of that segment's sales, decreased from 69.3% for the three months ended March 31, 2019 to 65.9% for the three months ended March 31, 2020. The decrease in cost of sales as a percentage of sales for the three months ended March 31, 2020 was primarily attributable to customer mix, changes in services and support mix and a decrease in fixed personnel costs as a result of a restructuring program initiated in 2019.

Services & Support revenue is comprised of network planning and implementation, maintenance, support and cloud-based management services, with network planning and implementation being the largest and fastest growing component in the long-term. Compared to our other services, such as maintenance, support and cloud-based management services, our network planning and implementation services typically utilize a higher percentage of internal and subcontracted engineers, professionals and contractors to perform the work for customers. The additional costs incurred to perform these infrastructure and labor-intensive services inherently result in lower average gross margins as compared to maintenance and support services.

As our network planning and implementation revenue grew to become the largest component of our Services & Support segment business, our Services & Support segment gross margins decreased versus those reported when maintenance and support comprised the majority of the business. Further, because the growth in our network planning and implementation services has resulted in our Services & Support segment revenue comprising a larger percentage of our overall revenue, and because our Services & Support segment gross margins are generally below those of the Network Solutions segment, our overall corporate gross margins have declined as that business has continued to grow. Within the Services & Support segment, we do expect variability in gross margins from quarter-to-quarter based on the mix of the services recognized.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

As a percentage of sales, selling, general and administrative expenses decreased from 24.4% for the three months ended March 31, 2019 to 23.2% for the three months ended March 31, 2020. Selling, general and administrative expenses as a percentage of sales will generally fluctuate whenever there is a significant fluctuation in revenue for the periods being compared.

Selling, general and administrative expenses decreased 24.2% from \$35.1 million for the three months ended March 31, 2019 to \$26.6 million for the three months ended March 31, 2020. The decrease in selling, general and administrative expenses for the three months ended March 31, 2020 was primarily attributable to lower deferred compensation related costs and labor expense partially due to the restructuring program initiated in 2019, partially offset by increases in costs for contract services related to an enterprise resource planning implementation project.

RESEARCH AND DEVELOPMENT EXPENSES

As a percentage of sales, research and development expenses increased from 22.0% for the three months ended March 31, 2019 to 26.1% for the three months ended March 31, 2020. Research and development expenses as a percentage of sales will fluctuate whenever there are incremental product development activities or significant fluctuations in revenue for the periods being compared.

Research and development expenses decreased 5.6% from \$31.6 million for the three months ended March 31, 2019 to \$29.9 million for the three months ended March 31, 2020. The decrease in research and development expenses for the three months ended March 31, 2020 was primarily attributable to lower labor expense and other expenses which were mainly as result of a restructuring program initiated in 2019.

We expect to continue to incur research and development expenses in connection with our new and existing products and our continued expansion into international markets. We continually evaluate new product opportunities and engage in significant research and product development efforts, which provides for new product development, enhancement of existing products and product cost reductions. We may incur significant research and development expenses prior to the receipt of revenue from a major new product group.

ASSET IMPAIRMENTS

Asset impairments, which were \$0.1 million for the three months ended March 31, 2020, relate to the abandonment of certain information technology projects in which we had previously capitalized costs. There were no asset impairments recognized during the three months ended March 31, 2019.

INTEREST AND DIVIDEND INCOME

Interest and dividend income decreased 39.8% from \$0.6 million for the three months ended March 31, 2019 to \$0.4 million for the three months ended March 31, 2020. The decrease in interest and dividend income was primarily attributable to a decrease in interest income as a result of a decline in our investment balances primarily due to the maturity of our certificate of deposit which served as collateral for our taxable revenue bonds. Our total investments decreased from \$116.5 million as of March 31, 2019 to \$85.1 million as of March 31, 2020.

INTEREST EXPENSE

Interest expense, which is primarily related to our taxable revenue bonds, decreased by \$0.1 million in the three months ended March 31, 2020 compared to the three months ended March 31, 2019. The decrease was due to the fact that the outstanding principal balance of the taxable revenue bonds was paid off upon maturity in January 2020. See "Liquidity and Capital Resources" below for additional information on our revenue bond.

NET INVESTMENT GAIN (LOSS)

We recognized a net investment gain of \$5.9 million for the three months ended March 31, 2019 and a net investment loss of \$10.9 million for the three months ended March 31, 2020. The fluctuations in our net investments were primarily attributable to changes in the fair value of our securities recognized during the period. For the three months ended March 31, 2020, our investments were negatively impacted by the market conditions due to the COVID-19 pandemic, which resulted in a sharp downturn in the markets during the quarter. We expect that any future market volatility, whether from COVID-19 or other factors, will result in continued volatility in our investment portfolio. See Note 6 of the Notes to Condensed Consolidated Financial Statements, included in Part I, Item 1 of this report, and "Investing Activities" in "Liquidity and Capital Resources" below for additional information.

OTHER INCOME, NET

Other income, net increased from income of \$0.9 million for the three months ended March 31, 2019 to income of \$1.1 million for the three months ended March 31, 2020. For the three months ended March 31, 2020, other income, net consisted mainly of gains and losses on foreign currency transactions. For the three months ended March 31, 2019, other income, net consisted mainly of the receipt of insurance proceeds from a life insurance policy.

INCOME TAX EXPENSE (BENEFIT)

Our effective tax rate decreased from an expense of 28.6% for the three months ended March 31, 2019 to a benefit of 30.5% for the three months ended March 31, 2020. The decrease in the effective tax rate was primarily driven by the impact recorded from the Coronavirus Aid, Relief, and Economic Security (the "CARES Act") Act signed into law on March 27, 2020, partially offset by tax expense in our international operations and changes in our valuation allowance related to our domestic operations. See Note 3 of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this report for additional information.

NET INCOME (LOSS)

As a result of the above factors, net income (loss) decreased from net income of \$0.8 million for the three months ended March 31, 2019 to a net loss of \$10.0 million for the three months ended March 31, 2020.

LIQUIDITY AND CAPITAL RESOURCES

Liquidity

We have historically financed, and we currently expect to continue to finance, our ongoing business with existing cash, investments and cash flow from operations. We have used, and expect to continue to use, existing cash, investments and cash generated from operations for working capital, business acquisitions, purchases of treasury stock, shareholder dividends and other general corporate purposes, including product development activities to enhance our existing products and develop new products, expansion of our sales and marketing activities and capital expenditures. We believe our cash and cash equivalents, investments and cash generated from operations to be adequate to meet our operating and capital needs for at least the next 12 months.

As of March 31, 2020, cash on hand was \$71.3 million and short-term investments were \$6.0 million, which resulted in available short-term liquidity of \$77.3 million, of which \$47.5 million was held by our foreign subsidiaries. As of December 31, 2019, cash on hand was \$73.8 million and short-term investments were \$33.2 million, which resulted in available short-term liquidity of \$107.0 million, of which \$52.3 million was held by our foreign subsidiaries. The decrease in short-term liquidity from December 31, 2019 to March 31, 2020 is primarily attributable to the maturity of a certificate of deposit of \$25.6 million that served as collateral for our revenue bond, which matured in January 2020.

Operating Activities

Our working capital, defined as current assets less current liabilities, decreased 1.6% from \$207.6 million as of December 31, 2019 to \$204.4 million as of March 31, 2020, and our current ratio, defined as current assets divided by current liabilities, increased from 2.84 as of December 31, 2019 to 3.29 as of March 31, 2020. The decrease in our working capital and increase in our current ratio were primarily attributable to decreases in accounts receivable, and short-term investments, which consisted of a certificate of deposit related to our taxable revenue bond and the related bonds payable, partially offset by increases in other receivables and accounts payable. The quick ratio, defined as cash, cash equivalents, short-term investments, and net accounts receivable, divided by current liabilities, increased from 1.75 as of December 31, 2019 to 1.83 as of March 31, 2020. The increase in the quick ratio was primarily attributable to the payment of our bond payable upon maturity in January 2020, partially offset by a decrease in accounts receivable and cash and cash equivalents along with an increase in accounts payable.

Net accounts receivable decreased 4.5% from \$90.5 million as of December 31, 2019 to \$86.5 million as of March 31, 2020. Our allowance for doubtful accounts was \$38 thousand as of December 31, 2019 and March 31, 2020. The decrease in net accounts receivable was due to a decrease in sales volume. Quarterly accounts receivable DSO decreased from 72 days as of December 31, 2019 to 69 days as of March 31, 2020. The decrease in DSO was due to the timing of product shipments and customer mix.

Other receivables increased 39.6% from \$16.6 million as of December 31, 2019 to \$23.1 million as of March 31, 2020. The increase in other receivables was primarily attributable to an increase in income tax receivables related to the CARES Act partially offset by a decrease in contract assets.

Quarterly inventory turnover decreased from 2.70 turns as of December 31, 2019 to 2.54 turns as of March 31, 2020. Inventory increased 1.2% from \$98.3 million as of December 31, 2019 to \$99.5 million as of March 31, 2020. Barring COVID-19 uncertainties related to supply chain and demand, we expect inventory levels to fluctuate as we attempt to maintain sufficient inventory in response to seasonal cycles of our business and ensuring competitive lead times while managing the risk of inventory.

Accounts payable increased 6.3% from \$44.9 million as of December 31, 2019 to \$47.7 million as of March 31, 2020. Accounts payable will fluctuate due to variations in the timing of the receipt of supplies, inventory and services and our subsequent payments for these purchases.

Investing Activities

Capital expenditures totaled approximately \$1.4 million and \$1.9 million for the three months ended March 31, 2020 and 2019, respectively. These expenditures were primarily used to purchase manufacturing and test equipment, software, computer hardware and to finance building improvements.

Our combined short-term and long-term investments decreased \$42.6 million from \$127.7 million as of December 31, 2019 to \$85.1 million as of March 31, 2020. This decrease reflects the maturity of a certificate deposit which served as collateral for our revenue bond and the impact of net realized and unrealized gains and losses on our investments.

We typically invest all available cash not required for immediate use in operations, primarily in securities that we believe bear minimal risk of loss. See Note 6 of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this report for additional information. As of March 31, 2020, investments were classified as available-for-sale and had a combined duration of 1.64 years with an average Standard & Poor's credit rating of AA. Because our investment portfolio has a high-quality rating and contractual maturities of short duration, we are able to obtain prices for these bonds derived from observable market inputs, or for similar securities traded in an active market, on a daily basis.

Our long-term investments decreased 16.2% from \$94.5 million as of December 31, 2019 to \$79.1 million as of March 31, 2020. Our investments include various marketable equity securities classified as long-term investments with a fair market value of \$24.8 million and \$35.8 million, as of March 31, 2020 and December 31, 2019, respectively. Long-term investments as of March 31, 2020 and December 31, 2019 also included \$17.1 million and \$21.7 million, respectively, related to our deferred compensation plans, and \$0.3 million for both years, of other investments, consisting of interests in two private equity funds.

Financing Activities

Dividends

In July 2003, our Board of Directors elected to begin declaring quarterly dividends on our common stock considering the tax treatment of dividends and adequate levels of Company liquidity. During the three months ended March 31, 2020 and 2019, we paid dividends totaling \$4.3 million. The continued payment of dividends is at the discretion of the Company's Board of Directors and is subject to general business conditions and ongoing financial results of the Company.

Debt

In conjunction with the 1995 expansion of our Huntsville, Alabama, facility, we were approved for participation in an incentive program offered by the State of Alabama Industrial Development Authority (the "Authority"). Pursuant to the program, in January 1995, the Authority issued \$20.0 million of its taxable revenue bonds and loaned the proceeds from the sale of these taxable revenue bonds to the Company. Further advances on the taxable revenue bonds were made by the Authority, bringing the total amount outstanding to \$50.0 million. The bonds matured on January 1, 2020, and the outstanding balance of \$24.6 million was repaid in full on January 2, 2020.

Stock Repurchase Program

Since 1997, our Board of Directors has approved multiple share repurchase programs that have authorized repurchases of our common stock, which are implemented through open market or private purchases from time to time as conditions warrant. We currently have authorization to repurchase an additional 2.5 million shares of our common stock under the current authorization of up to 5.0 million shares. During the three months ended March 31, 2020, there were no common stock repurchases. During the three months ended March 31, 2019, we repurchased 13,000 shares of our common stock for \$0.2 million at an average price of \$14.06 per share.

Off-Balance Sheet Arrangements and Contractual Obligations

We do not have off-balance sheet financing arrangements and have not engaged in any related party transactions or arrangements with unconsolidated entities or other persons that are reasonably likely to materially affect liquidity or the availability of or requirements for capital resources. During the three months ended March 31, 2020, there have been no material changes in contractual obligations and commercial commitments from those discussed in the 2019 Form 10-K.

We have committed to invest up to an aggregate of \$7.9 million in two private equity funds, of which \$7.7 million has been applied as of March 31, 2020.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to financial market risks, including changes in foreign currency rates, prices of marketable equity and fixed-income securities. The primary objective of the large majority of our investment activities is to preserve principal while at the same time achieving appropriate yields without significantly increasing risk. To achieve this objective, a majority of our marketable securities are investment grade, fixed-rate bonds and municipal money market instruments denominated in U.S. dollars. Our investment policy provides limitations for issuer concentration, which limits, at the time of purchase, the concentration in any one issuer to 5% of the market value of our total investment portfolio.

We maintain depository investments with certain financial institutions. Although these depository investments may exceed government insured depository limits, we have evaluated the credit-worthiness of these financial institutions, and determined the risk of material financial loss due to exposure of such credit risk to be minimal. As of March 31, 2020, \$68.8 million of our cash and cash equivalents, primarily certain domestic money market funds and foreign depository accounts, were in excess of government provided insured depository limits.

As of March 31, 2020, approximately \$43.0 million of our cash and investments may be directly affected by changes in interest rates. As of March 31, 2020, we held \$7.6 million of cash and variable-rate investments where a change in interest rates would impact our interest income. A hypothetical 50 basis points decline in interest rates as of March 31, 2020, assuming all other variables remain constant, would reduce annualized interest income on our cash and investments by approximately \$0.1 million. In addition, we held \$35.3 million of fixed-rate bonds whose fair values may be directly affected by a change in interest rates. A hypothetical 50 bps increase in interest rates as of March 31, 2020, assuming all other variables remain constant, would reduce the fair value of our fixed-rate bonds by approximately \$0.3 million.

We are exposed to changes in foreign currency exchange rates to the extent that such changes affect our revenue and gross margin on revenue derived from some international customers, expenses, and assets and liabilities held in non-functional currencies related to our foreign subsidiaries. Our primary exposures to foreign currency exchange rate movements are with our German subsidiary, whose functional currency is the Euro, and our Australian subsidiary, whose functional currency is the Australian dollar. Our revenue is primarily denominated in the respective functional currency of the subsidiary and paid in that subsidiary's functional currency or certain other local currency, our global supply chain predominately invoices us in the respective functional currency of the subsidiary and is paid in U.S. dollars and some of our operating expenses are invoiced and paid in certain local currencies (approximately 11% of total operating expense for the three months ended March 31, 2020). Therefore, our revenues, gross margins, operating expense and operating income are all subject to foreign currency fluctuations. As a result, changes in currency exchange rates could cause variations in our operating income.

We have certain customers and suppliers who are invoiced or pay in a non-functional currency. Changes in the monetary exchange rates used to invoice such customers versus the functional currency of the entity billing such customers may adversely affect our results of operations and financial condition. To manage the volatility relating to these typical business exposures, we may enter into various derivative transactions, when appropriate. We do not hold or issue derivative instruments for trading or other speculative purposes. All non-functional currencies billed would result in a combined hypothetical gain or loss of \$1.0 million if the U.S. dollar weakened or strengthened 10% against the billing currencies. This change represents a decrease in the amount of hypothetical gain or loss compared to prior periods and is mainly due to a decrease in U.S. dollar-denominated billings in a non-U.S. dollar denominated subsidiary. Although we do not currently hold any derivative instruments, any gain or loss would be partially mitigated by any derivative instruments held.

As of March 31, 2020, we had certain material contracts subject to currency revaluation, including accounts receivable, accounts payable and lease liabilities, denominated in foreign currencies. As of March 31, 2020, we did not have any forward contracts outstanding.

For further information about the fair value of our investments as of March 31, 2020, see Note 6 of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this report.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to provide reasonable assurance that the information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), is recorded, processed, summarized and reported within the time periods specified in the rules and forms promulgated by the SEC, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and our Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Because of the inherent limitations to the effectiveness of any system of disclosure controls and procedures, no evaluation of disclosure controls and procedures can provide absolute assurance that all control issues, if any, with a company have been prevented or detected on a timely basis. Even disclosure controls and procedures determined to be effective can only provide reasonable assurance that their objectives are achieved.

As of the end of the period covered by this report, an evaluation was carried out by management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e)) pursuant to Rule 13a-15 of the Exchange Act. Based on that evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were not effective as of March 31, 2020 due to the material weakness in our internal control over financial reporting described below.

Material Weakness

A material weakness is a significant deficiency, or combination of significant deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company’s annual or interim financial statements will not be prevented or detected on a timely basis. In its assessment of the effectiveness of internal control over financial reporting as of March 31, 2020, management determined that there was a deficiency in ADTRAN’s internal control over financial reporting that constituted a material weakness. Specifically, management determined that the Company did not design and maintain effective internal control over the valuation of inventory:

- Management determined that controls were not effectively designed and maintained over the determination of the estimated reserve for excess and obsolete inventory including the review of significant inputs and assumptions used to determine our excess and obsolete inventory reserve, and to ensure the completeness and accuracy of key reports and related data used in the calculation of this reserve.

Despite the existence of this material weakness, we believe that the consolidated financial statements included in this report present fairly, in all material respects, our financial position, results of operations and cash flows for the periods presented, in conformity with generally accepted accounting principles in the United States of America. This material weakness did not result in any material misstatements of the Company’s financial statements or disclosures for any period presented in the accompanying consolidated financial statements. While the above material weakness did not result in a material misstatement of the Company’s consolidated financial statements, the material weakness could result in a misstatement of the Company’s interim or annual consolidated financial statements and disclosures that would result in a material misstatement that would not be prevented or detected.

Management’s Remediation Initiatives

The Company has been working to redesign and implement enhanced controls and procedures related to the review of significant inputs and assumptions used to determine our excess and obsolete inventory reserve, and to ensure the completeness and accuracy of key reports and related data used in the calculation of the excess and obsolete inventory reserve. Key reports and calculations have been redesigned and fully integrated into our enterprise resource planning system to ensure completeness and the accuracy of significant inputs. New controls and procedures have also been established by the Company around the consideration of historical usage, known trends, market conditions, and estimated net realizable value of the inventory. The implementation of these measures is ongoing, and, while we believe that they will be effective in remediating the material weakness, management has concluded that, as of March 31, 2020, our controls related to our excess and obsolete inventory reserve were not effectively designed and maintained, and the material weakness related to these controls continued to exist.

Changes in Internal Control over Financial Reporting

Except as noted in the preceding paragraphs, there were no changes in our internal control over financial reporting that occurred during the fiscal quarter ended March 31, 2020 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

Securities Class Action Lawsuit

On October 17, 2019, a purported stockholder class action lawsuit, captioned *Burbridge v. ADTRAN, Inc. et al.*, Docket No. 19-cv-09619, was filed in the United States District Court for the Southern District of New York against the Company, two of its current executive officers and one of its former executive officers. The complaint alleges violations of federal securities laws and seeks unspecified compensatory damages on behalf of purported purchasers of ADTRAN securities between February 28, 2019 and October 9, 2019. The lawsuit claims that the defendants made materially false and misleading statements regarding, and/or failed to disclose material adverse facts about, the Company's business, operations and prospects, specifically relating to the Company's internal control over financial reporting, excess and obsolete inventory reserves, financial results and demand from certain customers. The lawsuit was transferred to the U.S. District Court for the Northern District of Alabama on January 7, 2020, and co-lead plaintiffs have been appointed to represent the putative class. The plaintiffs filed an amended complaint on April 30, 2020. The defendants intend to file a motion to dismiss the amended complaint. We deny the allegations in the complaint, as amended, and intend to vigorously defend against this lawsuit. At this time, we are unable to predict the outcome of or estimate the possible loss or range of loss, if any, associated with this lawsuit.

Shareholder Derivative Lawsuit

On March 31, 2020, a shareholder derivative suit, captioned *Johnson (Derivatively on behalf of ADTRAN) v. T. Stanton, M. Foliano, R. Shannon, and Board of Directors*, case no. 5:20-cv-00447, was filed in the U.S. District Court of Northern Alabama against two of the Company's current executive officers, one of its former executive officers and its Board of Directors. The derivative suit, which is purportedly brought on behalf of ADTRAN, makes similar allegations as the shareholder class action and accuses the directors and officers of breaches of fiduciary duty in connection with those allegations. The Company expects that the derivative lawsuit will be stayed by the Court pending resolution of the class action. The Company and its defendants disagree with the claims made in the complaint, and the defendants intend to vigorously defend against this lawsuit. At this time, we are unable to predict the outcome of or estimate the possible loss or range of loss, if any, associated with this lawsuit.

ITEM 1A. RISK FACTORS

A list of factors that could materially affect our business, financial condition or operating results is described in Part I, Item 1A, "Risk Factors" in the 2019 Form 10-K. There have been no material changes to our risk factors from those disclosed in Part I, Item 1A, "Risk Factors" in the 2019 Form 10-K, other than as described in the risk factor below.

The ongoing COVID-19 pandemic could adversely affect our business, results of operations and financial condition.

In March 2020, the World Health Organization declared the outbreak of COVID-19 a pandemic. COVID-19 continues to spread throughout the U.S. and the world and has resulted in authorities implementing numerous measures to contain the virus, including travel bans and restrictions, quarantines, shelter-in-place orders, and business limitations and shutdowns. While we are unable to accurately predict the full impact that COVID-19 will have on our results from operations, financial condition, liquidity and cash flows due to numerous uncertainties, including the duration and severity of the pandemic and containment measures, our compliance with these measures has impacted, and may continue to impact, our day-to-day operations and could continue to disrupt our business and operations, as well as that of our customers, suppliers (including contract manufacturers) and other counterparties, for an indefinite period of time. We have experienced, and may continue to experience, disruptions in our supply chain, including a slow-down in supply chain deliveries and some raw material and freight-related cost, increases as a result of the pandemic.

To support the health and well-being of our employees, customers, partners and communities, a vast majority of our employees are working remotely as of May 8, 2020. In addition, many of our customers, suppliers and other counterparties are working remotely, which may delay the timing of some orders and expected deliveries. The disruptions to our operations caused by COVID-19 may result in inefficiencies, delays and additional costs in our product development, sales, marketing and customer service efforts that we cannot fully mitigate through remote or other alternative work arrangements.

More generally, the pandemic raises the possibility of an extended global economic downturn and has caused volatility in financial markets, which could affect demand for our products and services and impact our results and financial condition even after the pandemic is contained and the shelter-in-place orders are lifted. For example, we may be unable to collect receivables from those customers significantly impacted by COVID-19. Also, a decrease in orders could negatively affect our revenues in future periods, particularly if experienced on a sustained basis.

Although we expect that current cash and cash equivalent balances and cash flows that are generated from operations will be sufficient to meet our domestic and international working capital needs and other capital and liquidity requirements for at least the next 12

months, if our access to capital is restricted or our borrowing costs increase as a result of the COVID-19 pandemic, our operations and financial condition could be adversely impacted.

Moreover, the impacts of the COVID-19 pandemic may exacerbate other pre-existing risks, such as political, regulatory, social, financial, operational and cybersecurity risks, and those associated with global economic conditions, any of which could have a material adverse effect on our business.

We will continue to evaluate the nature and extent of the impact of COVID-19 on our business.

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

The following table sets forth repurchases of our common stock for the months indicated:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs⁽¹⁾	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs
January 1, 2020 – January 31, 2020	—	\$ —	—	2,545,430
February 1, 2020 – February 29, 2020	—	\$ —	—	2,545,430
March 1, 2020 – March 31, 2020	—	\$ —	—	2,545,430
Total	—		—	

⁽¹⁾ Since 1997, the Company's Board of Directors has approved multiple share repurchase programs that have authorized open market repurchase transactions of the Company's common stock, which are implemented through open market or private purchases from time to time as conditions warrant. We currently have authorization to repurchase an additional 2.5 million shares of our common stock under the current authorization of up to 5.0 million shares.

ITEM 6. EXHIBITS

Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
31	Rule 13a-14(a)/15d-14(a) Certifications
32	Section 1350 Certifications
101	The following financial statements from the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, formatted in Inline XBRL: (i) Condensed Consolidated Balance Sheets as of March 31, 2020 and December 31, 2019; (ii) Condensed Consolidated Statements of Income (Loss) for the three months ended March 31, 2020 and 2019; (iii) Condensed Consolidated Statements of Comprehensive Income (Loss) for the three months ended March 31, 2020 and 2019; (iv) Condensed Consolidated Statements of Changes in Stockholders' Equity for the three months ended March 31, 2020 and March 31, 2019; (v) Condensed Consolidated Statements of Cash Flows for the three months ended March 31, 2020 and 2019; and (vi) Notes to Consolidated Financial Statements
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

SIGNATURE

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.

ADTRAN, Inc.
(Registrant)

Date: May 8, 2020

/s/ Michael Foliano
Michael Foliano
Senior Vice President of Finance and
Chief Financial Officer
(Duly Authorized Officer and Principal Financial Officer)

CERTIFICATIONS

I, Thomas R. Stanton, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of ADTRAN, 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: May 8, 2020

/s/ Thomas R. Stanton

Thomas R. Stanton

Chief Executive Officer and Chairman of the Board

CERTIFICATIONS

I, Michael Foliano, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of ADTRAN, 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: May 8, 2020

/s/ Michael Foliano

Michael Foliano

Senior Vice President of Finance and
Chief Financial Officer

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

In connection with the Quarterly Report of ADTRAN, Inc. (the "Company") on Form 10-Q for the quarter ending March 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Thomas R. Stanton, Chief Executive Officer and Chairman of the Board of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §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; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Thomas R. Stanton

Thomas R. Stanton

Chief Executive Officer and Chairman of the Board

May 8, 2020

**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 ADTRAN, Inc. (the "Company") on Form 10-Q for the quarter ending March 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Michael Foliano, Senior Vice President of Finance and Chief Financial Officer, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 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; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Michael Foliano

Michael Foliano

Senior Vice President of Finance and
Chief Financial Officer

May 8, 2020