Adtran

Unlocking the Future Network

The Fiber Everywhere Era

2021 ANNUAL REPORT

Adtran

The Fiber Everywhere Era

2021 ANNUAL REPORT

ADTRAN and the ADTRAN logo are registered trademarks of Adtran, Inc. and/or its affiliates in the U.S. and other countries. To view a list of Adtran trademarks, go to this URL: www.adtran.com/trademarks. Third-party trademarks mentioned in this document are the property of their respective owners.

Copyright © 2022 Adtran, Inc. All rights reserved. Printed in the USA. AD11313A

TL9000
TL19.1270

The Fiber Everywhere Era

We are in a unique time for our business. Changing working and learning habits and phenomenal growth in streaming services have put an unprecedented spotlight on connectivity and, more specifically, fiber connectivity. Countries around the world have set aggressive goals for increased fiber connectivity and have provided significant financial stimulus to make these goals a reality. Service providers around the world have responded to these financial incentives, and are also motivated by the overwhelming demand of consumers looking to connect and investors looking to participate. The race is now on for broadband service providers across the globe to build fiber as fast as possible to as many customers as possible.

To highlight the magnitude of the shift in investment toward fiber access networks, U.S. federal programs are expected to allocate over $100 billion in investment toward broadband infrastructure through the Rural Development Opportunity Fund, the American Rescue Plan Act, and infrastructure bills, with most of that investment being made in the next five years. These federal subsidies are estimated to be six to seven times that of previous annual subsidy levels.

A recent study conducted by the Fiber Broadband Association noted that fiber broadband is entering the largest investment cycle ever. A 2021 study, performed by RVA LLC Market Research & Consulting, shows that fiber broadband now passes over 60 million homes in the U.S., up 12 percent from 2020. The growth can be attributed to fiber's performance in terms of capacity, reliability, latency, and customer satisfaction, especially when compared to other broadband technologies. It is also worth noting that if all federal infrastructure funding is directed at fiber, more fiber could be deployed in the next five years than all the fiber deployed to date. This would also enable the initial U.S. Fiber-to-the-Home buildout to be near completion by the end of this decade.

European countries have announced over $45 billion in investments to provide universal coverage of high-speed broadband services. Large inflows of private equity investments have also followed, especially in key growth countries like the U.K. and Germany, where a wide range of large incumbent and alternative network service providers (altnets) are in a race to build out fiber networks. A recent article in ISP Review noted that the significant increase in competition between new Fiber-to-the-Premises Internet Service Providers has helped drive the market forward at a pace never seen in the U.K. As a result, altnets contribute approximately 57% of the total fiber expansion across Europe.

"The race is now on for broadband service providers across the globe to build fiber as fast as possible to as many customers as possible."

More Than Just Fiber Connectivity

As the market is rapidly shifting to fiber, we see another important trend emerging. Operators are no longer focused solely on passing homes with fiber. Instead, broadband service providers want to build highly scalable fiber access networks paired with multi-gigabit ready mesh Wi-Fi networks, all driven by a common set of software applications that automate and optimize all aspects of the network. This combination allows service providers to deploy networks faster, operate networks more efficiently, and significantly improve the overall subscriber experience. We have invested heavily in our fiber access platforms, mesh Wi-Fi platforms, and Software-as-a-Service (SaaS) applications to help broadband service providers realize this vision of fully automated, intelligent, and scalable networks.

> Product revenue for our fiber access platforms was up 43% year-over year in 2021, marking a record year. ”

In the fiber access space, Adtran pioneered the concept of open, disaggregated fiber access platforms with our SDX Series. This investment is paying off with surging demand for these leading-edge platforms, spanning multiple large-scale Tier-1 service providers across the U.S. and Europe that have now placed high volume orders for these systems. As a result, product revenue for our fiber access platforms was up 43% year-over-year in 2021, marking a record year. The growth was most pronounced in the U.S. and Europe with our 10G fiber access platforms. According to the latest Q3 2021 market share reports from Dell'Oro and Omdia, Adtran shipped more 10G PON aggregation ports to North America and EMEA than the next two closest U.S.-based competitors combined.

We launched a new lineup of mesh Wi-Fi 6 platforms to enable whole-home, multi-gigabit connectivity with our SDG Series. These platforms provide best-in-class mesh Wi-Fi performance paired with complete cloud-based control and performance optimization. The release of these products resulted in record revenue for our mesh Wi-Fi platforms, up 27% year-over-year, and a surge in customer order bookings for future deliveries. As a result, this segment is expected to be a high-growth area for us in the years ahead.

Finally, the investments that will make the most long-term impact are in our SaaS applications. We launched our latest unified SaaS platform, Mosaic One, in 2021 to consolidate and substantially upgrade our expanding suite of SaaS applications. Mosaic One provides actionable insights and proactive optimization of both the network infrastructure and subscriber services while tailoring applications to the needs of marketing, operations, and customer support personnel. These tools make it very easy for broadband service providers to rapidly deploy and efficiently operate these leading-edge broadband networks while focusing their investments more toward expanding their fiber network rather than building up large teams to operate the network. Our success in this area led to 2021 having record growth in SaaS customers, up 48% year-over-year. Additionally, we remain focused on creating shareholder value. In 2021, we experienced a 54.6% increase in our stock price resulting in an increase in our market capitalization of $408 million.

Preparing for the Future

Adtran is facing a generationally unique investment cycle in fiber-based networks across the U.S. and Europe. Operators are not only increasing their investments in these networks, but many operators across Europe are also shifting away from high-risk vendors. Adtran can further maximize this opportunity by providing a more comprehensive fiber network portfolio paired with a larger pool of resources across our key growth markets in the U.S. and Europe.

To position Adtran for further success during this investment cycle in our key growth markets, we made a voluntary public takeover offer for ADVA Optical Networking in August 2021. ADVA is a global leader in optical transport, Carrier Ethernet, and network synchronization solutions that are an ideal complement to Adtran's portfolio. Adtran stock-holders overwhelmingly approved this offer during a special meeting of stockholders on January 6, 2022. In addition, on January 26, 2022, at the close of the ADVA shareholder tender acceptance period, we received more than the required 60% of outstanding shares of ADVA stock as of the record date, enabling this transaction to move forward. As of the writing of this letter, we are awaiting final Foreign Direct Investment approval from Germany. Once this is received, we will set a closing date and begin the integration process. This business combination will, in effect, double the size of our company, both in terms of revenue and employees, and significantly enhance our already strong solutions portfolio. I am very excited about the possibilities that come with this proposed business combination and look forward to its finalization during the latter part of this year.

> This business combination will, in effect, double the size of our company, both in terms of revenue and employees, and significantly enhance our already strong solutions portfolio.

2022 and Beyond

We entered 2022 with the largest backlog in company history. This backlog was driven by record demand for our solutions. Our focus is on navigating global supply chain constraints to deliver while taking advantage of increasing growth opportunities. While we expect these industry-wide supply chain constraints to continue throughout 2022, we are implementing a range of cost optimizations, portfolio consolidations, and material purchases to reduce the impact these issues have on our profitability in the future.

Despite the supply chain challenges facing our industry and many others, our long-term outlook remains positive. Broadband funding has never been healthier, and customer diversification has never been stronger. Moreover, the ADVA business combination will further expand our resources and portfolio and enable us to maximize the opportunity ahead of us.

This is a time unlike any other, a time where the world has deemed broadband the electricity of the 21st century and organizations of all types ranging from governments to private investment have stepped forward to pave the way to the network of the future – one with high-speed access for all.

These are exciting times for our industry and exciting times for Adtran. I would be remiss if I did not express my sincere thanks to our employees. They have truly gone above and beyond to meet the needs of our customers. While the supply chain crisis has been difficult, to say the least, these individuals persevered, helping ensure we had the materials we needed to build the products required to meet critical customer deadlines despite the pandemic, natural disasters, or global conflict. So again, I say thank you.

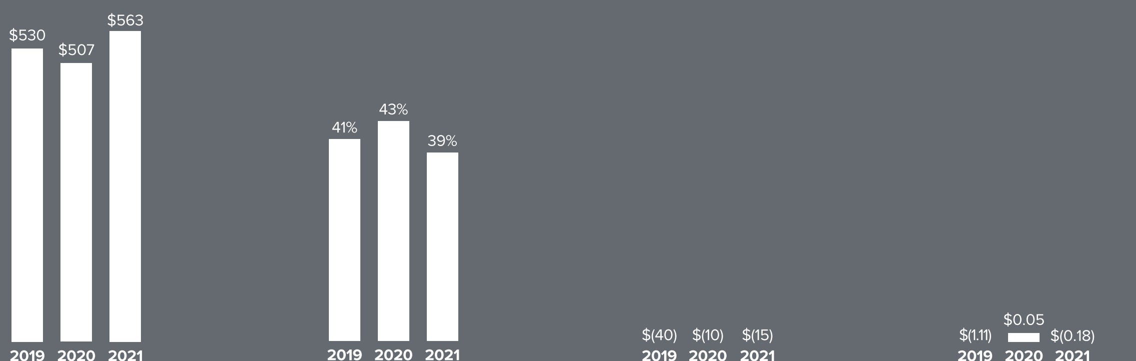
Tom Stanton
Chairman & CEO
Adtran, Inc.

Despite the supply chain challenges facing our industry and many others, our long-term outlook remains positive. Broadband funding has never been healthier, and customer diversification has never been stronger. ”

Financial Highlights

Company Financial Summary

(In millions, except per share amounts)



Total Sales *Gross Margin* *Operating Loss* *Earnings (Loss) per Common Share - Diluted*

Consolidated Statements of Income (Loss)

(In thousands, except per share amounts)

Years Ended December 31,	2021	2020
Total Sales	$563,004	$506,510
Loss Before Income Taxes	$(6,305)	$(6,246)
Net Income (Loss)	$(8,635)	$2,378
Earnings (Loss) per Common Share - Diluted	$(0.18)	$0.05

Consolidated Balance Sheets Data

(In thousands)

December 31,	2021	2020
Unrestricted Cash and Marketable Securities	$100,634[2]	$117,958[1]
Total Assets	$569,017	$525,679
Stockholders' Equity	$357,102	$372,944

[1] Net of $17.3 million in dividend payments during 2020 [2] Net of $17.5 million in dividend payments during 2021

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

FORM 10-K

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

For the Fiscal Year Ended December 31, 2021

☐ **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	**63-0918200**
(State of Incorporation)	**(I.R.S. Employer Identification Number)**
901 Explorer Boulevard Huntsville, Alabama 35806-2807	**(256) 963-8000**
(Address of principal executive offices, including zip code)	**(Registrant's telephone number, including area code)**

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, Par Value $0.01	ADTN	The NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

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 Regulations 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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

The aggregate market value of the registrant's outstanding common stock held by non-affiliates of the registrant on June 30, 2021 was $995,597,465 based on a closing market price of $20.65 as reported on the NASDAQ Global Select. There were 49,117,728 shares of common stock outstanding as of February 23, 2022.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the registrant's 2022 Annual Meeting of Stockholders are incorporated herein by reference in Part III to the extent described in Part III.

PricewaterhouseCoopers LLP; PCAOB Firm ID: 238; Birmingham, Alabama

ADTRAN, Inc.
Annual Report on Form 10-K
For the Fiscal Year Ended December 31, 2021

Table of Contents

		Page Number
	Cautionary Note Regarding Forward-Looking Statements and Risk Factor Summary	12
	Glossary of Selected Terms	15
	PART I	
Item 1.	Business	18
Item 1A.	Risk Factors	29
Item 1B.	Unresolved Staff Comments	46
Item 2.	Properties	46
Item 3.	Legal Proceedings	46
Item 4.	Mine Safety Disclosures	46
	PART II	
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	47
Item 6.	(Reserved)	49
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	50
Item 7A.	Quantitative and Qualitative Disclosures about Market Risk	63
Item 8.	Financial Statements and Supplementary Data	64
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	107
Item 9A.	Controls and Procedures	107
Item 9B	Other Information	108
Item 9C	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	108
	PART III	
Item 10.	Directors, Executive Officers and Corporate Governance	109
Item 11.	Executive Compensation	109
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	109
Item 13.	Certain Relationships and Related Transactions and Director Independence	110
Item 14.	Principal Accountant Fees and Services	110
	PART IV	
Item 15.	Exhibits and Financial Statement Schedules	111
Item 16.	Form 10-K Summary	113
	SIGNATURES	

The terms “ADTRAN,” the “Company,” “we,” “us” and “our” as used herein mean ADTRAN, Inc., a Delaware corporation, together with its subsidiaries when or where appropriate.

***

We own or have rights to trademarks, service marks or trade names that we use in connection with the operation of our business. In addition, our names, logos and website names and addresses are owned by us or licensed by us. We also own or have the rights to copyrights that protect the content of our solutions. Solely for convenience, the trademarks, service marks, trade names and copyrights referred to in this report are listed without the ©, ® and ™ symbols, but we will assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensors to these trademarks, service marks, trade names and copyrights.

This report may include trademarks, service marks or trade names of other companies. Our use or display of other parties’ trademarks, service marks, trade names or products is not intended to, and does not imply a relationship with, or endorsement or sponsorship of us by, the trademark, service mark or trade name owners.

***

Unless otherwise indicated, information contained in this report concerning our industry and the markets in which we operate is based on information from independent industry and research organizations, other third-party sources (including industry publications, surveys and forecasts), and management estimates. Management estimates are derived from publicly available information released by independent industry analysts and third-party sources, as well as data from our internal research, and are based on assumptions made by us upon reviewing such data and our knowledge of such industry and markets that we believe to be reasonable. Although we believe the data from these third-party sources is reliable, we have not independently verified any third-party information.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS AND RISK FACTOR SUMMARY

The Private Securities Litigation Reform Act of 1995 provides a safe harbor for forward-looking statements made by or on behalf of the Company. 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", "would", "will", "may", "might", "could", "should", "can", "future", "assume", "plan", "seek", "predict", "potential", "objective", "expect", "target", "project", "outlook", "forecast" 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. Forward-looking statements are based on management's current expectations as well as certain assumptions and estimates made by, and information available to, management at the time the statements are made. Those statements are based on general assumptions and are subject to various risks, and because they also relate to the future they are likewise subject to inherent uncertainties and other factors that may cause actual results to differ materially from the views, beliefs and projections expressed in such statements. These risks, uncertainties and other factors include, but are not limited to, the risks identified in Item 1A. "Risk Factors" of this report and those described below:

Risks related to the Business Combination Agreement with ADVA

- The consummation of the proposed business combination transaction (the "Business Combination") pursuant to ADTRAN's business combination agreement with ADVA and Acorn HoldCo (the "Business Combination Agreement") is subject to a number of conditions, and the Business Combination Agreement may be terminated by each of ADTRAN and ADVA under certain circumstances. If the Business Combination is not completed, the price of our common stock may be adversely affected.
- Acorn HoldCo, which will be the holding company of ADTRAN and ADVA following the completion of the Business Combination, may enter into a domination and/or profit and loss transfer agreement with ADVA after the closing of the Business Combination that could be disadvantageous to Acorn HoldCo.
- The pendency of the Business Combination, during which ADTRAN and ADVA are subject to certain operating restrictions, as well as uncertainty about the effects of the Business Combination, could have an adverse effect on ADTRAN's, ADVA's and the combined group's businesses and cash flows, financial condition, results of operations and the market value of Acorn HoldCo's shares following the consummation of the Business Combination.
- Negative publicity related to the Business Combination, including post-closing integration measures, may adversely affect ADTRAN, ADVA and the combined group after the Business Combination.
- Certain of our directors and executive officers and certain of the designees to the pre-closing Acorn HoldCo board of directors may have interests in the Business Combination that may be different from, or in addition to, those of ADTRAN stockholders generally.
- We have incurred and expect to continue to incur significant transaction fees and costs in connection with the Business Combination.
- Risks relating to the businesses of ADTRAN and ADVA after the completion of the Business Combination may have a significant adverse impact on Acorn HoldCo's business and financial performance.
- The combined group may fail to realize the anticipated strategic and financial benefits sought from the Business Combination.
- Following the completion of the Business Combination, ADVA will be majority owned by Acorn HoldCo. While Acorn HoldCo may enter into a domination agreement with ADVA, the effectiveness of such agreement may be delayed as a result of litigation or otherwise or may not occur, which may have an adverse effect on the ability to realize synergies and cost reductions and the market value of Acorn HoldCo shares.
- The combined group may experience a loss of customers or may fail to win new customers in certain countries.
- ADTRAN, ADVA or the combined group may be unable to retain and motivate their respective personnel successfully while the Business Combination is pending or following the completion of the Business Combination.

Risks related to our financial results and Company success

- Our revenue for a particular period can be difficult to predict, and a shortfall in revenue may harm our operating results.
- The lengthy sales and approval process required by service providers for new products could result in fluctuations in our revenue.

- We depend heavily on sales to certain customers; the loss of any of these customers would significantly reduce our revenue and net income.
- 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.
- Our dependence on a limited number of suppliers for certain raw materials, key components and ODM products, combined with supply shortages, have prevented and may continue to prevent us from delivering our products on a timely basis, which has had and may continue to have a material adverse effect on operating results and could have a material adverse effect on customer relations.
- 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, our liability for warranty obligations may increase or decrease, impacting future cost of revenue.
- 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 flows.
- If we are unable to integrate future acquisitions successfully, it could adversely affect our operating results, financial condition and cash flows.
- Our success depends on attracting and retaining key personnel.
- If we fail to manage our exposure to worldwide financial and securities markets successfully, our operating results and financial statements could be materially impacted.
- The elimination of LIBOR after June 2023 may affect our financial results.
- There are risks associated with our revolving credit agreement and future indebtedness.

Risks related to COVID-19

- The ongoing COVID-19 pandemic has impacted and may continue to impact our business, results of operations and financial condition, particularly our supply chain and workforce.

Risks related to our control environment

- We are currently in the process of implementing a new enterprise resource planning ("ERP") software solution. If we do not effectively implement this project, or any future associated updates, our operations could be significantly disrupted.
- Breaches of our information systems and cyber-attacks could compromise our intellectual property and cause significant damage to our business and reputation.
- If we fail to maintain proper and effective internal controls over financial reporting we could have a material weakness in those internal controls, that if not remediated, could materially adversely affect us.

Risks related to the telecommunications industry

- 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 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 canceled, which could harm our business.
- We engage in research and development activities to develop new, innovative solutions and to improve the application of developed technologies, and as a consequence may miss certain market opportunities enjoyed by larger companies with substantially greater research and development efforts and which may focus on more leading edge development.

- 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 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.
- If we are unable to successfully develop and maintain relationships with SIs, service providers and enterprise VARs, our revenue may be negatively affected.

Risks related to the regulatory environments in which we do business

- We are subject to complex and evolving U.S. and foreign laws, regulations and standards governing the conduct of our business. Violations of these laws and regulations may harm our business, subject us to penalties and to other adverse consequences.
- Changes in trade policy in the U.S. and other countries, specifically the U.K. and China, including the imposition of additional tariffs and the resulting consequences, may adversely impact our gross profits, gross margins, results of operations and financial condition.
- New or revised tax regulations, changes in our effective tax rate, recognition of a valuation allowance or assessments arising from tax audits may have an adverse impact on our results.

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 report along with their meanings:

Acronym/Concept/ Defined Term	Meaning
10G EPON	10-Gigabit EPON (as defined below)
Acorn HoldCo	Acorn HoldCo, Inc., a Delaware corporation and currently a wholly-owned direct subsidiary of the Company
ADVA	ADVA Optical Networking SE, a European stock corporation incorporated under the laws of the European Union and Germany
ADSL	Asymmetric Digital Subscriber Line
ADTN	Ticker symbol for ADTRAN
ADTRAN GmbH	ADTRAN Gesellschaft mit beschränkter Haftung; Limited liability subsidiary of ADTRAN, Inc. in Germany
APAC	Asia Pacific
ASU	Accounting Standards Update
ATIS	Alliance for Telecommunications Industry Solutions; Standards organization that develops technical and operational standards and solutions for the information and technology industry
ATM	Asynchronous Transfer Mode
BBF	Broadband Forum
CAD/CAM	Computer-Aided Design/Computer-Aided Manufacturing
CARES Act	Coronavirus Aid, Relief, and Economic Security Act
Carrier	Entity that provides voice, data or video services to consumers and businesses
COSO	Committee of Sponsoring Organizations of the Treadway Commission
CPE	Customer-Premises Equipment
CSP	Communication Service Provider
C-TPAT	United States Customs Trade Partnership Against Terrorism
DOCSIS	Data Over Cable Service Interface Specification
DPU	Distribution Point Unit
DSL	Digital Subscriber Line
DSLAM	Digital Subscriber Line Access Multiplexer
DSO	Days Sales Outstanding
EMEA	Europe, Middle East and Africa
EPON	Ethernet Passive Optical Network
ERP	Enterprise Resource Planning Software
Ethernet	Means of connecting computers over a LAN (as defined below)
ETSI	European Telecommunications Standards Institute
EU	European Union
FCC	Federal Communications Commission
FCPA	Foreign Corrupt Practices Act
FOB	Free on Board
FSAN	Full Service Access Network
FTTN	Fiber to the Node
FTTdp	Fiber to the distribution point
GDPR	General Data Protection Regulation

Gfast	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
GPON	Gigabit Passive Optical Network
HDSL	High-bit-rate Digital Subscriber Line
hiX	ADTRAN Multiservice Access Platform sold in the EU
ICT	Information and Communications Technology
ILEC	Incumbent Local Exchange Carrier
IoT	Internet of Things
IP	Internet Protocol
ISO	International Organization for Standardization
ITU-T	International Telecommunication Union – Telecommunication Standardization Sector
LAN	Local Area Network
LATAM	Latin America
LIBOR	London Inter-bank Offered Rate
Mbps	Megabits Per Second
MEF	Metro Ethernet Forum
micro-node	Small fixed access nodes that use VDSL2 and Gfast to deliver ultra-broadband services to a small number of end users
MSO	Multiple System Operator
NASDAQ	National Association of Securities Dealers Automated Quotations, an American stock exchange based in New York City
NFV	Network Functions Virtualization
ODM	Original Design Manufacturer
OEM	Original Equipment Manufacturer
OLT	Optical Line Terminal
ONE	Optical Networking Edge
ONT	Optical Network Terminal
Operator	Entity that provides voice, data or video services to consumers and businesses
OS	Operating System
OSP	Outside Plant
OTT	Over the Top
PCAOB	Public Company Accounting Oversight Board
PON	Passive Optical Network
PSU	Performance Stock Unit
QSFP	Quad Small Form-factor Pluggable
RDOF	Rural Digital Opportunity Fund
REACH	Registration, Evaluation, Authorization, and Restriction of Chemicals
RFoG	Radio Frequency over Glass
RoHS	Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment
RSU	Restricted Stock Unit
SaaS	Software-as-a-Service
SD-Access	Software Defined Access
SDN	Software Defined Networking
SDX	Software Defined Everything

SDO	Standards Developing Organizations
SEC	Securities and Exchange Commission
Service Provider or SP	An entity that provides voice, data or video services to consumers and businesses
SFP	Small Form-factor Pluggable
SFP+	Enhanced Small Form-factor Pluggable
SLA	Service Level Agreement
SMB	Small- to Medium-sized Business
SOFR	Secured Overnight Financing Rate
System Integrator or SI	Person or company that specializes in bringing together component subsystems into a whole and ensuring that those subsystems function together
TDM	Time Division Multiplexed
TIA	Telecommunications Industry Association
TIP	Telecom Infra-Project
TL 9000	Standard developed by and for the ICT industry to drive consistency in the quality of products and services down the supply chain through the implementation of a common body of QMS requirements and defined performance-based measurements
U.K.	United Kingdom
U.S.	United States
VAR	Value-Added Reseller
VDSL2	Very high-speed Digital Subscriber Line 2
vWLAN	virtual Wireless Local Area Network
VoIP	Voice over Internet Protocol
WAN	Wide Area Network
WEEE	Waste Electrical and Electronic Equipment; European Community Directive 2012/19/EU on waste electrical and electronic equipment
Wi-Fi	Family of wireless network protocols, based on the IEEE 802.11 family of standards, which are commonly used for local area networking of devices and Internet access
xDSL	All types of digital subscriber lines
XFP	10-Gigabit Small Form-factor Pluggable
XGS-PON	Updated standard for Passive Optical Networks that can support 10 Gbps symmetrical data transfer

PART I

ITEM 1. BUSINESS

Company Overview

ADTRAN is a leading global provider of networking and communications platforms, software, and services focused on the broadband access market. Our vision is to enable a fully connected world where the power to communicate is available to everyone, everywhere. Our business approach, unmatched industry expertise and innovative solutions enable us to address almost any customer need. Our products and services are utilized by a diverse global customer base of network operators that range from those having regional or national reach and operating as telephone or cable television network operators to alternative network providers such as municipalities or utilities, as well as, managed service providers who serve small- and medium-sized businesses and distributed enterprises.

We operate under two reportable segments: (1) Network Solutions, which includes hardware and software products, and (2) Services & Support, which includes a portfolio of network implementation services, support services and cloud-hosted SaaS applications that complement our product portfolio and can be utilized to support other platforms as well. These two segments span across our three revenue categories: (1) Access & Aggregation, (2) Subscriber Solutions & Experience and (3) Traditional & Other Products. These revenue categories are distinguished by the types of products and services offered. Access & Aggregation is focused on solutions that are used by service providers to connect their network infrastructure to subscribers; Subscriber Solutions & Experience is concentrated on subscriber solutions that terminate broadband access in the home and/or business along with complementary software applications to optimize the subscriber experience; and Traditional & Other Products encompasses prior-generation technologies, products and services and certain other offerings. See below for a detailed discussion of these reportable segments and revenue categories.

We are focused on being a top global supplier of fiber-based communications infrastructure and SaaS applications spanning from the cloud edge (data center) to the subscriber edge (customer premise) serving both the residential and enterprise connectivity markets. We offer a broad portfolio of flexible network infrastructure solutions, customer premises equipment, software applications, and global services and support that enable service providers to meet their service demands now and in the future. These products and services enable service providers to transition to a common network supporting the simplified delivery of high-capacity services, regardless of subscriber density, network topology and infrastructure diversity.

ADTRAN began operations in January 1986. Headquartered in Huntsville, Alabama, ADTRAN is located in Cummings Research Park– the second largest research park in the U.S. and fourth largest in the world. Our mailing address is 901 Explorer Boulevard, Huntsville, Alabama, 35806. Our telephone number at that location is (256) 963-8000. Our website is www.adtran.com. No information contained on our website is intended to be included as part of, or incorporated by reference into, this report.

Business Combination Agreement

On August 30, 2021, the Company, Acorn Holdco, ADVA and Acorn MergeCo, Inc ("Merger Sub") entered into a business combination agreement (the "Business Combination Agreement"), pursuant to which the Company and ADVA agreed to combine their respective businesses and each become subsidiaries of a new holding company, Acorn HoldCo, a Delaware corporation and currently a wholly-owned direct subsidiary of the Company.

Under the terms of the Business Combination Agreement, Merger Sub, a newly formed Delaware corporation and wholly-owned direct subsidiary of Acorn HoldCo, will merge with and into ADTRAN, with ADTRAN surviving the merger (the "Merger") as a wholly-owned direct subsidiary of Acorn HoldCo. Pursuant to the Merger, each outstanding share of common stock of the Company will be converted into the right to receive one share of common stock of Acorn HoldCo. Acorn HoldCo has also made a public exchange offer to exchange each issued and outstanding no-par value bearer share of ADVA, pursuant to which each ADVA share tendered and accepted for exchange will be exchanged for 0.8244 shares of common stock of Acorn HoldCo (the "Exchange Offer", and together with the Merger, the "Business Combination"). Upon completion of the Business Combination, and assuming that all of the outstanding ADVA shares are exchanged in the Exchange Offer, former ADTRAN stockholders and former ADVA shareholders will own approximately 54% and 46%, respectively, of the outstanding Acorn HoldCo shares.

The Business Combination Agreement was unanimously approved by the Board of Directors of the Company and by the supervisory board and management board of ADVA. On January 6, 2022, the Company's stockholders approved the Business Combination by an overwhelming majority. The end of the ADVA shareholder tender offer acceptance period was on January 26, 2022, which resulted in the acceptance of the Exchange Offer by more than 60% of all shares of ADVA entitled to voting rights existing as of October 31, 2021, thus exceeding the required minimum acceptance threshold. According to the rules of the German Securities Acquisition and Takeover Act, ADVA shareholders who did not tender their shares during the initial acceptance period could do so during a two-week additional acceptance period that began on February 1, 2022 and ended February 14, 2022. This resulted in the acceptance of the Exchange Offer by approximately 66% of all shares of ADVA entitled to voting rights existing as of November 30, 2021. On January 24, 2022, the Committee on Foreign Investment in the United States ("CFIUS") completed its review of the Business Combination and determined that the transaction was not a "covered transaction" subject to CFIUS' jurisdiction, satisfying the condition of the Business Combination Agreement related to CFIUS notification. On February 16, 2022, the U.K. Secretary of State for Business, Energy and Industrial Strategy completed its review of the Business Combination and determined that the Secretary of State will be taking no further action under the National Security and Investment Act 2021 ("NS&I Act"), satisfying the condition of the Business Combination Agreement related to NS&I Act approval. Cooperative proceedings continue with the foreign direct investment authority in Germany.

The Company anticipates the consummation of the Business Combination around the middle of 2022, subject to customary closing conditions, and regulatory approvals from the foreign direct investment authority in Germany.

Additional information about the Business Combination Agreement and proposed Business Combination is set forth in the Company's filings with the SEC, as well as in the registration statement on Form S-4 that Acorn HoldCo filed with the SEC, which was declared effective December 2, 2021 (the "Acorn HoldCo Registration Statement").

Reportable Segments

Our business operates under two reportable segments: (1) Network Solutions and (2) Services & Support. We review our financial performance, specifically revenue and gross profit, based on these two segments.

Network Solutions Segment

Our Network Solutions segment includes hardware and software products that primarily enable multi-Gigabit service delivery over fiber to homes and businesses. In addition to fiber access, this portfolio also includes several products that enable high-speed broadband delivery over alternative mediums including copper, coax and fixed wireless. In the fixed broadband access segment, we offer traditional chassis-based network solutions, such as the Total Access 5000 and hiX 5600, while also accelerating the industry's transition to open, disaggregated fiber access solutions with our SDX Series. In our subscriber solutions portion of the Network Solution segments, ADTRAN offers cloud-managed Wi-Fi gateways and switches that provide a mix of wired and wireless connectivity at the customer premises. Our complete portfolio of broadband access and subscriber connectivity solutions are managed and orchestrated by our Mosaic software suite. The Mosaic software suite includes a mix of orchestration and management solutions that simplify the deployment of next generation fiber access networks.

Services & Support Segment

In addition to our network connectivity solutions, ADTRAN offers a comprehensive portfolio of network design, implementation and cloud-hosted services to assist operators in the deployment of multi-vendor networks while reducing their cost to maintain these networks. The cloud-hosted services include a suite of SaaS applications under our Mosaic One platform that manages end-to-end network and service optimization for both fiber access infrastructure and mesh Wi-Fi connectivity. These services are backed by a global support organization that offers on-site and off-site support services with varying SLAs. By pairing our network solutions with our global services and support organization, customers can turn to ADTRAN as their single turnkey partner to assist with the deployment and maintenance of modern fiber access networks to connect homes and businesses.

Revenue Categories

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 platforms are used by communications service providers 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.

The Access & Aggregation category includes the following product, software and service families:

• Total Access 5000 Series Fiber Access Platform	• FTTdp Gfast DPUs
• Total Access 11xx/12xx/5000 and hiX 5600 FTTN platforms	• Cabinet and OSP enclosures and services
• SFP, SFP+, XFP, QSFP transceivers, cables and other miscellaneous materials	• Mosaic-branded network management and subscriber services control and orchestration software within SD-Access architectures
• All technology varieties of PON OLTs used in conjunction with the ADTRAN family of ONTs or select third-party ONTs	• ADTRAN ONE branded packet optical transport
• Planning, engineering, program management, maintenance, installation and commissioning services to implement customer network solutions	• MetNet 60 GHz fixed wireless access platform
• SDX Series of open, disaggregated fiber access platforms	• Other products and services that are generally applicable to Access & Aggregation

Our Subscriber Solutions & Experience portfolio is used by service providers to terminate their access services infrastructure at the customer 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.

The Subscriber Solutions & Experience category includes the following products, software and services:

• Broadband customer premises solutions, including GPON, XGS-PON, 10G EPON, point-to-point Ethernet ONTs and RFoG micro-nodes	• Planning, engineering, program management, maintenance, installation, and commissioning services to implement customer devices solutions into consumer, small business, and enterprise locations
• NetVanta business class ethernet switches and routers	• IoT Gateways
• Residential gateways for xDSL and DOCSIS connectivity	• ProServices pre-sale and post-sale technical support
• Mosaic One cloud-based SaaS management platform for service providers to manage residential and enterprise networks	• SDG Series of multi-Gigabit mesh Wi-Fi gateways
• Bluesocket vWLAN for business-class Wi-Fi and management	• Other products, software and services applicable to Subscriber Solutions & Experience

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.

The Traditional & Other Products category includes products and services such as:

• TDM and ATM-based aggregation systems and customer devices
• HDSL, ADSL and other mature technologies used to deliver business and residential services over service provider access and customer networks
• Other products and services outside the Access & Aggregation and Subscriber Solutions & Experience categories

Industry Overview

Communications solution providers are investing in their networks for growth in subscriber acquisition and retention, while streamlining their operations to reduce costs and complexity. Drivers for this network investment include the evolution of government funding programs, regulatory broadband policies, competition, increasing subscriber demand for broadband and merger obligations.

Subscriber demand for higher bandwidth continues to increase due to increasing numbers of connected devices, shifting working arrangements, OTT video, the prevalence of IoT and cloud services and the increasing use of internet applications. Performance is directly related to bandwidth availability. As the demand for high-definition video streaming services, symmetric bandwidth for video conferencing and collaboration tools, low-latency cloud gaming services and smart home video surveillance applications continues to increase, so too does the need for higher bandwidth to the home and business. ADTRAN serves as a trusted partner to our customers. Working side-by-side with our customers, we enable them to maximize the performance from their network, providing a flexible path for their networks to evolve cost effectively, and to further monetize their investments.

Our Strategy

Our strategy is to provide innovative and cost-effective solutions for our customers that enable them to address their increasing broadband demands. Our solutions focus on technology transformations that are happening in broadband network infrastructure, home and business CPE and software platforms, and services needed to help our customers address increasing complexity while scaling to meet increasing consumer demands. We aspire to be one of the top communication technology players in the world and plan to achieve this goal through innovation in network, home and business technology paired with a customer-focused organizational structure that tailors solutions to meet the needs of our target customers. ADTRAN has an approach to our portfolio in which we are focused in specific markets where we can offer competitive differentiation and scale while also having enough diversity and breadth in the portfolio to provide end-to-end connectivity solutions that offer value to our customers.

Customers

We have a diverse global customer base that includes Tier-1, -2 and -3 service providers, alternative service providers, such as utilities, municipalities and fiber overbuilders, cable/MSOs, SMBs and distributed enterprises. Many network operators require product approval before the purchase or installation of a product. The nature of our business involves a dynamic process of submitting new and succeeding generations of products for approval prior to orders being placed.

One distribution partner individually comprised more than 10% of our revenue in 2021. Additionally, our revenue in the U.S., Germany and the U.K. comprised more than 10% of our revenue in 2021. The revenue from this distribution partner and these countries is reported in both our Network Solutions and Services & Support segments.

For a discussion of risks associated with customers, service providers and approval processes, see "Risk Factors – The lengthy sales and approval process required by service providers for new products could result in fluctuations in our revenue," "Risk Factors – We depend heavily on sales to certain customers; the loss of any of these customers would significantly reduce our revenue and net income," in Part I, Item 1A of this report.

Distribution, Sales and Marketing

We sell our products through our direct sales organization and our distribution network. Our direct sales organization supports major accounts and has offices in domestic and international locations. Sales to most smaller and independent telephone companies are fulfilled through a combination of direct sales and distributors. Our services offerings can be purchased directly from us or through one of our service providers, channel partners or distribution partners.

Before placing an order, service providers typically require lengthy product qualification and standardization processes that can extend for several months or even years. Once approved, product orders are typically placed under single or multi-year supply agreements that are generally not subject to minimum volume commitments. Service providers generally prefer having two or more suppliers for most products. Therefore, individual orders are usually subject to competition based on some combination of total value, service, price, delivery and other terms.

Orders for end-user products are fulfilled through a combination of direct sales and distributors. This is supported by a direct sales organization for major accounts and a channel-based sales organization to facilitate sales to our partners. MSPs, VARs and SIs may be affiliated with the company as channel partners, or they may purchase from a distributor in an unaffiliated fashion. Affiliated partners participate with us at various program levels, based on sales volume and other factors, to receive benefits such as product discounts, market development funds, technical support and training.

Outside of the U.S., most service provider products are sold through our direct sales organization and end-user products are sold direct or through distribution arrangements customized for each region. Some regions are supported from a field office that offers sales and support functions, and in some cases, warehousing and manufacturing support. Our field sales organizations, distributors and service provider customers receive support from regional-based marketing, sales and customer support groups.

Our marketing organization promotes all brands associated with ADTRAN to key stakeholders, including customers, partners and prospects throughout the world. Marketing is complemented by product marketing and management teams that work with our engineering teams to develop and promote new products and services, as well as product enhancements.

Research and Development

Rapidly changing technologies, evolving industry standards, changing customer requirements and continuing developments in communications service offerings characterize the markets for our products. Our on-going ability to adapt to these changes and to develop new and enhanced products that meet or anticipate market demand is a significant factor influencing our competitive position and our ability to grow.

Our product development activities are an important part of our strategy. We plan to maintain our emphasis on product development to enable us to respond to rapidly changing technology and evolving industry standards. Our research and development and engineering functions are global. We maintain research and development functions at our Huntsville, Alabama headquarters, in Germany and other locations worldwide. During the years ended December 31, 2021, 2020 and 2019, research and development expenditures totaled $108.7 million, $113.3 million and $126.2 million, respectively.

We develop our products either internally or by leveraging partners. Additionally, in some cases, we license intellectual property or acquire technologies. Internal development on advanced technology products gives us more control over design and manufacturing issues, while for traditional designs, ODM and/or licensed intellectual property provides us with the ability to leverage the economies of scale of our technology partners. This balanced approach ensures we provide best-in-class solutions for our customers.

As we continue to create more software-based intellectual property, such as our SDN/NFV portfolio, our use of lean agile practices in research and development ensures we remain responsive and customer-focused. This enables us to deliver products faster, at higher quality and more economically to our customers and the market on a continuous basis.

Our ability to continually reduce product costs, while focusing on delivery and quality, are important parts of our overall business strategy. Our product development efforts are often centered on entering a market with improved technology, enabling us to offer products at competitive prices and compete for market share. We continually re-engineer successive generations of existing products to improve our product performance, costs and value. In 2021 we encountered supply chain disruptions and component shortages, which resulted in us re-engineering some of our products to work around component end of life issues. *See Backlog and Inventory included in Part I, Item 1 of this report for additional information regarding our supply chain disruptions.*

Development activities focus on solutions that support both existing and emerging communications industry technologies in segments that we consider viable revenue opportunities. We are actively engaged in developing and refining technologies to support data, voice and video transport primarily over IP/Ethernet network architectures. This includes Ethernet aggregation, fiber-optic transport and access, DSL, access routing, Ethernet switching, wireless LANs, integrated access, converged services, VoIP, network management and professional services. In 2021, we completed the design of certain IoT products, added Wi-Fi 6 gateways and completed our 10G EPON strand mount OLT. We also enhanced our SaaS delivery abilities and Mosaic One software.

Our research function supports product development efforts throughout the Company. This function guides our various product design and engineering teams in digital signal processing technologies, computer simulation and modeling, CAD/CAM toolsets, custom semiconductor design, optical transceiver design, industry standards, technological forecasting, product development methods and emerging networks standards.

Many communication requirements, processes and technologies are governed by SDOs. These SDOs consist of representatives from various manufacturers, service providers and testing laboratories who work to establish specifications and compliance guidelines for emerging communications technologies. We are an active participant in several SDOs and have assisted with the development of worldwide standards in many technologies.

Our SDO activities are primarily in the area of broadband access. This includes involvement with the ITU-T, ATIS, ETSI and the BBF. We are involved in the evolution of optical access technologies, participating in activities in the ITU-T, FSAN and BBF on next-generation PON. We are also involved in standards development efforts related to maximizing the bandwidth potential of the copper pair to enable new applications in the ITU-T. We continue to be involved with the industry-wide interoperability, performance-testing and system-level projects related to those standards in the BBF. We are also members of MEF, TIA, CableLabs and TIP.

For a discussion of risks associated with our research and development activities, see "Risk Factors – We must continue to update and improve our products and develop new products to compete and to keep pace with improvements in communications technology" and "Risk Factors – We engage in research and development activities to develop new, innovative solutions and to improve the application of developed technologies, and as a consequence may miss certain market opportunities enjoyed by larger companies with substantially greater research and development effort and which may focus on more leading edge development," in Part I, Item 1A of this report.

Manufacturing and Operations

The principal steps in our manufacturing process include the purchase and management of materials, assembly, testing, final inspection, packing and shipping. We purchase parts and components for the assembly of some products from a large number of suppliers through a worldwide sourcing program. Additionally, we manage a process that identifies the components that are best purchased directly by contract manufacturers for use in the assembly of our products to achieve manufacturing efficiency, quality and cost objectives. Certain key components used in our products are currently available from a single source, and other key components are available from only a limited number of sources. In the past, we have experienced delays in the receipt of certain key components, which has resulted in delays in related product deliveries. We attempt to manage these risks through developing alternative sources, by staging inventories at strategic locations, through engineering efforts designed to prevent the necessity of certain components and by maintaining close contact and building long-term relationships with our suppliers. With the current global supply chain and transportation constraints, and limited availability of semiconductor chips and other components of our products, we have experienced and may continue to experience extended lead times, increased logistics intervals and costs, and lower volume of products deliveries, which have and may continue to have a material adverse effect on our operating results and could have a material adverse effect on customer relations and our financial condition. We expect that the supply chain constraints and semiconductor shortage will continue to affect our operating results through the end of 2022, although we cannot predict such factors with certainty. *See Backlog and Inventory included in Part I, Item 1 of this report for additional information.*

We rely on subcontractors for assembly and testing of certain printed circuit board assemblies, sub-assemblies, chassis, enclosures and equipment shelves, and to purchase some of the raw materials used in such assemblies. We typically manufacture our lower-volume, higher-mix products and build and test product prototypes and many of our initial production units at our manufacturing site in Huntsville, Alabama. We later transfer the production of higher-volume, lower-mix assemblies to our subcontractors. Subcontract assembly operations can lengthen fulfillment cycle times, but we believe we can respond more rapidly to uncertainties in incoming order rates by selecting assembly subcontractors that have significant reserve capacity and flexibility. Our subcontractors have generally proven to be flexible and able to meet our quality requirements.

We ship the majority of products to our U.S. customers from our facilities in Huntsville, Alabama, although we also fulfill customer orders from other locations near our customers' sites, when possible. The majority of our products shipped to EMEA customers come from locations in that region. We also ship directly from subcontractors to a number of customers in the U.S. and international locations. Most of our facilities are certified pursuant to the most current releases of ISO 9001, TL 9000, ISO 14001 and ISO 27001. Our Huntsville, Alabama facilities and many of our key suppliers are C-TPAT certified. Our products are also certified to certain other customer, industry and privacy standards, including those relating to emission of electromagnetic energy and safety specifications.

For a discussion of risks associated with manufacturing activities, see "Risk Factors – 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" and "Risk Factors – Our dependence on a limited number of suppliers for certain raw materials, key components and ODM products, combined with supply shortages, have prevented and may continue to prevent us from delivering our products on a timely basis, which has had and may continue to have a material adverse effect on operating results and could have a material adverse effect on customer relations," in Part I, Item 1A of this report.

Our dependence on a limited number of suppliers for certain raw materials, key components and ODM products, combined with supply shortages, have prevented and may continue to prevent us from delivering our products on a timely basis, which has had and may continue to have a material adverse effect on operating results and could have a material adverse effect on customer relations.

Competition

We compete in markets for networking and communications services and solutions for service providers, businesses, government agencies and other organizations worldwide. Our products and services provide solutions supporting voice, data and video communications across fiber-, copper-, coaxial- and wireless-based infrastructure, as well as across wide area networks, local area networks and the internet.

We compete with a number of companies in the markets we serve. In our Access & Aggregation category, key competitors include Calix, Casa Systems, Ciena, CommScope, DZS, Harmonic, Huawei, Nokia, Radisys, Tibit Communications, Vecima Networks and ZTE. In the Subscriber Solutions & Experience category, our primary competitors include Calix, Cisco, CommScope, Hewlett Packard Enterprise, Juniper Networks, Ribbon Communications, Ubiquiti Networks and Zyxel. In addition to these OEM vendors, we face increasing competition from various ODM vendors who are being engaged directly by some of our service provider customers. Some

of these companies compete in a single product segment, while others compete across multiple product lines. Competitors of our Services & Support business include Calix, Fujitsu Network Communications and Nokia.

For further discussion of risks associated with our competition, see "Risk Factors – We must continue to update and improve our products and develop new products to compete and to keep pace with improvements in communications technology" and "Risk Factors – We compete in markets that have become increasingly competitive, which may result in reduced gross profit margins and market share," in Part I, Item 1A of this report.

Seasonality

We experience quarterly fluctuations in our revenue that occur due to many factors, including the varying budget cycles and seasonal buying patterns of our customers. More specifically, our customers tend to spend less in the first fiscal quarter as they are finalizing their annual capital spending budgets. These seasonal effects may continue to vary and do not always correlate to our operating results. Accordingly, they should not be considered a reliable indicator of our future revenue or operating results.

Foreign Currency

Transactions with customers that are denominated in foreign currencies are recorded using the appropriate exchange rates from throughout the year. Assets and liabilities denominated in foreign currencies are remeasured at the balance sheet dates using the closing rates of exchange between those foreign currencies and the functional currency with any transaction gains or losses reported in other income (expense). 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. Adjustments resulting from translating financial statements of international subsidiaries are recorded as a component of accumulated other comprehensive (loss) income.

Backlog and Inventory

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 nonbinding 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; however, with the current global supply chain and transportation constraints, and limited availability of semiconductor chips and other components of our products, we have experienced and may continue to experience extended lead times, increased logistics intervals and costs, and lower volume of products deliveries, which has had and may continue to have a material adverse effect on our operating results and could have a material adverse effect on our operating results, customer relations and our financial condition. The backlog has been increasing due to increased demand and supply chain constraints. Additionally, backlog levels may vary because of seasonal trends, the timing of customer projects and other factors that affect customer order lead times.

To meet this type of demand, we have enhanced and implemented supply chain management systems and processes to manage the materials planning and production processes. We maintain substantial inventories of raw materials for long lead time components to support this demand and avoid expedite fees. In the current environment, our raw material inventory has grown due to increased purchases in preparation for strategic inventory buffer purchases as well as new product ramp ups to ensure supply continuity during the COVID-19 pandemic. We expect inventory levels to fluctuate as we attempt to maintain sufficient inventory in response to COVID-19 uncertainties related to supply chain and supply, seasonal cycles of our business and ensuring competitive lead times while managing the risk of inventory. We also maintain substantial finished goods inventories. Our practice of maintaining sufficient inventory levels to assure prompt delivery of our products and services increases the amount of inventory that may be considered excess and/or obsolete. This excess and obsolete inventory may require us to write down the value of the inventory, which may have an adverse effect on our operating results.

For further discussion of risks associated with managing our inventory, see "Risk Factors – Managing our inventory is complex and may include write-downs of excess or obsolete inventory," in Part I, Item 1A of this report.

Government Regulation

Our products must comply with various regulations and standards established by communications authorities in various countries, as well as those of certain international bodies. Environmental legislation within the EU may increase our cost of doing business as we amend our products to comply with these requirements. For example, the EU issued the RoHS directive, the WEEE directive and the REACH regulation. We continue to implement measures to comply with these and other similar directives and regulations from additional countries.

We strive to deliver innovative network access solutions that lower the total cost and reduce the time of deploying services, increase the level of performance achievable with established infrastructures, reduce operating and capital expenses for our customers, increase network bandwidth and functionality, and extend network reach. Our development process is conducted in accordance with ISO 9001, TL 9000, ISO 14001, and ISO 27001, all of which are international standards for quality and environmental management systems. Our corporate practices also conform to GDPR requirements, which protect digital data for all EU citizens, and to other applicable data protection laws, including the California Consumer Privacy Act. To date, our compliance actions and costs relating to these laws, rules and regulations have not resulted in a material cost or effect on our capital expenditures, earnings or competitive position.

For further discussion of risks associated with government regulation, see "Risk Factors – We are subject to complex and evolving U.S. and foreign laws, regulations and standards governing the conduct of our business. Violations of these laws and regulations may harm our business, subject us to penalties and to other adverse consequences."

Human Capital

We believe that our most valuable asset is our people. To ensure our Company continues to succeed, our objective is to be able to recruit, hire and retain top talent. Our ability to attract and retain a high-quality workforce is dependent on our ability to maintain a diverse, equitable and inclusive workplace that provides opportunities for our employees to learn and grow in their careers. This is supported by competitive compensation and benefits, along with strong community service and other programs that enable employees to build connections within the community.

As of December 31, 2021, we had 1,335 full-time employees, with 1,036 in the U.S. and 299 in our international subsidiaries located in North America, Latin America, EMEA and APAC regions. We also utilized 45 contractors and numerous temporary employees domestically and internationally in various manufacturing, engineering, sales and general and administrative capacities. We believe that our relationship with our employees is good. ADTRAN has a diverse employee base located in 17 countries. We pride ourselves on a highly educated workforce, and the majority of our employees serve in engineering, information technology and technical roles within the organization.

As of December 31, 2021, approximately 168 employees (76%) of ADTRAN GmbH were subject to collective bargaining agreements of either the Association of Metal and Electrical Industry in Berlin and Brandenburg e.V. or NORDMETALL Association of Metal and Electrical Industry e.V. Although these collective bargaining agreements will expire on September 30, 2022, negotiations with the employees of ADTRAN GmbH for a new collective bargaining agreement are ongoing and we have not experienced any work stoppage. None of our other employees are subject to collective bargaining agreements.

Additionally, we continually work to recruit technical talent in diverse communities through our cooperative education program. This program seeks to identify college students that major in relevant technology areas and expose them to the work environment at ADTRAN on an alternating semester basis. Our goal is to retain as many of these students as possible for full-time employment after graduation, as they are our Company's future.

Diversity, Equity and Inclusion

We believe that maintaining a diverse and inclusive workforce is critical to the success of our business. The Company encourages an environment where individuality is embraced regardless of age, gender, identity, race, sexual orientation, physical or mental ability, ethnicity and perspective and where each employee is accepted and respected and can, therefore, bring their most authentic self to work. To this end, we have established an employee-driven Diversity, Equity & Inclusion ("DE&I") Task Force to spearhead our efforts. The DE&I Task Force is comprised of our Chief Financial Officer and employee volunteers who are passionate about DE&I and how it affects our workforce.

In addition to diversity in our workforce, we seek to ensure diversity in our Board of Directors with respect to skills, experience, gender, race and ethnicity. Our Board of Directors is comprised of six members, two of which are females and three of which are ethnically diverse. Additionally, the Board of Directors has a diversity of skills and experience with respect to accounting and finance, management and leadership, vision and strategy, business operations, business judgment, crisis management, risk assessment, industry knowledge, corporate governance and global markets.

Health, Safety and Wellness

The well-being of our employees is paramount to the continued success of our business. To this end, we are committed to each of our employees' health, safety and wellness. We provide our employees with access to various health and wellness benefits designed to enable them and their family members to have affordable access to health, dental and vision insurance. Additionally, we offer access to many programs that provide additional monetary support in the event of a qualifying incident, including accident insurance, life insurance and hospital indemnity insurance, among others. We understand that mental health is an essential aspect of our employees' wellbeing. As a result, we offer an employee assistance program at no charge to employees and their family members. This program provides access to qualified personnel to address various issues such as grief, financial stress, family and emotional issues.

In response to the COVID-19 pandemic, we implemented significant changes that were determined to be in the best interest of our employees and the communities in which we operate. We introduced enhanced health and safety standards that are in compliance with, or exceed, local, state and federal recommendations and regulations in the U.S. and at our international locations. This includes having the vast majority of our global employees work from home when possible. In areas where it is necessary to have critical, on-site personnel, such as at our manufacturing facilities, additional health and safety measures have been implemented to provide the safest environment possible for these workers.

Compensation and Benefits

We continually work to provide a competitive compensation and benefits program as this plays a key role in our ability to attract and retain a highly skilled workforce. In addition to salaries, these programs, which vary by country/region, include long-term equity incentive awards with certain vesting requirements, deferred compensation plans (which are offered to certain members of executive management), a 401(k) plan, healthcare and insurance benefits, health savings and flexible spending accounts, paid time off, paid volunteer time off, employee assistance program and tuition assistance. Additionally, at our headquarters in Alabama, we offer our employees certain on-site services, including nurse practitioner care and a fitness center, among others.

Talent Development

We invest significant resources to develop the talent needed to remain a market-leading global supplier of broadband infrastructure. We offer numerous training opportunities on both technical and professional development topics. We utilize tools and processes to provide performance feedback which helps develop high potential employees into becoming our future leaders.

The ADTRAN Career Development Program provides an opportunity for employees to shape their career journey. The program provides opportunities for employees to develop competencies in areas including technology, business acumen, emotional intelligence, design and systems thinking. As employees increase their competencies in these areas and master skills within their individual roles, this program offers a variety of career advancement paths. Employees also have access to the ADTRAN LearningNetwork. This platform houses all required training, as well as optional training in a variety of areas.

Intellectual Property

ADTRAN develops and owns a significant amount of intellectual property. We hold over 600 patents worldwide related to our products and over 50 additional pending patent applications. Our patents expire at various dates between 2022 and 2038. We continue to seek additional patents related to our research and development activities. We do not derive any material amount of revenue from the licensing of our patents.

The ADTRAN corporate logo is a registered trademark of ADTRAN, as is the name "ADTRAN", "SmartRG" and a number of our product identifiers and names. We also claim rights to a number of unregistered trademarks.

We protect our intellectual property and proprietary rights in accordance with good legal and business practices. We believe, however, that our competitive success will not fully depend on the ownership of intellectual property, but instead will depend primarily on the innovative skills, technical competence and marketing abilities of our personnel.

The communications industry is characterized by the existence of an ever-increasing volume of patent litigation and licensing activities. We have received, and may continue to receive, notices of claims alleging that we are infringing upon patents or other intellectual property. We cannot predict whether we will prevail in any claims or litigation over alleged infringements, or whether we will be able to license any valid and infringed patents, or other intellectual property, on commercially reasonable terms. It is possible that such litigation may result in significant legal costs and judgments and that intellectual property infringement claims, or related litigation against or by us could have a material adverse effect on our business and operating results.

For a discussion of risks associated with our intellectual property and proprietary rights, see "Risk Factors – Our failure to maintain rights to intellectual property used in our business could adversely affect the development, functionality, and commercial value of our products" in Part I, Item 1A of this report.

Information about our Executive Officers

Set forth below is certain information regarding the current executive officers of ADTRAN. The age of each executive set forth below is as of December 31, 2021.

Thomas R. Stanton	Age 57
2007 to present	Chief Executive Officer and Chairman of the Board
Michael K. Foliano	Age 61
2019 to present	Senior Vice President of Finance and Chief Financial Officer
2006 to 2019	Senior Vice President of Operations
James D. Wilson, Jr.	Age 51
2019 to present	Chief Revenue Officer
2015 – 2019	Senior Vice President of Technology and Strategy
2006 – 2015	Senior Vice President and General Manager of Carrier Networks
Raymond Harris	Age 58
2018 to present	Chief Information Officer
2017 – 2018	Director High-Performance Computing – Johns Hopkins University Applied Physics Lab
2010 – 2017	Vice President and Chief Information Officer – Iron Bow Technologies LLC
2008 – 2010	Chief Information Security Engineer – Johns Hopkins University Applied Physics Lab
Ronald D. Centis	Age 59
2019 to present	Senior Vice President of Operations
2018 – 2019	President and Chief Operating Officer – Fastback Networks
2015 – 2017	Executive Vice President and General Manager CenturyLink – Ericsson
Marc Kimpe	Age 52
2019 to present	Senior Vice President of Research and Development
2014 – 2019	Vice President of Research and Development
Robert Conger	Age 41
2020 to present	Senior Vice President of Technology and Strategy
2018 – 2020	Chief Technology Officer, Americas and Head of Portfolio Strategy

There are no family relationships among our directors or executive officers.

Availability of Information

We file annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements and other information as required with the SEC. The SEC maintains an internet website, http://www.sec.gov, that contains reports, proxy and information statements, and other information regarding issuers, including ADTRAN, that file electronically with them. Additionally, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports, if applicable, filed or furnished pursuant to Section 13(a) or 15(d) of the Securities and Exchange Act of 1934, as amended, are available free of charge under the Investor Relations section of our website, www.adtran.com, as soon as reasonably practicable after we electronically file them with, or furnish them to, the SEC. The reference to our website address does not constitute incorporation by reference of the information contained on the website, which information should not be considered part of this report.

ITEM 1A. RISK FACTORS

Our business involves substantial risks. Any of the risk factors described below or elsewhere in this report could significantly and adversely affect our business prospects, financial condition and results of operations. The risks described below are not the only ones facing us. Additional risks and uncertainties not presently known to us or that we currently deem to be immaterial may also adversely affect us.

Risks Related to the Business Combination Agreement with ADVA

The consummation of the Business Combination is subject to a number of conditions, and the Business Combination Agreement may be terminated by each of ADTRAN and ADVA under certain circumstances. If the Business Combination is not completed, the price of our common stock may be adversely affected.

The consummation of the Business Combination is subject to a number of conditions, including, among others, (i) adoption of the Business Combination Agreement by holders of a majority of the outstanding shares of ADTRAN common stock, (ii) the tender in the Exchange Offer of at least 60% of the outstanding ADVA shares, (iii) the declaration of effectiveness by the SEC of the Acorn HoldCo Registration Statement on Form S-4 that Acorn HoldCo filed with the SEC for the shares to be issued in the Merger and the Exchange Offer, with no stop order in effect or being sought with respect thereto, (iv) receipt of certain antitrust and foreign direct investment regulatory approvals for the transaction (the "regulatory condition") and (vi) the absence of any law, regulation, administrative act, injunction, temporary restraining order or preliminary or permanent injunction or other order issued by any governmental entity in any relevant jurisdiction prohibiting or making illegal (a) the consummation of the Exchange Offer or the Merger or (b) the ownership of ADVA shares or shares of the surviving corporation by Acorn HoldCo. Furthermore, ADTRAN's obligation to consummate the Business Combination is subject to certain additional customary conditions, including (i) the absence of a Target Material Adverse Change for ADVA, as defined in the Business Combination Agreement, (ii) the absence of the violation of law by ADVA related to bribery, corruption or export sanctions, (iii) the absence of an increase or decrease in ADVA's share capital of more than 1%, subject to certain exceptions and the absence of a loss in the amount of half or more of ADVA's share capital and (iv) the absence of any insolvency proceedings against ADVA or circumstances requiring the opening of insolvency proceedings. Except for the regulatory condition, all conditions to the Business Combination have been satisfied on or prior to the end of the acceptance period for the Exchange Offer. The regulatory condition may remain outstanding for up to twelve months following the end of the acceptance period. The completion of the Business Combination will depend on the satisfaction of the regulatory condition. No assurance can be given that the regulatory condition to the Business Combination will be satisfied or, if it is, as to the timing of the closing of the Business Combination.

Furthermore, pursuant to the Business Combination Agreement, both we and ADVA may terminate the Business Combination Agreement under certain circumstances, including, among others, the occurrence of a material adverse change affecting ADVA or certain changes in the recommendation to the ADVA management or supervisory board.

If the regulatory condition to the Business Combination is not satisfied or validly waived in advance, or if termination rights are exercised, the Business Combination Agreement will terminate and the Business Combination will not be completed. If the Business Combination is delayed or not completed, the price of our common stock may decline.

Acorn HoldCo, which will be the holding company of ADTRAN and ADVA following the completion of the Business Combination, may enter into a domination and/or profit and loss transfer agreement with ADVA after the closing of the Business Combination that could be disadvantageous to Acorn HoldCo.

Following completion of the Business Combination, Acorn HoldCo may enter into a domination and/or profit and loss transfer agreement (a "DPLTA") with ADVA. Pursuant to applicable provisions of the German Stock Corporation Act, under a DPLTA, Acorn HoldCo would be obligated to compensate any annual net loss of ADVA. Further, each ADVA shareholder who did not tender in the Exchange Offer would be offered to elect either (1) to remain an ADVA shareholder and receive, in the case of a domination agreement, an adequate fixed or variable annual guaranteed dividend or, in the case of a profit and loss transfer agreement, receive annual recurring compensation pursuant to applicable provisions of the German Stock Corporation Act, or (2) to receive adequate exit compensation in exchange for its ADVA shares pursuant to applicable provisions of the German Stock Corporation Act. ADVA shareholders electing the first option may later elect the second option for as long as the offer for the exit compensation is open. Acorn HoldCo's obligation to pay an adequate fixed or variable annual guaranteed dividend or annual recurring compensation would lead to a continuing payment obligation for Acorn HoldCo which could be higher than dividends to be otherwise distributed to its shareholders. This could result in a substantial financial obligation of Acorn HoldCo.

The pendency of the Business Combination, during which ADTRAN and ADVA are subject to certain operating restrictions, as well as uncertainty about the effects of the Business Combination, could have an adverse effect on ADTRAN's, ADVA's and the combined group's businesses and cash flows, financial condition, results of operations and the market value of Acorn HoldCo's shares following the consummation of the Business Combination.

The pendency of the Business Combination could disrupt ADTRAN's and ADVA's businesses, and uncertainty about the effect of the Business Combination may have an adverse effect on ADTRAN and ADVA. These uncertainties could cause suppliers, vendors, partners, customers and others that deal with ADTRAN or ADVA to defer entering into contracts with, or making other decisions concerning ADTRAN or ADVA or to seek to change or cancel existing business relationships with the companies. This might have an adverse effect on the revenues and cash flows of ADTRAN and ADVA. In addition, due to this, ADTRAN's and ADVA's employees may experience uncertainty regarding their roles after the Business Combination. Employees may depart either before or after the completion of the Business Combination because of uncertainty and issues relating to the difficulty of coordination or because of a desire not to remain following the Business Combination. Therefore, the pendency and uncertainty about the effect of the Business Combination may adversely affect Acorn HoldCo's, ADTRAN's and ADVA's ability to retain, recruit and motivate key personnel. Additionally, the attention of ADTRAN's and ADVA's management may be directed towards the completion of the Business Combination, including obtaining regulatory approvals and/or initiating post-completion integration measures, and may be diverted from the day-to-day business operations of ADTRAN and ADVA. Matters related to the Business Combination may require commitments of time and resources that could otherwise have been devoted to other opportunities that might have been beneficial to ADTRAN and ADVA. Additionally, the Business Combination Agreement requires ADTRAN and ADVA to refrain from taking certain specified actions, for example significant investments or disposals, while the Business Combination is pending. These restrictions may prevent ADTRAN and ADVA from pursuing otherwise attractive business opportunities or capital structure alternatives and from executing certain business strategies prior to the completion of the Business Combination. Further, the Business Combination may give rise to potential liabilities, including those that may result from pending and future stockholder lawsuits relating to the Business Combination or a potential post-completion reorganization. Any of these matters could adversely affect the businesses of, or harm the results of operations, financial condition or cash flows of ADTRAN, ADVA or the combined group following the Business Combination.

Further, certain adverse changes in the business of ADVA or ADTRAN in the period prior to the closing of the Business Combination may occur that would not result in ADTRAN, ADVA or Acorn HoldCo having the right to terminate the Business Combination Agreement or the Exchange Offer. If adverse changes occur for ADTRAN and ADVA but the Business Combination is still required to be completed, the market value of ADTRAN shares, ADVA shares or Acorn HoldCo shares may decrease. If the Business Combination is not completed, these risks may still materialize and adversely affect the business and financial results of ADTRAN and/or ADVA.

Negative publicity related to the Business Combination, including post-closing integration measures, may adversely affect ADTRAN, ADVA and the combined group after the Business Combination.

Political and public sentiment in connection with the Business Combination and associated post-closing integration measures may result in a significant amount of adverse press coverage and other adverse public statements affecting the parties to the Business Combination. Adverse press coverage and public statements, whether or not driven by political or popular sentiment, may also result in legal claims or in investigations by regulators, legislators and law enforcement officials. Responding to these investigations and lawsuits, regardless of the ultimate outcome of the proceedings, can divert the time and effort of senior management from operating their businesses. Addressing any adverse publicity, governmental scrutiny or enforcement or other legal proceedings could be time-consuming and expensive and, regardless of the factual basis for the assertions being made, could have a negative impact on the reputation of ADTRAN, ADVA and Acorn HoldCo, on the morale and performance of their employees and on the relationships with regulators, suppliers and customers. It may also have a negative impact on our ability to take timely advantage of various business and market opportunities. The direct and indirect effects of negative publicity, and the demands of responding to and addressing it, may have a material adverse effect on ADTRAN's, ADVA's and, after the Business Combination, the combined group's respective businesses and cash flows, financial condition and results of operations.

Certain of our directors and executive officers and certain of the designees to the pre-closing Acorn HoldCo board of directors may have interests in the Business Combination that may be different from, or in addition to, those of ADTRAN stockholders generally.

Certain of our directors and executive officers, as well as certain designees to the pre-closing Acorn HoldCo board of directors, may have interests in the Business Combination that may be different from, or in addition to, the interests of ADTRAN stockholders. These interests include the continued service of certain directors and executive officers following the closing of the Business Combination, the treatment of restricted stock units, performance stock units, stock options and other equity-based awards in connection with the Business Combination, and the indemnification of ADTRAN Directors, executive officers and designees to the pre-closing Acorn HoldCo board of directors by Acorn HoldCo.

We have incurred and expect to continue to incur significant transaction fees and costs in connection with the Business Combination.

We have incurred and expect to continue to incur a number of significant non-recurring implementation and restructuring costs associated with combining the operations of the two companies. In addition, we have incurred and expect to continue to incur significant banking, legal, accounting and other transaction fees and costs related to the Business Combination.

Additional costs substantially in excess of currently anticipated costs may also be incurred in connection with the integration of the businesses of ADTRAN and ADVA. For additional information regarding estimates of fees and costs relating to the Business Combination Agreement and proposed Business Combination refer to the Company's filings with the SEC, as well as the Acorn HoldCo Registration Statement.

Any cost savings or other efficiencies related to the integration of the businesses that could offset these transaction- and combination-related costs over time may not be achieved in the near term, or at all. In addition, the timeline in which cost savings are expected to be realized is lengthy and may not be achieved. Failure to realize these synergies and cost reductions and other efficiencies in a timely manner or at all could have a material adverse effect on Acorn HoldCo's and ADTRAN's respective businesses and cash flows, financial condition and results of operations.

Risks relating to the businesses of ADTRAN and ADVA after the completion of the Business Combination may have a significant adverse impact on Acorn HoldCo's business and financial performance.

Due to the size and geographic reach of Acorn HoldCo's operations following the completion of the Business Combination, a wide range of factors could materially affect its operations and financial performance. In addition to the risks described herein, the risks relating to ADVA's business described in "Risk Factors — Risks Relating to the Business of ADVA" in the Acorn HoldCo Registration Statement, may significantly impact Acorn HoldCo's business and financial performance after the completion of the Business Combination.

The combined group may fail to realize the anticipated strategic and financial benefits sought from the Business Combination.

The combined group may not realize any or all of the anticipated benefits of the Business Combination. The success of the Business Combination will depend on, among other things, Acorn HoldCo's ability to combine ADTRAN's business with ADVA's business in a manner that facilitates growth and realizes anticipated cost savings.

However, Acorn HoldCo must successfully combine the businesses of ADTRAN and ADVA in a manner that permits these anticipated benefits to be realized. In addition, the combined group must achieve the anticipated growth and cost savings without adversely affecting current revenue and investments in future growth.

In addition, the actual integration of ADTRAN and ADVA will involve complex operational, technological and personnel-related challenges. This process will be time-consuming and expensive, and it may be disruptive to the combined businesses. Acorn HoldCo may not realize all of the anticipated benefits of the Business Combination. Difficulties in the integration of the businesses, which may result in significant costs and delays, include:

- managing a significantly larger combined group;
- aligning and executing the strategy of the combined group;
- integrating and unifying the offerings and services available to customers and coordinating distribution and marketing efforts in geographically separate organizations;
- coordinating corporate and administrative infrastructures and aligning insurance coverage;
- coordinating accounting, information technology, communications, administration and other systems;
- addressing possible differences in corporate cultures and management philosophies;
- coordinating the compliance program and creating uniform standards, controls, procedures and policies;
- the implementation, ultimate impact and outcome of potential post-completion reorganization transactions, which may be delayed or not take effect as a result of litigation or otherwise;
- unforeseen and unexpected liabilities related to the Business Combination or the combined group's business after the Business Combination;
- managing tax costs or inefficiencies associated with integrating the operations of the combined group;
- identifying and eliminating redundant and underperforming functions and assets;
- effecting actions that may be required in connection with obtaining regulatory approvals;

- a deterioration of credit ratings; and
- dual stock market regulatory reporting requirements.

These and other factors could result in increased costs and diversion of management's time and energy, as well as decreases in the amount of expected revenue and earnings, which could materially impact the combined group's business, financial condition and results of operations. The integration process and other disruptions resulting from the Business Combination may also adversely affect the combined group's relationships with employees, suppliers, customers, distributors, licensors and others with whom ADTRAN and ADVA have business or other dealings, and difficulties in integrating the businesses of ADTRAN and ADVA could harm the reputation of the combined group.

If the combined group is not able to successfully combine the businesses of ADTRAN and ADVA in an efficient, cost-effective and timely manner, the anticipated benefits and cost savings of the Business Combination may not be realized fully, or at all, or may take longer to realize than expected.

Following the completion of the Business Combination, ADVA will be majority owned by Acorn HoldCo. While Acorn HoldCo may enter into a domination agreement with ADVA, the effectiveness of such agreement may be delayed as a result of litigation or otherwise or may not occur, which may have an adverse effect on the ability to realize synergies and cost reductions and the market value of Acorn HoldCo shares.

Following the completion of the Business Combination, ADVA will be directly majority owned by Acorn HoldCo and, thus, become a dependent company of Acorn HoldCo within the meaning of the German Stock Corporation Act. The legal framework for this dependency between Acorn HoldCo and ADVA is, subject to other applicable law, set forth in applicable provisions of the German Stock Corporation Act, which may prevent or impede the realization of synergies and cost reductions absent a domination agreement. If Acorn HoldCo pursues a domination agreement but does not hold enough of ADVA's outstanding shares after the completion of the Business Combination or such approval is contested or the effectiveness of such agreement is delayed as a result of litigation or otherwise or does not occur, Acorn HoldCo may be unable to initiate any transactions or measures that are disadvantageous to ADVA, unless Acorn HoldCo provides adequate compensation to ADVA. If the disadvantage caused by any transaction or other measure cannot be assessed or compensated, Acorn HoldCo will be unable to initiate such transaction or measure, which may preclude Acorn HoldCo from implementing certain transactions related to the integration of ADVA into the combined group, including realizing synergies. The failure to realize synergies may lead to a decline of the value of Acorn HoldCo shares. At the same time, any disadvantageous corporate actions under a DPLTA may result in a decline in the business and earnings power of ADVA, and could also adversely affect the market value of the remaining ADVA shares.

The combined group may experience a loss of customers or may fail to win new customers in certain countries.

Following the Business Combination, third parties with whom ADTRAN or ADVA currently have relationships with may terminate or otherwise reduce the scope of their relationship with either party in anticipation or after the completion of the Business Combination. In addition, the combined group may face difficulties to acquire new customers in certain countries. Any such loss of business or the inability to win new customers could limit the combined group's ability to achieve the anticipated benefits of the Business Combination. Such risks could also be exacerbated by a delay in the settlement of the exchange offer and the Business Combination.

ADTRAN, ADVA or the combined group may be unable to retain and motivate their respective personnel successfully while the Business Combination is pending or following the completion of the Business Combination.

The success of the Business Combination will depend, in part, on the combined group's ability to retain the talents and dedication of key employees, including key decision-makers, currently employed by ADTRAN and ADVA. Such employees may decide not to remain with ADTRAN and ADVA, as applicable, while the Business Combination is pending or with the combined group after the Business Combination is completed. If key employees terminate their employment, or if an insufficient number of employees are retained to maintain effective operations, the combined group's business activities may be adversely affected and management's attention may be diverted from successfully integrating ADTRAN and ADVA to hiring suitable replacements, all of which may cause Acorn HoldCo's business to deteriorate. ADTRAN and ADVA may not be able to locate suitable replacements for any key employees who leave either company or offer employment to potential replacements on reasonable terms. In addition, Acorn HoldCo, ADTRAN and ADVA may not be able to motivate certain key employees following the completion of the Business Combination due to organizational changes, reassignments of responsibilities, the perceived lack of appropriate opportunities for advancement or other reasons. If the combined group fails to successfully retain and motivate the employees of ADTRAN and/or ADVA, relevant capabilities and expertise may be lost which may have an adverse effect on the cash flows, the financial condition and results of operations and the successful business operations of the combined group, ADTRAN and ADVA in general.

Risks related to our financial results and Company success

Our revenue for a particular period can be difficult to predict, and a shortfall in revenue may harm our operating results.

As a result of the many factors discussed in this report, our revenue for a particular quarter is difficult to predict and will fluctuate from quarter to quarter. Typically, our customers request product delivery within a short period following our receipt of an order. Consequently, we do not typically carry a significant order backlog and are dependent upon obtaining orders and completing delivery in accordance with shipping terms that are predominantly within each quarter to achieve our targeted revenue. Supply of semiconductor chips and other components of our products has become constrained resulting in extended lead times and increased costs. Transportation constraints, including shortages for both air and surface freight, as well as labor shortages in the transportation industry, have also affected the timing and the cost of obtaining raw materials and production supplies. As a result, our gross margin percentage declined in the second half of 2021. If supply chain constraints and transportation constraints continue, it could cause our net revenue and gross profit to decline or to grow at a slower rate than in previous quarters. Our deployment/installation cycle can also vary depending on the customer's schedule, site readiness, network size and complexity and other factors, which can cause our revenue to fluctuate from period to period. Our ability to meet financial expectations could also be affected if the variable revenue patterns seen in prior quarters recur in future quarters. We have experienced periods of time during which manufacturing issues have delayed shipments, leading to variable shipping patterns. In addition, to the extent that manufacturing issues and any related component shortages continue to result in delayed shipments in the future, and particularly in quarters in which we and our subcontractors are operating at higher levels of capacity, it is possible that revenue for a quarter could be adversely affected, and we may not be able to remediate the conditions within the same quarter. Currently, our revenue growth and profitability in the near-term are being impacted by supply chain constraint issues. While we are working closely with our suppliers and customers to address the near-term supply chain challenges facing the industry and believe these challenges are peaking and will begin to normalize by mid-2022, there can be no assurance this will be the case.

In the past, under certain market conditions, long manufacturing lead times have caused our customers to place the same order multiple times. When multiple ordering occurs, along with other factors, it may cause difficulty in predicting our revenue and, as a result, could impair our ability to manage inventory effectively.

We plan our operating expense levels based primarily on forecasted revenue levels. These expenses and the impact of long-term commitments are relatively fixed in the short term. A shortfall in revenue could lead to operating results being below expectations because we may not be able to quickly reduce these fixed expenses in response to short-term business changes.

The lengthy sales and approval process required by service providers for new products could result in fluctuations in our revenue.

In the industry in which we compete, sales and approval cycles are often lengthy. Selling efforts often involve a significant commitment of time and resources by us and our customers that may include extensive product testing, laboratory or network certification, or region-specific product certification and homologation requirements for deployment in networks. Additionally, a supplier must first obtain product approval from a major or other service provider to sell its products to these service providers. This process can last from six to eighteen months, or longer, depending on the technology, the service provider and the demand for the product from the service provider's subscribers. Consequently, we are involved in a constant process of submitting for approval succeeding generations of products, as well as products that deploy new technology or respond to new technology demands from a major or other service provider. We have been successful in the past in obtaining these approvals; however, we cannot be certain that we will obtain these approvals in the future or that sales of these products will continue to occur. Any attempt by a major or other service provider to seek out additional or alternative suppliers, or to undertake, as permitted under applicable regulations, the production of these products internally, could have a material adverse effect on our operating results. Furthermore, the delay in sales until the completion of the approval process, the length of which is difficult to predict, could result in fluctuations of revenue and uneven operating results from quarter to quarter or year to year. Further, once customer approval or certifications are met, our supply chain customers typically do not guarantee us a minimum, or any, volume of sales. We are dependent on individual purchase orders as discussed elsewhere in this report.

We depend heavily on sales to certain customers; the loss of any of these customers would significantly reduce our revenue and net income.

Historically, a large percentage of our revenue have been made to major service providers and larger independent communications companies. In 2021, these customers continued to comprise over half of our revenue. As long as the major and larger independent communications companies represent such a substantial percentage of our total revenue, our future success will significantly depend upon certain factors which are not within our control, including:

- the timing and size of future purchase orders, if any, from these customers;
- changes in strategic plans and capital budgets of these customers;
- the product requirements of these customers;
- the subscriber take rate, including subscriber loss or churn, of our customers;
- the financial and operational success of these customers;
- the impact of legislative and regulatory changes on these customers;
- consolidation, acquisition of, or corporate reorganization among these customers;

- the success of these customers' services deployed using our products; and
- the impact of work stoppages at these customers.

In the past, revenue to our large customers have fluctuated, and may fluctuate in the future, significantly from quarter to quarter and year to year. The loss of, or a significant reduction or delay in, revenue to any such customer or the occurrence of revenue fluctuations could have a material adverse effect on our business and results of operations. Further, any attempt by a major or other service provider to seek out additional or alternative suppliers or to undertake, as permitted under applicable regulations, the production of these products internally, could have a material adverse effect on our operating results.

There has been a trend toward industry consolidation in our markets for several years. We expect this trend to continue as companies attempt to strengthen or hold their market positions or are unable to continue operations. This could lead to variability in our operating results and could have a material adverse effect on our business, operating results, financial condition and cash flow. In addition, particularly in the service provider market, rapid consolidation will lead to fewer customers, with the effect that a loss of a major customer could have a material impact on our results that we would not have anticipated in a marketplace composed of more numerous participants.

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.

Most of our revenue is made on an open credit basis, generally with payment terms of 30 days in the U.S. and typically longer in many geographic markets outside the U.S. As our international revenue grows, our total accounts receivable balance will likely increase. Our DSO could also increase as a result of a greater mix of international revenue. Additionally, international laws may not provide the same degree of protection against defaults on accounts receivable as provided under U.S. laws governing domestic transactions; therefore, as our international business grows, we may be subject to higher bad debt expense compared to historical trends. Overall, we monitor individual customer and distributor payment capability in granting such open credit arrangements, seek to limit such open credit to amounts that we believe customers and distributors can pay and maintain reserves we believe are adequate to cover exposure for credit losses and other macroeconomic indicators. In the course of our sales to customers and distributors, we may encounter difficulty collecting accounts receivable and could be exposed to risks associated with uncollectible accounts receivable due to various reasons, including potential declining operating cash flows or bankruptcy filings. While we attempt to monitor these situations carefully and attempt to take appropriate measures to collect accounts receivable balances, there are no assurances we can avoid write-downs and/or write-offs of accounts receivable as a result of declining financial conditions for our customers, including bankruptcy. Such write-downs or write-offs could negatively affect our operating results for the period in which they occur and could potentially have a material adverse effect on our results of operations, 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.

Our level of gross margins may not be sustainable and may be adversely affected by numerous factors, including:

- changes in customer, geographic or product or services mix, including software and the mix of configurations and professional services revenue within each product segment;
- mix of domestic versus international revenue;
- introduction of new products by competitors, including products with price-performance advantages;
- our ability to reduce product cost;
- increases in labor or material cost, including increases in material costs resulting from tariffs;
- foreign currency exchange rate movements;
- expediting costs incurred to meet customer delivery requirements;
- excess inventory and inventory holding charges;
- excess and obsolescence charges;
- changes in shipment volume;
- our ability to absorb fixed manufacturing costs during short-term fluctuations in customer demand;
- loss of cost savings due to changes in component pricing or charges incurred due to inventory holding periods if parts ordering does not correctly anticipate product demand;
- lower than expected benefits from value engineering;
- increased price competition, including competitors from Asia, specifically China;
- changes in distribution channels;
- increased warranty cost;
- liquidated damages costs relating to customer contractual terms; and

- our ability to manage the impact of foreign currency exchange rate fluctuations relating to our revenue or cost of revenue.

Our dependence on a limited number of suppliers for certain raw materials, key components and ODM products, combined with supply shortages, have prevented and may continue to prevent us from delivering our products on a timely basis, which has had and may continue to have a material adverse effect on operating results and could have a material adverse effect on customer relations.

Certain raw materials and key components used in our products are currently available from only one source, and others are available from only a limited number of sources. The availability of these raw materials and supplies may be subject to market forces beyond our control, such as merger and acquisition activity of our suppliers and consolidation in some segments of our supplier base. From time to time, there may not be sufficient quantities of raw materials and supplies in the marketplace to meet customer demand. For example, wafer foundries that support chipmakers have not invested enough in recent years to increase capacities to the levels need to support demand from all of their customers and wafers have a long lead time for production, in some cases up to 30 weeks, which has led to a recent shortage in chip supplies. Many companies utilize the same raw materials and supplies that we do in the production of their products. Companies with more resources than our own may have a competitive advantage in obtaining raw materials and supplies due to greater buying power. These factors have resulted in reduced supply, higher prices of raw materials and delays in the receipt of certain of our key components, which in turn has generated increased costs, lower margins and delays in product delivery, with a corresponding adverse effect on revenue. Delays in product deliveries and corresponding product price increases may likewise have an adverse effect on customer relationships. We attempt to manage these risks through developing alternative sources, by staging inventories at strategic locations, through engineering efforts designed to obviate the necessity of certain components and by building long-term relationships and close contact with each of our key suppliers; however, we cannot assure that delays in or failures of deliveries of key components, either to us or to our contract manufacturers, and consequent delays in product deliveries, will not continue to occur in the future. For a discussion of the impact of the COVID-19 pandemic on our supply chain, *see "- The ongoing COVID-19 pandemic has impacted and may continue to impact our business, results of operations and financial condition, particularly our supply chain and workforce."*

We compete in markets that have become increasingly competitive, which may result in reduced gross profit margins and market share.

The markets for our products are intensely competitive. New manufacturers have entered the markets in recent years to offer products in competition with us. Additionally, certain companies have, in recent years, developed the ability to deliver competing products using coaxial cable and cellular transmission, especially in high-density metropolitan areas. Competition will further increase if new companies enter the market or existing competitors expand their product lines. Some of these potential competitors may have greater financial, technological, manufacturing, sales and marketing, and personnel resources. As a result, these competitors may be able to respond more rapidly or effectively to new or emerging technologies and changes in customer requirements, withstand significant price decreases, or devote greater resources to the development, promotion and sale of their products.

In addition, our present and future competitors may be able to enter our existing or future markets with products or technologies comparable or superior to those that we offer. An increase in competition could cause us to reduce prices, decrease our market share, require increased spending by us on product development and sales and marketing, or cause delays or cancellations in customer orders, any one of which could reduce our gross profit margins and adversely affect our business and results of operations.

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, our liability for warranty obligations may increase or decrease, impacting future cost of revenue.

Our products are highly complex, and we cannot ensure that our extensive product development, manufacturing and integration testing will be adequate to detect all defects, errors, failures and quality issues. Quality or performance problems for products covered under warranty could adversely impact our reputation and negatively affect our operating results, financial position and cash flows. The development and production of new products with high complexity often involves problems with software, components and manufacturing methods. If significant warranty obligations arise due to reliability or quality issues arising from defects in software, faulty components or manufacturing methods, our operating results, financial position and cash flows could be negatively impacted by:

- costs associated with fixing software or hardware defects;
- costs associated with internal or third-party installation errors;
- high service and warranty expenses;
- costs associated with recalling and replacing products with software or hardware defects, including costs from writing-off defective products recalled;
- high inventory obsolescence expense;
- delays in collecting accounts receivable;
- payment of liquidated damages for performance failures;
- extended performance bond expenses; and

- a decline in revenue to existing customers.

Managing our inventory is complex and may include write-downs of excess or obsolete inventory.

Managing our inventory of components and finished products is complicated by a number of factors, including the need to maintain a significant inventory of certain components that are in short supply, that have been discontinued by the component manufacturer, that must be purchased in bulk to obtain favorable pricing or that require long lead times. These issues may result in our purchasing and maintaining significant amounts of inventory, which if not used or expected to be used based on anticipated production requirements, may become excess or obsolete. Any excess or obsolete inventory could also result in sales price reductions and/or inventory write-downs, which could adversely affect our business and results of operations.

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 flows.

We are expanding our presence in international markets, which represented 33.5% and 30.5% of our net revenue for 2021 and for 2020, respectively, and as a result, we anticipate increased revenue and operating costs in these markets. This international expansion has increased and may continue to increase our operational risks and impact our results of operations, including:

- exposure to unfavorable commercial terms in certain countries;
- the time and cost to staff and manage foreign operations, including the time and cost to maintain good relationships with employee associations and work councils;
- exposure to unfavorable commercial terms in certain countries;
- the time and cost to ensure adequate business interruption controls, processes and facilities;
- the time and cost to manage and evolve financial reporting systems, maintain effective financial disclosure controls and procedures, and comply with corporate governance requirements in multiple jurisdictions;
- the cost to collect accounts receivable and extension of collection periods;
- the cost and potential disruption of facilities transitions required in some business acquisitions;
- risks as a result of less regulation of patents or other safeguards of intellectual property in certain countries;
- the potential impact of adverse tax, customs regulations and transfer-pricing issues;
- exposure to increased price competition from additional competitors in some countries;
- exposure to global social, political and economic instability, changes in economic conditions and foreign currency exchange rate movements;
- potential exposure to liability or damage of reputation resulting from a higher incidence of corruption or unethical business practices in some countries;
- potential regulations on data protection, regarding the collection, use, disclosure and security of data;
- potential trade protection measures, export compliance issues, domestic preference procurement requirements, qualification to transact business and additional regulatory requirements;
- potential exposure to natural disasters, epidemics and pandemics (and government regulations in response thereto) and acts of war or terrorism; and
- potential exposure to escalating tensions along the Russia-Ukraine border. The U.S. and certain other countries imposed sanctions on Russia and could impose further sanctions against it, which could damage or disrupt international commerce and the global economy.

If we are unable to successfully address the potential risks associated with our overall international expansion, our operating results, financial condition and cash flows may be negatively impacted.

If we are unable to integrate future acquisitions successfully, it could adversely affect our operating results, financial condition and cash flows.

We may make acquisitions to improve or expand our product offerings, customer base, talent or intellectual property. Our current and future acquisition strategy will depend on our ability to identify, negotiate, complete and integrate acquisitions. Acquisitions involve numerous risks, including, but not limited to:

- difficulties integrating and managing the operations, technologies and products of the companies we acquire;
- our inability to maintain the key business relationships and the brand equity of businesses we acquire;
- our inability to retain key personnel of the acquired business; and
- our responsibility for the liabilities of the businesses we acquire, some of which we may not anticipate, including costs of third-party advisors to resolve disputes.

Our success depends on attracting and retaining key personnel.

Our business has grown significantly since its inception. Our success is dependent in large part on the continued employment of our executive officers, including Thomas R. Stanton, our Chief Executive Officer, and other key management personnel. The unplanned departure of one or more of these individuals could adversely affect our business. In addition, for ADTRAN to continue as a successful entity we must also be able to attract and retain key engineers and software developers and architects whose expertise helps us maintain competitive advantages. We believe that our future success will depend, in large part, upon our ability to continue to attract, retain, train and motivate highly-skilled employees who are in great demand. Stock awards are designed to reward employees for their long-term contributions and to provide incentives for them to remain with us. Changes to our overall compensation program, including our stock incentive program, may adversely affect our ability to retain key employees. Properly managing our continued growth, avoiding the problems often resulting from such growth and expansion and continuing to operate in the manner which has proven successful to us to date will be critical to the future success of our business.

If we fail to manage our exposure to worldwide financial and securities markets successfully, our operating results and financial statements could be materially impacted.

We are exposed to financial market risks, including changes in interest rates and prices of marketable equity and fixed-income securities. The global macroeconomic environment has been challenging and inconsistent due to uncertainty in the global central bank monetary policy and uncertainty in global credit markets and the geopolitical environment in many areas of the world. The primary objective of the 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 corporate and municipal fixed-rate bonds, U.S. government bonds and municipal money market instruments denominated in U.S. dollars. While we do invest a portion of our investment portfolio in equities, which are subject to market risks, including the loss of principal, our equity investments are generally invested in professionally-managed portfolios with the objective of exceeding the performance of their underlying benchmarks.

We have significant investments in corporate bonds, municipal fixed-rate bonds, asset-backed bonds, mortgage/agency-backed bonds, U.S. government bonds and foreign government bonds. Through December 31, 2021, we have not been required to impair any of these investments; however, we may experience a reduction in value or loss of liquidity in these investments, which may have an adverse effect on our results of operations, liquidity and financial condition. Fixed-rate interest securities may have their fair value adversely impacted due to a rise in interest rates, while variable-rate securities may produce less income than expected if interest rates fall. Our investments are subject to general credit, liquidity, market and interest rate risks, which may increase because of conditions in the financial markets and related credit liquidity issues. Consequently, our future investment income may fall short of expectations due to changes in interest rates, or we may suffer losses in principal if we are forced to sell securities that decline in fair value due to changes in interest rates.

See "Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources" in Part II, Item 7 of this report, "Quantitative and Qualitative Disclosures about Market Risk" in Part II, Item 7A of this report and Note 6 of Notes to the Consolidated Financial Statements in Part II, Item 8 of this report for more information about our investments.

The elimination of LIBOR after June 2023 may affect our financial results.

All LIBOR tenors, which are relevant to the Company will cease to be published or will no longer be representative after June 30, 2023, and therefore, any of our LIBOR-based borrowings that extend beyond June 30, 2023 will need to be converted to a replacement rate. U.S. bank regulators advised banks to cease writing, subject to certain limited exceptions, new U.S. Dollar LIBOR contracts by the end of 2021 and the Alternative Reference Rates Committee has recommended SOFR plus a recommended spread adjustment as LIBOR's replacement. There are significant differences between LIBOR and SOFR, such as LIBOR being an unsecured lending rate while SOFR is a secured lending rate, and SOFR is an overnight rate while LIBOR reflects term rates at different maturities. If our LIBOR-based borrowings are converted to SOFR, the differences between LIBOR and SOFR, plus the recommended spread adjustment, could result in interest costs that are higher than if LIBOR remained available, which could have a material adverse effect on our operating results. Although SOFR is the ARRC's recommended replacement rate, it is also possible that lenders may instead choose alternative replacement rates that may differ from LIBOR in ways similar to SOFR or in other ways that would result in higher interest costs for us. It is not yet possible to predict the magnitude of LIBOR's end on our borrowing costs given the remaining uncertainty about which rates will replace LIBOR. As of December 31, 2021, the Company did not have any borrowing agreements that will be outstanding after the LIBOR cessation date.

There are risks associated with our revolving credit agreement and future indebtedness.

As of December 31, 2021, we had a revolving credit agreement that provides a $10.0 million secured credit facility. As of December 31, 2021 the Company did not have any outstanding draws under the revolving credit facility.

We may not be able to generate sufficient cash flow to enable us to satisfy any indebtedness that could be under the credit agreement. Our ability to satisfy debt obligations and renew our credit agreement is dependent upon our future performance and other factors discussed in this section. However, there can be no assurance that we will be able to manage any of these risks successfully.

Risks related to COVID-19

The ongoing COVID-19 pandemic has impacted and may continue to impact our business, results of operations and financial condition, particularly our supply chain and workforce.

The global spread of COVID-19 created significant volatility, uncertainty and economic disruption. The restrictions imposed to prevent the spread of COVID-19 disrupted economic activity, resulting in reduced commercial and consumer confidence and spending, increased unemployment, closure or restricted operating conditions for businesses, volatility in the global capital markets, instability in the credit and financial markets, labor shortages, regulatory relief for impacted consumers and disruption in supply chains. While the rollout of COVID-19 vaccines throughout 2021 mitigated mortality risk, new COVID-19 variants, particularly the Delta and Omicron variants, proved to remain a threat. The lifting of lockdowns in certain areas started a slow economic recovery. The resulting increase in consumer demand has created significant challenges for supply chains as a result of labor and raw material shortages, which could lead to reduced earnings for many industries.

In addition, due to the ongoing pandemic and global semiconductor chip shortage, we have experienced disruption and delays in our supply chain and significant price increases with certain of our manufacturing partners, and those disruptions, delays and price increases may continue. For example, in the second half of 2021, our results of operations were negatively impacted by increased expenses resulting from supply chain disruptions. There are also restrictions and delays on logistics, such as air cargo carriers, as well as increased logistics costs due to limited capacity and high demands for freight forwarders. Although we continue to work with our supply chain and dual source partners to take the necessary steps to resolve these disruptions, there can be no assurance that the ongoing disruptions due to COVID-19, the related global semiconductor chip shortage or other supply chain constraints or price increases will be resolved in the near term, which could continue to result in longer lead times, inventory supply challenges and further increased costs, all of which could continue to adversely affect our business, financial condition, and results of operations.

Although vaccines have been approved and are being distributed, it cannot be predicted how long it will take before market conditions return to normal and there can be no assurance that the economic recovery will occur or offset the uncertainty and instability triggered by the pandemic. Additionally, as vaccinations become readily available, we cannot predict what restrictions may be imposed in the event of vaccine mandates for travel to and from particular destinations. New and potentially more contagious variants of the COVID-19 virus are developing in several countries, including regions in which we have significant operations. The COVID-19 variants could further amplify the impact of the pandemic.

To support the health and well-being of our employees, customers, partners and communities, many of our employees are working remotely as of the date of filing this report. However, there is risk that a number of our employees could be infected with COVID-19, including our key personnel. In addition, actions that have been taken and that may be taken by the Company, its customers, suppliers and counterparties in response to the pandemic, including the implementation of alternative work arrangements for certain employees, as well as the impacts to our supply chain, including delays in supply chain deliveries and the related global semiconductor chip shortage, have delayed and may continue to delay the timing of some orders and expected deliveries. The disruptions to our operations caused by COVID-19, the related global semiconductor chip shortage and actions by other parties have resulted in and may continue to result in inefficiencies and additional costs in our product development, sales, marketing and customer service efforts that we cannot fully mitigate. These additional costs may be partially offset by reduced travel expenses as a result of travel restrictions that we have in place, as well as lower marketing-related costs.

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

Risks related to our control environment

We are currently in the process of implementing a new enterprise resource planning ("ERP") software solution. If we do not effectively implement this project, or any future associated updates, our operations could be significantly disrupted.

We are currently in the process of implementing a new ERP software solution. This project requires us to migrate and reconfigure all of our current system processes, transactions, data and controls to a new cloud-based platform and is expected to have a significant impact on our business processes, financial reporting, information systems and internal controls. This has required, and will continue to require, significant change management, meaningful investment in capital and personnel resources and coordination of numerous software and system providers and internal business teams. We may experience difficulties, including delays and higher than anticipated costs related to personnel and capital resources, as we manage these changes and transition to this new ERP solution, including loss or corruption of data, delayed shipments, delayed financial reporting, decreases in productivity as our personnel implement and become familiar with the new systems and processes, unanticipated expenses (including increased costs of implementation, costs of conducting business or

the potential impairment of previously capitalized ERP implementation costs) and lost revenue. Once implemented, we will have cloud driven quarterly updates. Although we will conduct design validations and user testing, these may cause delays in transacting our business due to system challenges, limitations in functionality, inadequate change management or process deficiencies in the production and use of the system. Difficulties in implementing or inability to implement this new ERP solution or the related quarterly updates could disrupt our operations, divert management's attention from key strategic initiatives and have an adverse effect on our results of operations, financial condition and cash flows.

Breaches of our information systems and cyber-attacks could compromise our intellectual property and cause significant damage to our business and reputation.

We maintain sensitive data on our information systems and the networks of third-party providers, including intellectual property, financial data and proprietary or confidential business information relating to our business, customers, suppliers and business partners. We also produce networking equipment solutions and software used by network operators to ensure security and reliability in their management and transmission of data. Our customers, particularly those in regulated industries, are increasingly focused on the security features of our technology solutions. Maintaining the security of information sensitive to us and our business partners is critical to our business and reputation. We rely upon several internal business processes and information systems to support key operations and financial functions, and the efficient operation of these processes and systems is critical. Companies are increasingly subjected to cyber-attacks and other attempts to gain unauthorized access. We have a comprehensive approach to cybersecurity, which includes prevention, detection, containment and response. Our layered defense approach encompasses proactive security monitoring of our global infrastructure by both internal solutions and multiple third-party Security Operation Centers. Additionally, we routinely perform patch management, vulnerability scans, penetration tests and continuous monitoring across our entire enterprise. Our security policy framework includes meaningful and enforceable Information Security policies and procedures. The cybersecurity program is aligned with our mission and business objectives, reviewed periodically for improvements and is supported by experienced and certified security professionals. This is supplemented by an information security awareness program spanning our global workforce. Despite this, our network and storage applications and those systems and applications maintained by our third-party providers may be targeted by cyber-attacks or potentially breached due to operator error, fraudulent activity or other system disruptions. For example, although no indicators of compromise were identified by the Company in response to the Log4j2.x vulnerability, we cannot absolutely assure that future vulnerabilities or malware attacks will not be successful in breaching our system and in turn, have a material impact to the Company. Unauthorized access or disclosure of our information could compromise our intellectual property and expose sensitive business information. Our information systems are designed to appropriate industry standards and resiliently engineered to reduce downtime in the event of power outages, weather or climate events and cybersecurity issues. The Company carries cybersecurity insurance policies meant to limit its risk and exposure should one of these cybersecurity issues occur. However, a significant failure of our systems due to these issues could result in significant remediation costs, disrupt business operations and divert management attention, which could result in harm to our business reputation, operating results, financial condition and cash flow.

If we fail to maintain proper and effective internal controls over financial reporting we could have a material weakness in those internal controls, that if not remediated, could materially adversely affect us.

Section 404 of the Sarbanes-Oxley Act of 2002 ("Section 404") requires us to include in our Annual Reports on Form 10-K an assessment by the Company's management of the effectiveness of our internal control over financial reporting, as well as a report from our independent registered public accounting firm on the effectiveness of our internal control over financial reporting. We must perform system and process evaluation and testing of our internal control over financial reporting to allow management and our independent registered public accounting firm to report on the effectiveness of our internal control over financial reporting, as required by Section 404. Our compliance with Section 404 may require that we incur substantial accounting expense and expend significant management efforts. In addition, if management or our independent registered public accounting firm is unable to conclude that our internal control over financial reporting is effective, we could lose investor confidence in the accuracy and completeness of our financial statements, which could have an adverse effect on our stock price or lead to litigation claims.

Risks related to the telecommunications industry

We must continue to update and improve our products and develop new products to compete and to keep pace with improvements in communications technology.

The markets for our products are characterized by rapidly changing technology, evolving industry standards and continuing improvements in the communications service offerings of service providers. If technologies or standards applicable to our products, or service provider offerings based on our products, become obsolete or fail to gain widespread commercial acceptance, our existing products or products under development may become obsolete or unmarketable. Moreover, the introduction of products embodying new technologies, the emergence of new industry standards, or changes in service provider offerings could adversely affect our ability to sell our products. For instance, we offer a large number of products that apply primarily to the delivery of high-speed digital communications over the local loop utilizing copper wire. We compete favorably with our competitors by developing a high-performance line of these products. We market products that apply to fiber optic transport in the local loop. We expect, however, that use of coaxial cable and fixed and mobile wireless access in place of local loop access will increase. Also, MSOs are increasing their presence in the local loop. To meet the requirements of these new delivery systems and to maintain our market position, we expect to continue to develop new

products and/or modify existing products. We expect that the addition of fiber-based products focused on the cable MSO operators, using EPON and fixed wireless access solutions will better position us to benefit from spending in these adjacent markets.

Our revenue and profitability in the past have, to a significant extent, resulted from our ability to anticipate changes in technology, industry standards and service provider offerings, and to develop and introduce new and enhanced products. Our continued ability to adapt will be a significant factor in maintaining or improving our competitive position and our prospects for growth. We cannot assure that we will be able to respond effectively to changes in technology, industry standards, service provider offerings or new product announcements by our competitors. We also cannot assure that we will be able to successfully develop and market new products or product enhancements, or that these products or enhancements will achieve market acceptance. Any failure by us to continue to anticipate or respond in a cost-effective and timely manner to changes in technology, industry standards, service provider offerings or new product announcements by our competitors, or any significant delays in product development or introduction, could have a material adverse effect on our ability to competitively market our products and on our revenue, results of operations, financial condition and cash flows.

Our failure or the failure of our contract manufacturers to comply with applicable environmental regulations could adversely impact our results of operations.

The manufacture, assembly and testing of our products may require the use of hazardous materials that are subject to environmental, health and safety regulations. Our failure or the failure of our contract manufacturers to comply with any of these applicable requirements could result in regulatory penalties, legal claims or disruption of production. In addition, our failure or the failure of our contract manufacturers to properly manage the use, transportation, emission, discharge, storage, recycling or disposal of hazardous materials could subject us to increased costs or liabilities. Existing and future environmental regulations may restrict our use of certain materials to manufacture, assemble and test products. Any of these consequences could adversely impact our results of operations by increasing our expenses and/or requiring us to alter our manufacturing processes.

If our products do not interoperate with our customers' networks, installations may be delayed or canceled, which could harm our business.

Our products must interface with existing networks, each of which may have different specifications, utilize multiple protocol standards and incorporate products from other vendors. Many of our customers' networks contain multiple generations of products that have been added over time as these networks have grown and evolved. Our products may be required to interoperate with many or all of the products within these networks, as well as future products to meet our customers' requirements. If we find errors in the existing software or defects in the hardware used in our customers' networks, we may have to modify our software or hardware to fix or overcome these errors so that our products will interoperate with the existing software and hardware. Implementation of product corrections involving interoperability issues could increase our costs and adversely affect our results of operations. Such issues may affect our ability to obtain product acceptance from other customers.

We engage in research and development activities to develop new, innovative solutions and to improve the application of developed technologies, and as a consequence may miss certain market opportunities enjoyed by larger companies with substantially greater research and development efforts and which may focus on more leading edge development.

A portion of our research and development activities are focused on the continued innovation of currently accepted access technologies in order to deliver faster internet speeds, more capacity, better quality of service and operational efficiency. These research and development efforts result in improved applications of technologies for which demand already exists or is latent. We also focus our research and development efforts on developing software, solutions and platforms that enable service providers to increase revenue-generating service velocity, reducing operational costs, increasing scale and providing service agility. We rarely engage in research projects that represent a vast departure from the current business practices of our key customers. While we believe our strategy provides a higher likelihood of producing nearer term or more sustainable revenue streams, this strategy could result in lost revenue opportunities and higher operating expenses should a new technology achieve rapid and widespread market acceptance. When we do engage in research and development activities for new, leading-edge technologies and market approaches, there is no guarantee that those technologies or market approaches will be successful or that they will be adopted and purchased by our customers.

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.

We are heavily dependent on subcontractors for the assembly and testing of certain printed circuit board assemblies, subassemblies, chassis, enclosures and equipment shelves, and the purchase of some raw materials used in such assemblies. This reliance involves several risks, including the unavailability of, or interruptions in, access to certain process technologies and reduced control over product quality, delivery schedules, transportation, manufacturing yields and costs. We may not be able to provide product order volumes to our subcontractors that are high enough to achieve sufficient cost savings. If shipments fall below forecasted levels, we may incur increased costs or be required to take ownership of excess inventory. Changes in international tariff structures could adversely impact our product costs. In addition, a significant component of maintaining cost competitiveness is the ability of our subcontractors to adjust their costs to compensate for possible adverse exchange rate movements. To the extent that the subcontractors are unable to do so, and we are unable to procure alternative product supplies, then our competitiveness and results of operations could be adversely impaired. These risks may be exacerbated by economic, regulatory or political changes or uncertainties, terrorist actions, acts of war, the effects of climate change, natural disasters or pandemics in the foreign countries in which our subcontractors are located. We do not utilize contract

manufacturing for our products in China, though we do source some ODM products from China which are, or may become, subject to import tariffs.

To date, we believe that we have successfully managed the risks of our dependence on these subcontractors through a variety of efforts, which include seeking and developing alternative subcontractors while maintaining existing relationships; however, we cannot be assured that delays in product deliveries will not occur in the future because of shortages resulting from this limited number of subcontractors or from the financial or other difficulties of these parties. Our inability to develop alternative subcontractors if and as required in the future, or the need to undertake required retraining and other activities related to establishing and developing a new subcontractor relationship, could result in delays or reductions in product shipments which, in turn, could have a negative effect on our customer relationships and operating results.

Our failure to maintain rights to intellectual property used in our business could adversely affect the development, functionality and commercial value of our products.

Our future success depends in part upon our proprietary technology. Although we attempt to protect our proprietary technology by contract, trademark, copyright and patent registration and internal security, including trade secret protection, these protections may not be adequate. Furthermore, our competitors can develop similar technology independently without violating our proprietary rights. From time to time, we receive and may continue to receive notices of claims alleging that we are infringing upon patents or other intellectual property. Any of these claims, whether with or without merit, could result in significant legal fees, divert our management's time, attention and resources, delay our product shipments or require us to enter into royalty or licensing agreements. We cannot predict whether we will prevail in any claims or litigation over alleged infringements, or whether we will be able to license any valid and infringed patents, or other intellectual property, on commercially reasonable terms. If a claim of intellectual property infringement against us is successful and we fail to obtain a license or develop or license non-infringing technology, our business, operating results, financial condition and cash flows could be affected adversely.

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.

We integrate third-party software into certain of our products. Licenses for this technology may not be available or continue to be available to us on commercially reasonable terms. Difficulties with third-party technology licensors could result in the termination of such licenses, which may result in increased costs or require us to purchase or develop a substitute technology. Difficulty obtaining and maintaining third-party technology licenses may disrupt the development of our products and increase our costs, which could harm our business.

Our use of open source software could impose limitations on our ability to commercialize our products.

Several of our solutions utilize elements of open source or publicly available software. Although we closely monitor our use of open source software, the terms of many open source software licenses have not been interpreted by the courts, and there is a risk that such licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to sell our products. In such event, we could be required to make our proprietary software generally available to third parties, including competitors, at no cost, to seek licenses from third parties in order to continue offering our products, to re-engineer our products or to discontinue the sale of our products in the event re-engineering cannot be accomplished on a timely basis or at all, any of which could adversely affect our revenue and operating expenses.

We may incur liabilities or become subject to litigation that would have a material effect on our business.

In the ordinary course of business, we accept purchase orders, and enter into sales and other related contracts, for the marketing, sale, manufacture, distribution or use of our products and services. We may incur liabilities relating to our performance under such agreements, or which result from damage claims arising from certain events as outlined within the particular contract. While we attempt to include reasonable limitations of liability and other protective measures to all agreements, such agreements may not always contain, or be subject to, maximum loss clauses and liabilities arising from them may result in significant adverse changes to our results of operations, financial condition and cash flows.

In the ordinary course of business, we are subject to various legal proceedings and claims, including employment disputes, patent claims, disputes over contract agreements and other commercial disputes. In some cases, claimants seek monetary recovery, or other relief, including damages such as royalty payments related to patents, lost profits or injunctive relief, which, if granted, could require significant expenditures. Any such disputes may be resolved before trial, or if tried, may be resolved in our favor; however, the cost of claims sustained in litigation, and costs associated with the litigation process, may not be covered by our insurance. Such costs, and the demands on management time during such an event, could harm our business, reputation and have a material adverse effect on our liquidity, results of operations, financial condition and cash flows.

If we are unable to successfully develop and maintain relationships with SIs, service providers and enterprise VARs, our revenue may be negatively affected.

As part of our sales strategy, we are targeting SIs, service providers and enterprise VARs. In addition to specialized technical expertise, SIs, service providers and VARs typically offer sophisticated service capabilities that are frequently desired by enterprise customers. To

expand our distribution channel to include resellers with such capabilities, we must be able to provide effective support to these resellers. If our sales, marketing or service capabilities are not sufficient to provide effective support to such SIs, service providers and VARs, our revenue may be negatively affected, and current SI, service provider and VAR partners may terminate their relationships with us, which would adversely impact our revenue and overall results of operations.

Risks related to the Company's stock price

Our operating results may fluctuate in future periods, which may adversely affect our stock price.

Our operating results have been, and will continue to be, subject to quarterly and annual fluctuations as a result of numerous factors. These factors include, but are not limited to:

- fluctuations in demand for our products and services, especially with respect to significant network expansion projects undertaken by service providers;
- continued growth of communications network traffic and the adoption of communication services and applications by enterprise and consumer end users;
- changes in sales and implementation cycles for our products and reduced visibility into our customers' spending plans and associated revenue, especially should a slowdown in communications industry spending occur due to economic downturns, tight capital markets, or declining liquidity trends;
- reductions in demand for our traditional products as new technologies gain acceptance;
- our ability, and that of our distributors, to maintain appropriate inventory levels and related purchase commitments;
- price and product competition in the communications and networking industries, which can change rapidly due to technological innovation;
- the overall movement toward industry consolidation among both our competitors and our customers;
- our dependence on sales of our products by channel partners, the timing of their replenishment orders, the potential for conflicts and competition involving our channel partners and large end-user customers and the potential for consolidation among our channel partners;
- variations in sales channels, product cost or mix of products and services sold;
- delays in receiving acceptance, as defined under contract, from certain customers for shipments or services performed near the end of a reporting period;
- our ability to maintain high levels of product support and professional services;
- manufacturing and customer order lead times, and potential restrictions in the supply of key components;
- fluctuations in our gross margin and the factors that contribute to this (as described above);
- our ability to achieve cost reductions;
- the ability of our customers, channel partners and suppliers to obtain financing or to fund capital expenditures;
- our ability to execute on our strategy and operating plans;
- benefits anticipated from our investments in engineering, sales and marketing activities;
- the effects of climate change and other natural events;
- the effect of political or economic conditions, including the effect of tariffs or so-called "trade wars" on us and our supply chain, acts of war, terrorist attacks or other unrest in certain international markets;
- the effect of escalating tensions along the Russia-Ukraine border. The U.S. and certain other countries imposed sanctions on Russia and could impose further sanctions against it, which could damage or disrupt international commerce and the global economy; and
- changes in tax laws and regulations or accounting pronouncements.

As a result, operating results for a particular future period are difficult to predict, and prior results are not necessarily indicative of results to be expected in future periods. Any of the above-mentioned factors, or other factors discussed elsewhere in this report, could have a material adverse effect on our business, results of operations, financial condition and cash flows that could adversely affect our stock price.

The price of our common stock has been volatile and may continue to fluctuate significantly.

Our common stock is traded on the NASDAQ Global Select Market under the symbol ADTN. Since our initial public offering in August 1994, there has been, and may continue to be, significant volatility in the market for our common stock, based on a variety of factors, including factors listed in this section, some of which are beyond our control.

<u>Risks related to the regulatory environments in which we do business</u>

We are subject to complex and evolving U.S. and foreign laws, regulations and standards governing the conduct of our business. Violations of these laws and regulations may harm our business, subject us to penalties and to other adverse consequences.

We are subject to laws and regulations that govern conduct by our Company, our employees and agents and the manufacture, sale and use of our products. Our inability to comply with current and evolving laws and regulations governing our business domestically and internationally may adversely affect our revenue, results of operations, financial conditions and cash flows. New and changing laws, regulations and industry practices could require us to modify our business, products or services offered, potentially in a material manner, and may limit our ability to develop new products, services and features. If we violate these laws and regulations, governmental authorities in the U.S. and in foreign jurisdictions could seek to impose civil and/or criminal fines and penalties which could have an adverse effect on our reputation, as well as our results of operations, financial condition and cash flows.

These laws and regulations include, but are not limited to:

- Various regulations and regional standards established by communications authorities and import/export control authorities that govern the manufacture, sale and use of our products. Changes in domestic or international communications regulations, tariffs, potential changes in trade policies by the U.S. and other nations, application requirements, import/export controls or expansion of regulation to new areas, including access, communications or commerce over the internet, may affect customer demand for our products or slow the adoption of new technologies which may affect our revenue. Further, the cost of complying with the evolving standards and regulations, including the cost of product re-design if necessary, or the failure to obtain timely domestic or foreign regulatory approvals or certification such that we may not be able to sell our products where these standards or regulations apply, may adversely affect our revenue, results of operations, financial condition and cash flows.
- Compliance with a wide variety of provincial, state, national and international laws and regulations applicable to the collection, use, retention, protection, disclosure, transfer and other processing of data, including personal data. Foreign data protection, privacy and other laws and regulations, including GDPR, are often more restrictive than those in the U.S. These data protection and privacy-related laws and regulations are varied, evolving, can be subject to significant change, may be augmented or replaced by new or additional laws and regulations and may result in ever-increasing regulatory and public scrutiny and escalating levels of enforcement and sanctions. For example, California's Consumer Privacy Act became effective in January 2020 (amended, effective January 1, 2023, as the California Privacy Rights Act), providing new data privacy rights for consumers and new operational requirements for companies, and, on July 16, 2020, the Court of Justice of the European Union issued a decision that invalidated the EU-U.S. Privacy Shield framework as a basis for transfers of personal data from the EU to the U.S., resulting in uncertainty and potential additional compliance obligations to ensure that a valid basis under the GDPR exists for these data transfers. There is also a risk that we, directly or as the result of a third-party service provider we use, could be found to have failed to comply with the laws and regulations applicable in a jurisdiction regarding the collection, consent, handling, transfer or disposal of personal data.
- The FCPA, which prohibits U.S. companies and their intermediaries from making corrupt payments to foreign officials for the purpose of directing, obtaining or keeping business, and requires companies to maintain reasonable books and records and a system of internal accounting controls. The FCPA applies to companies, individual directors, officers, employees and agents. Under the FCPA, U.S. companies may be held liable for the corrupt actions taken by employees, strategic or local partners or other representatives. Because a significant portion of our total revenue is generated from revenue outside of the U.S., we have proactively implemented internally and externally focused measures and controls to address this risk. We help ensure that our employees understand the key requirements of FCPA compliance and the consequences of non-compliance through training courses and detective controls. ADTRAN senior management and employees whose responsibilities include international activities are required to complete an online training program and pass an exam every two years. We have put processes in place to help detect non-compliance through providing our employees access to a worldwide reporting "hotline," available by phone and online, that is maintained by a third-party provider. Finally, we perform annual reviews of our employees' expense reports and corporate credit card activity to identify possible corruption concerns. We have also implemented controls to help ensure our third-party partners and customers observe FCPA requirements. Prior to selling to new international distributors, resellers or agents, we review third-party data and check them against over 200 denied party lists from government institutions worldwide for potential FCPA concerns. We also require international distributors, resellers and agents to complete an Anti-Corruption Due Diligence Questionnaire, which is reviewed and assessed by a cross-functional compliance committee and our export-compliance function.

- Environmental, health and safety regulation governing the manufacture, assembly and testing of our products, including without limitation regulations governing the use of hazardous materials. Our failure or the failure of our contract manufacturers to properly manage the use, transportation, emission, discharge, storage, recycling or disposal of hazardous materials could subject us to increased costs or liabilities. Existing and future environmental regulations may restrict our use of certain materials to manufacture, assemble and test products.
- Requirements by the SEC governing the disclosure of the use of "conflict minerals" mined from the Democratic Republic of Congo and adjoining countries and procedures to identify the source of such minerals included in manufactured products. The disclosures will require us to incur additional costs to verify the origins of the identified minerals used and comply with disclosure requirements. These requirements could affect the availability of minerals used in the manufacture of a limited number of parts contained in our products. This may reduce the number of suppliers who provide conflict-free minerals and may affect our ability to obtain products in sufficient quantities or at competitive prices. Our material sourcing is broad-based and multi-tiered. While we are taking steps to identify sourcing based on recommended standards for our industry, we may not be able to conclusively verify the origins for all minerals used in our products. An inability to make a sourcing determination of minerals in our products could impact our revenue and harm our financial condition should our customers require that we certify that all components used in our products are free of minerals from this region.

Changes in trade policy in the U.S. and other countries, specifically the U.K. and China, including the imposition of additional tariffs and the resulting consequences, may adversely impact our gross profits, gross margins, results of operations and financial condition.

In recent years, international market conditions and the international regulatory environment have been increasingly affected by competition among countries and geopolitical frictions. In particular, the U.S. administration has advocated for and taken steps toward restricting trade in certain goods, particularly from China. From 2018 to late 2019, the United States announced several tariff increases that applied to products imported from China, totaling over $550 billion. By the end of 2019, the two countries had reached a phase one trade deal to roll back tariffs and suspend certain tariff increases by the United States that were scheduled to take effect from December 2019, and in January 2020, the two sides entered into a formal phase one agreement on trade. The progress of trade talks between China and the United States is subject to uncertainties, and there can be no assurance as to whether the United States will maintain or reduce tariffs or impose additional tariffs on Chinese products in the near future. Furthermore, in August 2019, the U.S. Treasury Department labelled China as a currency manipulator, which label was officially dropped by the U.S. Treasury Department in January 2020. However, it is uncertain whether the U.S. government may issue any similar announcement in the future. China and other countries have retaliated and may further retaliate in response to new trade policies, treaties and tariffs implemented by the United States. Any potential changes in trade policies in the U.S. and the potential actions of other countries in which we do business could adversely impact our financial performance.

In June 2016, the U.K. held a referendum, commonly referred to as "Brexit," in which the majority of voters elected to withdraw from the EU. The U.K. formally departed from the EU on January 31, 2020. The U.K. and the EU have signed an EU-U.K. Trade and Cooperation Agreement, which became provisionally applicable on January 1, 2021 and went into force permanently on May 1, 2021, following formal approval by the U.K. and the EU. The agreement is limited in its scope primarily to the trade of goods, transport, energy links and fishing, and uncertainties remain relating to certain aspects of the U.K.'s future economic, trading and legal relationships with the EU and with other countries. The actual or potential consequences of Brexit, and the associated uncertainty, could adversely affect economic and market conditions in the U.K., the EU and its member states, and elsewhere, and could contribute to instability in global financial markets.

The past two years have been challenging for the credit markets due to a shift from a time of quantitative easing to a time of quantitative tightening by central banks around the world. If global economic and market conditions, or economic conditions in key markets, remain uncertain or further deteriorate, we may experience material impacts on our business and operating results. We may also be adversely affected in ways that we do not currently anticipate.

New or revised tax regulations, changes in our effective tax rate, recognition of a valuation allowance or assessments arising from tax audits may have an adverse impact on our results.

We are subject to taxation in various jurisdictions, both domestically and internationally, in which we conduct business. Significant judgment is required in the determination of our provision for income taxes, and this determination requires the interpretation and application of complex and sometimes uncertain tax laws and regulations. Our effective tax rate may be adversely impacted by changes in the mix of earnings between jurisdictions with different statutory tax rates, in the valuation of our deferred tax assets, and by changes in tax rules and regulations. We continually monitor our deferred tax assets and when it becomes more likely than not that a tax benefit will not be recognized, a valuation allowance is recorded against those assets. In addition, we are subject to examination of our income tax returns by the Internal Revenue Service and various other jurisdictions in which we conduct business. We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. There can be no assurance that the outcomes from these continuous examinations will not have an adverse effect on our results of operations, financial condition and cash flow. Additionally, we continually review the adequacy of the valuation allowance and recognize 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. As such, we may release a portion of the valuation allowance or establish a new valuation allowance based on operations in the jurisdictions in which these assets arose. Management continues to evaluate all evidence including historical operating results, the existence of losses in the most recent year, forecasted earnings, future taxable income and tax planning strategies. Should management determine that a valuation allowance is needed in the future due to not being able to absorb deferred tax assets, it would have a material impact on our consolidated financial statements.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our headquarters and principal administrative, engineering and manufacturing facilities are located on an 82-acre campus in Cummings Research Park in Huntsville, Alabama. Two office buildings serve both our Network Solutions and our Services & Support segments. We lease engineering facilities in the U.S. and Europe that are used to develop products sold by our Network Solutions segment. In addition, we lease office space in North America, LATAM, EMEA and APAC, providing sales and service support for both of our segments. These cancelable and non-cancelable leases expire at various times through 2025. For more information, *see Note 9 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report.*

We also have numerous sales and support staff operating from home-based offices serving both our Network Solutions and our Services & Support segments, which are located within the U.S. and abroad.

ITEM 3. LEGAL PROCEEDINGS

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 certain current and former members of its Board of Directors. The derivative suit alleges, among other things, that the defendants made or caused the Company to make 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 case was temporarily stayed pending an order on the defendants’ motion to dismiss in a separate securities class action case that included similar factual allegations, *Burbridge v. ADTRAN, Inc., et al.*, Case No. 5:20-cv-00050-LCB (N.D. Ala.). The Burbridge case was dismissed on March 31, 2021, and the time to appeal the dismissal has expired, such that the dismissal is now final. Following the dismissal, the plaintiff in the shareholder derivative suit sent a demand letter dated June 29, 2021 to ADTRAN’s Board of Directors. The letter contains similar allegations to those made in the plaintiff’s filed complaint and in the now dismissed securities class action, and it demands, among other things, that the Board of Directors commence an investigation into the alleged wrongdoing. On December 10, 2021, after investigating the allegations in the demand with the assistance of independent counsel, the directors (Mr. Stanton abstaining) concluded that pursuing the claims asserted in the demand would not be in the Company's best interests and exercised their business judgment to refuse the demand. Since that time, the parties to the derivative litigation have stipulated that plaintiff will either dismiss his complaint or seek to amend it pursuant to a schedule to be ordered by the Court. At this time, we are unable to predict the outcome of or estimate the possible loss or range of loss, if any, associated with the derivative lawsuit or the demand letter.

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 a 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. At this time, we are unable to predict the outcome of or estimate the possible loss or range of loss, if any, associated with these legal matters.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

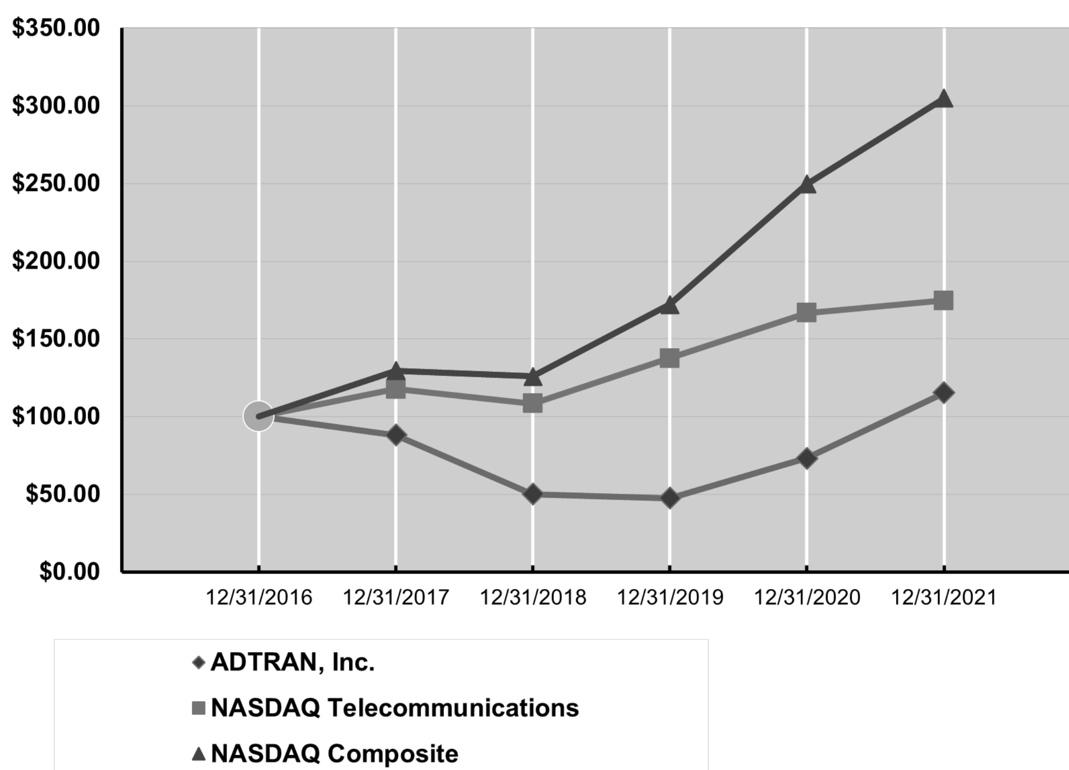
PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

ADTRAN's common stock is traded on the NASDAQ Global Select Market under the symbol ADTN. As of February 23, 2022, ADTRAN had 149 stockholders of record and approximately 16,665 beneficial owners of shares held in street name.

Performance Graph

The graph below matches ADTRAN, Inc.'s cumulative 5-Year total shareholder return on common stock with the cumulative total returns of the NASDAQ Composite index and the NASDAQ Telecommunications index. The graph tracks the performance of a $100 investment in our common stock and in each index (with the reinvestment of all dividends) from 12/31/2016 to 12/31/2021.



* $100 invested on 12/31/16 in stock or index-including reinvestment of dividends.
Fiscal year ending December 31.

	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21
ADTRAN, Inc.	**$100.00**	**$88.03**	**$50.03**	**$47.43**	**$73.22**	**$115.27**
NASDAQ Composite	**$100.00**	**$129.64**	**$125.96**	**$172.17**	**$249.51**	**$304.85**
NASDAQ Telecommunications	**$100.00**	**$117.62**	**$108.29**	**$137.49**	**$166.70**	**$174.78**

The stock price performance included in this graph is not necessarily indicative of future stock price performance.

Stock Repurchases

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
October 1, 2021 – October 31, 2021	—	$ —	—	2,545,430
November 1, 2021 – November 30, 2021	—	$ —	—	2,545,430
December 1, 2021 – December 31, 2021	—	$ —	—	2,545,430
Total	—		—	

(1) In July 2015, our Board of Directors approved a share repurchase program that authorized open market repurchase transactions 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.

We declared a quarterly dividend of $0.09 per share of common stock to record holders in each quarter of 2021. The declaration and payment by us of any future dividends to holders of our common stock is at the sole discretion of our Board of Directors.

ITEM 6. RESERVED

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with our audited consolidated financial statements and the related notes included in Part II, Item 8 of this report. We have omitted discussion of the earliest of the three years of financial condition and results of operations and this information can be found in Part I, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" of our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, filed with the SEC on February 26, 2021, which is available free of charge on the SEC's website at http://www.sec.gov *and on our website at www.adtran.com.*

This discussion is designed to provide the reader with information that will assist in understanding our 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 consolidated financial statements. See "Cautionary Note Regarding Forward-Looking Statements" on page 2 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 this Form 10-K.

Overview

ADTRAN is a leading global provider of networking and communications platforms, systems and services focused on the broadband access market, serving a diverse domestic and international customer base in multiple countries that includes Tier-1, -2 and -3 service providers, alternative service providers, such as utilities, municipalities and fiber overbuilders, cable/MSOs, SMBs 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 optimal selling prices and increased functionality as compared to both the prior generation of a product and to the products of competitors in order to gain market share. In order to service our customers and grow revenue, we are continually conducting research and development of new products addressing customer needs and testing those products for the specific requirements 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 sales and research and development facilities in strategic global locations.

We ended 2021 with a year-over-year revenue increase of 11.2%, driven by increased shipments to a diverse mix of global Tier-1 and regional service providers. During 2021, we had one 10% revenue customer which was a distributor located in the U.S. Our year-over-year domestic revenue increased by 6.4%, driven by increased volume of network termination and Fiber CPE in our Network Solutions segment. Internationally, our revenue increased by 22.0% compared to the prior year period, primarily driven by increased shipments to alternative network operators and a Tier-1 operator in Europe. We experienced strong demand for our solutions in the second half of 2021 and achieved significant year-over-year bookings growth. Bookings are defined as orders received for a product or service during a fiscal period that will be delivered or performed sometime in the future and is a forward looking metric that we utilize to help us understand future revenue growth for the Company. Bookings are generally subject to modification and or cancellation per the terms of the order. 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 nonbinding purchase commitments. Our increase in demand comes from service providers planning to deploy our fiber access platforms, in-home service delivery platforms and SaaS applications. We expect this growth to accelerate. During 2021, we secured several Tier-1 next-generation fiber customers, and previously announced Tier-1 fiber customers significantly increased their bookings for our fiber access platforms. Although we expect our revenue growth and profitability in the near-term to continue to be negatively impacted by supply chain issues, our outlook continues to strengthen given the record demand for our products and our expectation of an improving supply chain over the long-term.

In March 2020, the World Health Organization declared the novel coronavirus (COVID-19) outbreak a global pandemic. The SARS-CoV-2 coronavirus (or variants of the SARS-CoV-2 coronavirus, including the Delta and Omicron variant) continues to spread throughout the U.S. and the world and has resulted in authorities implementing varying measures to contain the virus, including travel bans and restrictions, quarantines, shelter-in-place orders, and business limitations and shutdowns. While the rollout of COVID-19 vaccines throughout 2021 mitigated mortality risk, new COVID-19 variants proved to remain a threat. The lifting of lockdowns in certain areas started a slow economic recovery, but it cannot be predicted how long it will take before market conditions return to normal and there can be no assurance that the economic recovery will offset the uncertainty and instability triggered by the pandemic. New and potentially more contagious variants of the COVID-19 virus are developing in several countries, including regions in which we have significant operations. The COVID-19 variants could further amplify the impact of the pandemic. While we are unable to accurately predict the full impact that the COVID-19 global pandemic will have on our results of 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 a significant impact to our supply chain given COVID-19 and the related global semiconductor chip shortage, including delays in supply chain deliveries, extended lead times and shortages of some key components, some raw material cost increases and slowdowns at certain production facilities. We have also had to increase our volume of inventory to ensure supply continuity during the pandemic. In addition, we have experienced significant increases in freight-related costs due to the global shipping crisis. During the second half of 2021, the Company incurred supply chain constraint expenses which lowered our gross margins and decreased our profitability. While throughout the pandemic we have seen increased demand in networking requirements and utilization due to social distancing guidelines issued by governments, as well as COVID-19 related reductions in travel and infrastructure expenses, it is possible that we could experience some slowdown in demand, further supply chain issues and an increased impact from the ongoing semiconductor shortage and shortages of certain other key components as the pandemic continues. If the impacts of this shortage are more severe than we expect, it could result in longer lead times, inventory supply challenges and further increased costs, all of which could result in the deterioration of our results, potentially for a longer period than currently anticipated. To support the health and well-being of our employees, customers, partners and communities, many of our employees are working remotely as of the date of filing this report. However, there is risk that a number of our employees could be infected with COVID-19, including our key personnel. In addition, actions that have been taken and that may be taken by the Company, its customers, suppliers and counterparties in response to the pandemic, including the implementation of alternative work arrangements for certain employees, as well as the impacts to our supply chain, including delays in supply chain deliveries and the related global semiconductor chip shortage, have delayed and may continue to delay the timing of some orders and expected deliveries. Lastly, even after the COVID-19 pandemic has subsided, we may continue to experience adverse impacts to our business as a result of any economic recession that has occurred or may occur in the future as a result of the COVID-19 pandemic.

Among our customers, we made progress with our fiber, fiber-extension, in-home service delivery platforms and cloud services while also continuing to engage in value-added service opportunities that we expect will contribute to 2022 revenue and beyond. In addition, we believe that we are at the beginning of a significant investment cycle for fiber deployment and in-home Wi-Fi connectivity driven by technology advancements and regulatory influences. The transition to next-generation network architectures is beginning, and we are seeing demand for our next-generation fiber access and connected home solutions. In 2021, FCC RDOF government funding programs commenced with our service providers and we believe that we are well positioned in 2022 to receive orders.

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 platforms 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 several factors, including customer order activity, supply chain constraints, component availability, 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 requiring us to maintain higher inventory levels. These factors normally result in a varying order backlog and limited order flow visibility; however, with the current global supply chain and transportation constraints, and limited availability of semiconductor chips and other components of our products, we have experienced and may continue to experience extended lead times, increased logistics intervals and costs, and lower volume of products deliveries, which have and may continue to have a material adverse effect on our operating results and could have a material adverse effect on customer relations and our financial condition. We expect that the supply chain constraints and semiconductor shortage will continue to affect our operating results through the end of 2022, although we cannot predict such factors with certainty. Normal operating expenses are relatively fixed in the short term; therefore, a shortfall in quarterly revenue could significantly impact our financial results in a given quarter.

We continue to support our customer demand for our products by working with our suppliers, contract manufacturers, ODMs, distributors, and customers to address and to limit the disruption to our operations and order fulfillment.

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 initially resulted from the COVID-19 pandemic and that may recur, foreign currency exchange rate movements, increased competition, customer order patterns, changes in product and services mix, domestic and international geographical 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 recent years, the Company initiated restructuring plans to realign its expense structure with the reduction in revenue experienced and with overall Company objectives. Management assessed the efficiency of our operations and consolidated locations and personnel, among other things, and implemented certain cost savings initiatives, where possible. *See Note 20 of the Notes to Consolidated Financial Statements included in Part 1I, Item 8 of this report for additional information on this restructuring.*

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. *See Note 21 of Notes to Consolidated Financial Statements, included in Part II, Item 8 of this report, for additional information on quarterly results for 2021 and 2020. For a discussion of risks associated with our operating results, see Part I, Item 1A, Risk Factors of this report.*

Business Combination Agreement

On August 30, 2021, the Company and ADVA, entered into a business combination agreement (the “Business Combination Agreement”), pursuant to which both companies agreed to combine their respective businesses and each become subsidiaries of a new holding company, Acorn HoldCo, a Delaware corporation and currently a wholly-owned direct subsidiary of the Company.

Under the terms of the Business Combination Agreement, Acorn MergeCo, Inc., a newly formed Delaware corporation and wholly-owned direct subsidiary of Acorn HoldCo (“Merger Sub”), will merge with and into ADTRAN, with ADTRAN surviving the merger (the “Merger”) as a wholly-owned direct subsidiary of Acorn HoldCo. Pursuant to the Merger, each outstanding share of common stock of the Company will be converted into the right to receive one share of common stock of Acorn HoldCo. Acorn HoldCo has also made a public exchange offer to exchange each issued and outstanding no-par value bearer share of ADVA, pursuant to which each ADVA share tendered and accepted for exchange will be exchanged for 0.8244 shares of common stock of Acorn HoldCo (the “Exchange Offer”, and together with the Merger, the “Business Combination”). Upon completion of the Business Combination, and assuming that all of the outstanding ADVA shares are exchanged in the Exchange Offer, former ADTRAN stockholders and former ADVA shareholders will own approximately 54% and 46%, respectively, of the outstanding Acorn HoldCo shares.

The Business Combination Agreement was unanimously approved by the Board of Directors of the Company and by the supervisory board and management board of ADVA. On January 6, 2022, the Company's stockholders approved the Business Combination by an overwhelming majority. The end of the ADVA shareholder tender offer acceptance period was on January 26, 2022, which resulted in the acceptance of the Exchange Offer by more than 60% of all shares of ADVA entitled to voting rights existing as of October 31, 2021, thus exceeding the required minimum acceptance threshold. According to the rules of the German Securities Acquisition and Takeover Act, ADVA shareholders who did not tender their shares during the initial acceptance period could do so during a two-week additional acceptance period that began on February 1, 2022 and ended February 14, 2022. This resulted in the acceptance of the Exchange Offer by approximately 66% of all shares of ADVA entitled to voting rights existing as of November 30, 2021. On January 24, 2022, the CFIUS completed its review of the Business Combination and determined that the transaction was not a “covered transaction” subject to CFIUS’ jurisdiction, satisfying the condition of the Business Combination Agreement related to CFIUS notification. On February 16, 2022, the U.K. Secretary of State for Business, Energy and Industrial Strategy completed its review of the Business Combination and determined that the Secretary of State will be taking no further action under the NS&I Act, satisfying the condition of the Business Combination Agreement related to NS&I approval. Cooperative proceedings continue with the foreign direct investment authority in Germany.

The Company anticipates the consummation of the Business Combination around the middle of 2022, subject to customary closing conditions, and regulatory approvals from the foreign direct investment authority in Germany.

Additional information about the Business Combination Agreement and proposed Business Combination is set forth in the Company’s filings with the SEC, as well as in the registration statement on Form S-4 that Acorn HoldCo filed with the SEC, which was declared effective December 2, 2021 (the “Acorn HoldCo Registration Statement”).

Results of Operations

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

	Year Ended December 31,		
	2021	*2020*	*2019*
Revenue			
Network Solutions	88.6%	86.5%	85.9%
Services & Support	11.4	13.5	14.1
Total Revenue	**100.0**	**100.0**	**100.0**
Cost of Revenue			
Network Solutions	54.7	48.2	49.7
Services & Support	6.5	8.8	8.9
Total Cost of Revenue	**61.2**	**57.0**	**58.7**
Gross Profit	**38.8**	**43.0**	**41.3**
Selling, general and administrative expenses	22.1	22.5	24.6
Research and development expenses	19.3	22.4	23.8
Asset impairments	—	—	0.7
Gain on contingency	—	—	(0.2)
Operating Loss	**(2.6)**	**(1.9)**	**(7.5)**
Interest and dividend income	0.5	0.4	0.5
Interest expense	—	—	(0.1)
Net investment gain	0.3	1.0	2.2
Other income (expense), net	0.7	(0.6)	0.3
Loss Before Income Taxes	**(1.1)**	**(1.2)**	**(4.7)**
Income tax (expense) benefit	(0.4)	1.7	(5.3)
Net (Loss) Income	**(1.5)%**	**0.5%**	**(10.0)%**

The following discussion and financial information are presented to aid in an understanding of our current consolidated financial position, changes in financial position, results of operations and cash flows and should be read in conjunction with the audited consolidated financial statements and notes thereto included herein. The emphasis of the discussion is a comparison of the years ended December 31, 2021 and December 31, 2020. For a discussion of a comparison of the years ended December 31, 2020 and December 31, 2019, please refer to Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on February 26, 2021.

Comparison of Years Ended December 31, 2021 and December 31, 2020

Revenue

Our revenue increased 11.2% from $506.5 million for the year ended December 31, 2020 to $563.0 million for the year ended December 31, 2021. Our Network Solutions revenue increased by $60.8 million compared to 2020 and our Services & Support revenue decreased by $4.3 million versus the prior year. The increase in our 2021 revenue was primarily attributable to increases in Access & Aggregation revenue of $31.1 million and Subscriber Solutions & Experience revenue of $28.5 million, partially offset by decreases in Traditional & Other Products revenue of $3.1 million. Although our revenue increased, supply of semiconductor chips and other components of our products has become constrained resulting in extended lead times and increased costs. Transportation constraints, including shortages for both air and surface freight, as well as labor shortages in the transportation industry, have also affected the timing and the cost of obtaining raw materials and production supplies. Although our revenue growth and profitability in the near-term may be impacted by these global supply chain issues, our long-term outlook continues to strengthen given the strong customer order bookings during the last half of 2021.

Network Solutions revenue increased by 13.9% from $438.0 million in 2020 to $498.8 million in 2021, due primarily to increases in Access & Aggregation revenue and Subscriber Solutions & Experience revenue, partially offset by a decrease in Traditional & Other Products revenue. The increase in revenue of 9.9% of our Access & Aggregation products for 2021 was due to increased volume of fiber access. The increase of 16.7% in 2021 for revenue of our Subscriber Solutions & Experience products was primarily attributable to increased volume of 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 to fluctuate, for years because of the time required for our customers to transition to newer technologies.

Services & Support revenue decreased by 6.3% from $68.5 million in 2020 to $64.2 million in 2021. The decrease in revenue for 2021 was primarily attributable to decreased network planning and implementation services partially offset by an increase in maintenance and managed services.

Domestic revenue increased by 6.4% from $352.1 million in 2020 to $374.6 million in 2021, driven by increased volume of network termination and fiber CPE in our Network Solutions segment. In addition, such growth was a result of increased revenue to Tier-2 and Tier-3 customers with diversified business among our fiber access and CPE, service provider CPE and services.

International revenue, which is included in the amounts for the Network Solutions and Services & Support segments discussed above, increased by 22.0% from $154.4 million for the year ended December 31, 2020 to $188.4 million for the year ended December 31, 2021. International revenue, as a percentage of total revenue, increased from 30.5% for the year ended December 31, 2020 to 33.5% for the year ended December 31, 2021. The increase in international revenue for 2021 was primarily driven by increased shipments to alternative network operators and a Tier-1 operator in Europe.

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.

As a result of our global operations, our revenue and operating income in some international markets can be affected by foreign currency fluctuations. Consequently, while we expect the global trend towards deployment of more robust broadband speeds and access to continue creating additional market opportunities for us, the factors described above may result in pressure on revenue and operating income. However, for the year ended December 31, 2021, foreign currency fluctuations did not materially impact the Company's results of operations.

Cost of Revenue

As a percentage of revenue, cost of revenue increased from 57.0% for the year ended December 31, 2020 to 61.2% for the year ended December 31, 2021. The increase was primarily attributable to supply chain constraint related expenses and to a lesser extent changes in customer and product mix and a regional revenue shift.

Network Solutions cost of revenue, as a percentage of that segment’s revenue, increased from 55.8% of revenue in 2020 to 61.7% of revenue in 2021. The increase in Network Solutions cost of revenue as a percentage of that segment’s revenue was primarily attributable to supply chain constraint related expenses and to a lesser extent changes in customer and product mix and a regional revenue shift.

Services & Support cost of revenue, as a percentage of that segment’s revenue, decreased from 65.3% of revenue in 2020 to 57.3% of revenue in 2021. The decrease in Services & Support cost of revenue as a percentage of that segment’s revenue in 2021 was primarily attributable to customer mix, changes in services and support mix.

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. 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

Selling, general and administrative expenses as a percentage of revenue decreased from 22.5% for the year ended December 31, 2020 to 22.1% for the year ended December 31, 2021. Selling, general and administrative expenses as a percentage of revenue will generally fluctuate whenever there is a significant fluctuation in revenue for the periods being compared as these costs are relatively fixed in the short term.

Selling, general and administrative expenses increased by 9.2% from $114.0 million for the year ended December 31, 2020 to $124.4 million for the year ended December 31, 2021. Selling, general and administrative expenses include personnel costs for management, accounting, information technology, human resources, sales and marketing, as well as independent auditor, tax and other professional fees, contract services and legal and litigation related costs. The increase in selling, general and administrative expenses was primarily attributable to increased acquisition expenses, deferred compensation related costs and insurance expense, partially offset by decreases in restructuring expenses, travel related expense and legal expense.

Research and Development Expenses

Research and development expenses as a percentage of revenue decreased from 22.4% for the year ended December 31, 2020 to 19.3% for the year ended December 31, 2021. Research and development expenses as a percentage of revenue will fluctuate whenever there are incremental product development activities or significant fluctuations in revenue for the periods being compared as these costs are relatively fixed in the short term.

Research and development expenses decreased by 4.1% from $113.3 million for the year ended December 31, 2020 to $108.7 million for the year ended December 31, 2021. The decrease in research and development expenses was primarily attributable to lower personnel costs which were mainly the result of our restructuring programs, partially offset by increased contract services.

We expect to continue to incur research and development expenses in connection with our new and existing products and our expansion into international markets. We continually evaluate new product and market opportunities and engage in significant research and development efforts which provide 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 relate to the abandonment of certain information technology implementation projects in which we had previously capitalized costs. No impairments incurred in the year ended December 31, 2021. Impairments were less than $0.1 million for the year ended December 31, 2020.

Interest and Dividend Income

Interest and dividend income increased by 46.9% from $1.9 million for the year ended December 31, 2020 to $2.8 million for the year ended December 31, 2021. The increase in interest and dividend income was primarily attributable to an increase in the rate of return on our investments. Our investments decreased from $83.3 million as of December 31, 2020 to $71.0 million as of December 31, 2021.

Interest Expense

Interest expense was less than $0.1 million for each of the years ended December 31, 2021 and 2020. Interest expense during 2021 was primarily related to our Revolving Credit Agreement that we entered into during the fourth quarter of 2020. *See "Financing Activities" in "Liquidity and Capital Resources" below for additional information on our revolving credit agreement.*

Net Investment Gain

We recognized a net investment gain of $4.9 million and $1.8 million for the years ended December 31, 2020 and 2021, respectively. The fluctuations in our net investments were primarily attributable to changes in the fair value of our securities recognized during the period. We expect that any future market volatility could result in continued fluctuations in our investment portfolio. *See "Investing Activities" in "Liquidity and Capital Resources" of this report and Note 1 and Note 6 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report for additional information.*

Other Income (Expense), net

Other income (expense), net, increased from expense of $3.3 million for the year ended December 31, 2020 to income of $3.8 million for the year ended December 31, 2021. For the years ended December 31, 2021 and 2020, other income (expense), net, is comprised primarily of gains and losses on foreign currency transactions and income from excess material sales.

Income Tax (Expense) Benefit

Our effective tax rate decreased from a benefit of 138.1%, for the year ended December 31, 2020 to an expense of 37.0% for the year ended December 31, 2021. The change in the effective tax rate for the year ended December 31, 2021 was primarily driven by a tax benefit in the amount of $10.8 million during 2020, $7.9 million of which related to the utilization of deferred tax assets which had previously been offset with a valuation allowance and $2.9 million primarily related to the tax rate differential on carrying back losses from 2018 and 2019 tax years to prior years in which the U.S. Corporate tax rate was 35% versus the current 21% federal tax rate. *See Note 14 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this report for additional information.*

Net (Loss) Income

As a result of the above factors, our net income decreased from $2.4 million for the year ended December 31, 2020 to a net loss of $8.6 million for the year ended December 31, 2021. As a percentage of revenue, net income was 0.5% for the year ended December 31, 2020 and net loss was 1.5% for the year ended December 31, 2021.

Liquidity and Capital Resources

Liquidity

We have historically financed, and 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, expand our sales and marketing activities and fund capital expenditures. Under the Business Combination Agreement, the Company will bear the transaction costs of

the Business Combination attributable to Acorn HoldCo and the Company. As of December 31, 2021, the Company will incur an estimated $9.5 million of additional transaction costs related to the Business Combination Agreement. We believe that our cash and cash equivalents, investments and cash generated from operations will be adequate to meet our operating needs, capital needs and obligations under the Business Combination for at least the next 12 months.

As of December 31, 2021, cash on hand was $56.6 million and short-term investments were $0.4 million, which resulted in available short-term liquidity of $57.0 million, of which $47.7 million was held by our foreign subsidiaries. As of December 31, 2020, cash on hand was $60.2 million and short-term investments were $3.1 million, which resulted in available short-term liquidity of $63.3 million, of which $49.7 million was held by our foreign subsidiaries. The decrease in short-term liquidity from December 31, 2020 to December 31, 2021 was primarily attributable to the sale of certain equity and fixed income investments for working capital and other purposes.

Operating Activities

Net cash provided by operating activities of $3.0 million during the year ended December 31, 2021 increased by $19.5 million compared to net cash used of $16.5 million during the year ended December 31, 2020. This increase was primarily due to net cash inflows from working capital, specifically, an increase in the average number days payable to our trade suppliers and a decrease in other receivables, partially offset by an inventory build related to component availability, an increase in accounts receivable, and an increase in the average number of days it takes the Company to collect cash payment for sales. Additional details related to our working capital and its drivers are discussed below.

Net accounts receivable increased 60.6% from $98.8 million as of December 31, 2020 to $158.7 million as of December 31, 2021. We had no allowance for credit losses as of December 31, 2021 and less than $0.1 million as of December 31, 2020. Quarterly accounts receivable DSO increased from 70 days as of December 31, 2020 to 95 days as of December 31, 2021. The increase in DSO was due to the higher sales volume and timing of shipments late in the quarter tied to supply chain constraints and customer mix.

Other receivables decreased 47.9% from $21.5 million as of December 31, 2020 to $11.2 million as of December 31, 2021. The decrease in other receivables was primarily attributable to decreases in income tax receivables related to the CARES Act.

Annual inventory turnover increased from 2.58 turns as of December 31, 2020 to 2.60 turns as of December 31, 2021. Inventory increased 11.5% from $125.5 million as of December 31, 2020 to $139.9 million as of December 31, 2021. The increase in inventory was due to increased purchases in preparation for strategic inventory buffer purchases as well as new product ramp ups to ensure supply continuity during the COVID-19 pandemic. We expect inventory levels to fluctuate as we attempt to maintain sufficient inventory in response to COVID-19 uncertainties related to supply chain and supply, seasonal cycles of our business and ensuring competitive lead times while managing the risk of inventory.

Accounts payable increased 105.3% from $49.9 million as of December 31, 2020 to $102.5 million as of December 31, 2021. Accounts payable will fluctuate due to variations in the timing of the receipt of inventory, supplies and services and our subsequent payments for these purchases. The significant increase in the fourth quarter was due to higher sales volume and additional purchases of raw material inventory buffer stock.

Investing Activities

Capital expenditures totaled approximately $5.7 million and $6.4 million for the years ended December 31, 2021 and 2020, respectively. These expenditures were primarily used to purchase manufacturing and test equipment, software, computer hardware and building improvements.

Our combined short-term and long-term investments decreased $12.3 million from $83.3 million as of December 31, 2020 to $71.0 million as of December 31, 2021. This decrease reflects the sale of certain fixed income investments for working capital and other purposes.

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 Notes to Consolidated Financial Statements included in Part II, Item 8 of this report for additional information.*

As of December 31, 2021, our corporate bonds, municipal fixed-rate bonds, asset-backed bonds, mortgage/agency-backed bonds, U.S. government bonds, and foreign government bonds were classified as available-for-sale and had a combined duration of 1.61 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 11.9% from $80.1 million as of December 31, 2020 to $70.6 million as of December 31, 2021. Our investments include various marketable equity securities classified as long-term investments with a fair market value of $12.6 million and $11.0 million, as of December 31, 2021 and 2020, respectively. Long-term investments as of December 31, 2021 and 2020 also included $26.9 million and $23.9 million, respectively, related to our deferred compensation plan, and $0.2 million of other investments, consisting of interests in a private equity fund, as of December 31, 2020.

Financing Activities

Revolving Credit Agreement

On November 2, 2021, the Company renewed its Revolving Credit and Security Agreement and related Promissory Note (together, the "Revolving Credit Agreement") with Cadence Bank, N.A., as lender (the "Lender"). The Revolving Credit Agreement provides the Company with a $10.0 million secured revolving credit facility. Loans under the Revolving Credit Agreement will bear interest at a rate equal to 1.50% over the screen rate as obtained by Reuter's, Bloomberg or another commercially available source as may be designated by the Lender from time to time; provided, however, that in no event shall the applicable rate of interest under the Revolving Credit Agreement be less than 1.50% per annum. Such loans are secured by all of the cash, securities, securities entitlements and investment property in a certain bank account, as outlined in the Revolving Credit Agreement, at a maximum loan-to-value ratio of 75% determined by dividing the full commitment amount under the Revolving Credit Agreement on the date of testing, determined by the Lender each fiscal quarter, by the market value of the collateral. The Revolving Credit Agreement matures on November 3, 2022, subject to earlier termination upon the occurrence of certain events of default. The Company entered into the Revolving Credit Agreement in order to increase the flexibility and management of its short-term liquidity. During the fourth quarter of 2021, the Company made draws totaling $10.0 million under the Revolving Credit Agreement all of which had been repaid as of December 31, 2021. The Company agreed to certain negative covenants that are customary for credit arrangements of this type, including, among other things, restrictions on the Company's ability to enter into mergers, acquisitions or other business combination transactions, grant liens or suffer a material adverse change in the condition or affairs (financial or otherwise) of the Company. The Company must be in compliance with all covenants to be able to draw on the line of credit. As of December 31, 2021, the Company was in compliance with all covenants. *See Note 12 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report for additional information.*

Alabama State Industrial Development Authority Financing

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 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. *See Note 13 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report for additional information.*

Dividends

During 2021 and 2020, we paid shareholder dividends totaling $17.5 million and $17.3 million, respectively. The Board of Directors presently anticipates that it will declare a regular quarterly dividend so long as the present tax treatment of dividends exists and adequate levels of liquidity are maintained. The following table shows dividends per common share paid to our shareholders in each quarter of 2021 and 2020:

Dividends per Common Share

	2021	2020
First Quarter	$ 0.09	$ 0.09
Second Quarter	$ 0.09	$ 0.09
Third Quarter	$ 0.09	$ 0.09
Fourth Quarter	$ 0.09	$ 0.09

Stock Repurchase Program

Since 1997, our Board of Directors has approved multiple share repurchase programs that have authorized open market repurchase transactions of our common stock, which are implemented through open market or private purchases from time to time as conditions warrant. There were no stock repurchases during the years ended December 31, 2021 and 2020. For the year ended December 31, 2019, we repurchased less than 0.1 million shares for $0.2 million at an average price of $14.06 per share. 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.

Stock Option Exercises

To accommodate employee stock option exercises, we issued 0.4 million shares of treasury stock for $6.4 million during the year ended December 31, 2021 and less than 0.1 million shares of treasury stock for $0.5 million during the year ended December 31, 2019. There were no stock option exercises during the year ended December 31, 2020. The increase in stock option exercises in 2021 is related to the increase in the Company's stock price.

Employee Pension Plan

We maintain a defined benefit pension plan covering employees in certain foreign countries. Pension benefit plan obligations are based on various assumptions used by our actuaries in calculating these amounts. These assumptions include discount rates, compensation rate increases, expected return on plan assets, retirement rates and mortality rates. Actual results that differ from the assumptions and changes in assumptions could affect future expenses and obligations.

Our defined benefit plan assets consist of a balanced portfolio of equity funds, bond funds, real estate funds and managed futures. Our investment policy includes various guidelines and procedures designed to ensure assets are invested in a manner necessary to meet expected future benefits earned by participants and consider a broad range of economic conditions. Central to the policy are target allocation ranges by asset class, which is currently 50% for bond funds, 40% for equity funds and 10% cash, real estate and managed futures. The objectives of the target allocations are to maintain investment portfolios that diversify risk through prudent asset allocation parameters, achieve asset returns that meet or exceed the plans' actuarial assumptions and achieve asset returns that are competitive with like institutions employing similar investment strategies. The investment policy is periodically reviewed by us and a designated third-party fiduciary for investment matters. The policy is established and administered in a manner that is compliant at all times with applicable government regulations. At December 31, 2021, the estimated fair market value of our defined benefit pension plans assets increased to $32.7 million from $32.3 million at December 31, 2020.

The defined benefit pension plan is accounted for on an actuarial basis, which requires the use of various assumptions, including an expected rate of return on plan assets and a discount rate. The expected return on our German plan assets that is utilized in determining the benefit obligation and net periodic benefit cost is derived from periodic studies, which include a review of asset allocation strategies, anticipated future long-term performance of individual asset classes, risks using standard deviations and correlations of returns among the asset classes that comprise the plans' asset mix. While the studies give appropriate consideration to recent plan performance and historical returns, the assumptions are primarily long-term, prospective rates of return. The discount rate has been derived from the returns of high-quality, corporate bonds denominated in Euro currency with durations close to the duration of our pension obligations. The projected benefit obligation for our defined benefit pension plans was $44.2 million and $50.9 million as of December 31, 2021 and 2020, respectively.

The components of net periodic pension cost, other than the service cost component, are included in other income (expense), net in the Consolidated Statements of (Loss) Income. The components of net periodic pension cost and amounts recognized in other comprehensive (loss) income for the years ended December 31, 2021 and 2020 were ($5.0) million and $1.6 million, respectively.

Actuarial gains and losses are recorded in accumulated other comprehensive (loss) income. To the extent unamortized gains and losses exceed 10% of the higher of the market-related value of assets or the projected benefit obligation, the excess is amortized as a component of net periodic pension cost over the remaining service period of active participants. We estimate that $0.3 million will be amortized from accumulated other comprehensive (loss) income into net periodic pension cost in 2022 for the net actuarial loss. The net actuarial loss recognized in accumulated other comprehensive (loss) income as of December 31, 2021 and 2020 was $7.7 million and $13.5 million, respectively.

See Note 15 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report for additional information.

Off-Balance Sheet Arrangements

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 our financial condition, revenue or expenses, results of operations, liquidity, capital expenditures, or the availability of, or requirements for, capital resources.

Cash Requirements

The following table summarizes the Company's material short- and long-term cash requirements from known obligations pursuant to certain contracts and commitments as of December 31, 2021, as well as an estimate of the timing in which such obligations and payments are expected to be satisfied.

(In thousands)	Total	2022	2023	2024	2025	2026	After 2026
Pledged collateral[1]	$ 15,000	$ 15,000	$ —	$ —	$ —	$ —	$ —
Purchase obligations[2]	361,626	340,770	15,859	4,997	—	—	—
Operating lease obligations[3]	5,084	1,767	1,419	1,188	710	—	—
Business combination transaction costs[4]	9,540	9,540	—	—	—	—	—
Totals	**$ 391,250**	**$ 367,077**	**$ 17,278**	**$ 6,185**	**$ 710**	**$ —**	**$ —**

(1) We are required to maintain a pledged collateral amount related to a letter of credit agreement with a bank to guarantee performance obligations under a contract with a certain customer. The obligations under this customer contract will be performed over multiple years. We reached the maximum value of our minimum collateral requirement of $15.0 million during the first quarter of 2021 as outlined in the customer contract. The letter of credit was secured by a pledge of a portion of the Company's fixed-income securities, which totaled $18.3 million as of December 31, 2021, of which $0.2 million is included in restricted cash and $18.1 million is included in long-term investments on the Consolidated Balance Sheet. This pledged collateral value will fluctuate as the Company changes the mix of the pledged collateral between restricted cash and investments. Any shortfalls in the minimum collateral value are required to be restored by the Company from available cash and cash equivalents, short-term investments and/or long-term investments. The collateral under the letter of credit will be released when all obligations under the customer contract have been met. As of December 31, 2021, the Company was in compliance with all contractual requirements under the letter of credit.

(2) We have purchase obligations related to open purchase orders to our contract manufacturers, ODMs, component suppliers, service partners and other vendors, including those assisting with the implementation of our new ERP system. The settlement of our purchase obligations will occur at various dates beginning in 2022 and going through 2024.

(3) We have operating leases for office space, automobiles and various other equipment in the U.S. and in certain international locations. Our operating leases had remaining lease terms of one month to 44 months as of December 31, 2021, The remaining future minimum rental payments under non-cancelable operating leases, including renewals determined to be reasonably assured, with original maturities of greater than 12 months totaled $5.1 million as of December 31, 2021. *See Note 9 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report for additional information.*

(4) Under the Business Combination Agreement, the Company will bear the transaction costs of the Business Combination attributable to Acorn HoldCo and the Company. For additional information on the Business Combination, *see Note 3 of Notes to Consolidated Financial Statements included in Part II, Item 8 and Part I, Item 1 of this report.*

We have committed to invest up to an aggregate of $5.0 million in a private equity fund, of which $4.9 million has been applied to these commitments. We are uncertain as to when the additional $0.1 million commitment will be applied.

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 December 31, 2021, we had commitments related to these bonds totaling $22.9 million, 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 in our performance under each contract, the probability of which we believe is remote.

We also have obligations related to uncertain income tax positions that have uncertainty as to when the related expense will be recognized. *See Note 14 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report for additional information.*

On November 2, 2021, the Company renewed its Revolving Credit Agreement with Cadence Bank, N.A., as lender. *See Liquidity and Capital Resources – Liquidity for further information.*

Critical Accounting Policies and Estimates

An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, if different estimates reasonably could have been used or if changes in the accounting estimate that are reasonably likely to occur could materially impact the results of financial operations. Several accounting policies, as described in Note 1 of Notes to the Consolidated Financial Statements included in Part II, Item 8 of this report, require material subjective or complex judgment and have a significant impact on our financial condition and results of operations, as applicable. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our Consolidated Financial Statements:

Revenue

Revenue is measured based on the consideration expected to be received in exchange for transferring goods or providing services to a customer and as performance obligations under the terms of the contract are satisfied. Generally, this occurs with the transfer of control of a product to the customer. Review of contracts with customers, for both direct customers and distributors, are performed and assessed for principal versus agent considerations to determine primary responsibility for delivery of performance obligation, presumed inventory risk, and discretion in establishing pricing, when applicable. For transactions where there are multiple performance obligations, individual products and services are accounted for separately if they are distinct (if a product or service is separately identifiable from other items and if a customer can benefit from it on its own or with other resources that are readily available to the customer). The consideration, including any discounts, is allocated between separate products and services based on their stand-alone selling prices. Stand-alone selling prices are determined based on the prices at which the separate products and services are sold and are allocated based on each item's relative value to the total value of the products and services in the arrangement. For items that are not sold separately, we estimate stand-alone selling prices primarily using the "expected cost plus a margin" approach. Payment terms are generally 30 days in the U.S. and typically longer in many geographic markets outside the U.S. Shipping fees are recorded as revenue and the related cost which we have elected to account for as a cost of fulfilling the related contract is included in cost of revenue. Revenue, value-added and other taxes collected concurrently with revenue-producing activities are excluded from revenue. Costs of obtaining a contract, if material, are capitalized and amortized over the period that the related revenue is recognized if greater than one year. We have also elected to apply the practical expedient related to the incremental costs of obtaining contracts and recognize those costs as an expense when incurred if the amortization period of the assets is one year or less. These costs are included in selling, general and administrative expenses. Capitalized costs with an amortization period greater than one year were immaterial.

Revenue is generated by two reportable segments: Network Solutions and Services & Support.

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. The majority of the revenue from this segment is from hardware sales.

Hardware and Software Revenue

Revenue from hardware sales is recognized when control is transferred to the customer, which is generally when the products are shipped. Shipping terms are generally FOB shipping point. Revenue from software license sales is recognized at delivery and transfer of control to the customer. Revenue is recorded net of estimated discounts and rebates using historical trends. Customers are typically invoiced when control is transferred and revenue is recognized. Our products generally include assurance-based warranties of 90 days to five years for product defects.

In certain transactions, we are also the lessor in sales-type lease arrangements for network equipment that have terms of 18 months to five years. These arrangements typically include network equipment, network implementation services and maintenance services.

Services & Support Segment – Includes a complete portfolio of maintenance, network implementation and solutions integration and managed services, including hosted cloud services and subscription services which complement our Network Solutions segment.

Maintenance Revenue

Our maintenance service periods range from one month to five years. Customers are typically invoiced and pay for maintenance services at the beginning of the maintenance period. We recognize revenue for maintenance services on a straight-line basis over the maintenance period as our customers benefit evenly throughout the contract term and deferred revenue, when applicable, is recorded in unearned revenue and non-current unearned revenue. The total balance of our unearned revenue was $27.0 million and $21.0 million as of December 30, 2021 and December 31, 2020, respectively.

Network Implementation Revenue

We recognize revenue for network implementation, which primarily consists of engineering, execution and enablement services at a point in time when each performance obligation is complete. If we have recognized revenue but have not billed the customer, the right to consideration is recognized as a contract asset that is included in other receivables on the Consolidated Balance Sheet. The contract asset is transferred to accounts receivable when the completed performance obligation is invoiced to the customer.

Inventory

We carry our inventory at the lower of cost and net realizable value, with cost being determined using the first-in, first-out method. Standard costs for material, labor, and manufacturing overhead are used to value inventory and are updated at least quarterly. Most variances are expensed in the current period; therefore, our inventory costs approximate actual costs at the end of each reporting period. We establish reserves 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. If actual trends and market conditions are less favorable than those projected by management, we may be required to make additional inventory write-downs. Our reserve for excess and obsolete inventory was $44.6 million and $39.6 million at December 31, 2021 and 2020, respectively. Inventory disposals charged against the reserve were $1.0 million and $6.0 million for the years ended December 31, 2021 and December 31, 2020, respectively.

Stock-Based Compensation

For purposes of determining the estimated fair value of market-based PSU awards on the date of grant, the Monte Carlo Simulation valuation method is used. These PSUs are subject to a market condition based on the relative total shareholder return of ADTRAN against all of the companies in the NASDAQ Telecommunications Index and vest at the end of a three-year performance period. The fair value of performance-based PSUs, RSUs and restricted stock is equal to the closing price of our stock on the business day immediately preceding the grant date. Compensation expense related to unvested performance-based PSUs is recognized over the requisite service period of two to three years as the achievement of the performance obligation becomes probable. For purposes of determining the estimated fair value of our stock option awards on the date of grant, we use the Black-Scholes Model. This model requires the input of certain assumptions that require subjective judgment. These assumptions include, but are not limited to, expected stock price volatility over the term of the awards and actual and projected employee stock option exercise behaviors. Because our stock option awards have characteristics significantly different from those of traded options, and because changes in the input assumptions can materially affect the fair value estimate, the existing model may not provide a reliable, single measure of the fair value of our stock option awards. Management will continue to assess the assumptions and methodologies used to calculate the estimated fair value of stock-based compensation. Circumstances may change and additional data may become available over time, which could result in changes to these assumptions and methodologies and thereby materially impact our fair value determination. If factors change in future periods, the compensation expense that we record may differ significantly from what we have recorded in the current period. As of December 31, 2021, total unrecognized compensation expense related to the non-vested portion of market-based PSUs, RSUs and restricted stock was approximately $17.5 million.

Goodwill

Goodwill represents the excess purchase price over the fair value of net assets acquired. We qualitatively assess the carrying value of goodwill each reporting period for events or circumstance changes that would more likely than not reduce the fair value of the reporting unit below its carrying amount. Based on our assessment of certain qualitative factors such as macro-economic conditions, industry and market considerations, costs factors and overall financial performance, management concluded that the fair value of the goodwill was more likely than not greater than its carrying amount as of December 31, 2021. No impairment charges on goodwill were recognized during the years ended December 31, 2021 and December 31, 2020. The balance of our goodwill was $7.0 million as of December 31, 2021 and December 31, 2020.

Income Taxes

We estimate our income tax provision or benefit in each of the jurisdictions in which we operate, including estimating exposures related to examinations by taxing authorities. We also make judgments regarding the realization of deferred tax assets and establish valuation allowances where we believe it is more likely than not that future taxable income in certain jurisdictions will be insufficient to realize these deferred tax assets. Our estimates regarding future taxable income and income tax provision or benefit may vary due to changes in market conditions, changes in tax laws, or other factors. If our assumptions, and consequently our estimates, change in the future, the valuation allowances we have established may be increased or decreased, impacting future income tax expense. We continually review the adequacy of our valuation allowance and recognize 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 realized in accordance with ASC 740, *Income Taxes.*

Due to a decrease in revenue and profitability for 2019, and all other positive and negative objective evidence considered as part of our analysis, our ability to consider other subjective evidence such as projections for future growth is limited when evaluating whether our deferred tax assets will be realized. As such, the Company was and is no longer able to conclude that it is more likely than not that our domestic deferred tax assets will be realized and a valuation allowance against our domestic deferred tax assets was established in 2019. However, the amount of the deferred tax assets considered realizable could be adjusted in future periods in the event sufficient evidence is present to support a conclusion that it is more likely than not that all or a portion of our domestic deferred tax assets will be realized.We establish reserves to remove some or all of the tax benefit of any of our tax positions at the time we determine that the positions become uncertain. We adjust these reserves, including any impact on the related interest and penalties, as facts and circumstances change.

Liability for Warranty

Our products generally include warranties of 90 days to five years for product defects. We accrue for warranty returns at the time of product shipment based on our historical return rate and 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. Our 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 our products will cause warranty incidences, when they arise, to be more costly. Our 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 our actual experience relative to these factors be worse than our estimates, we will be required to record additional warranty expense. The liability for warranty obligations totaled $5.4 million and $7.1 million at December 31, 2021 and 2020, respectively. These liabilities are included in accrued expenses and other liabilities in the accompanying Consolidated Balance Sheets.

Pension Benefit Plan Obligations

Pension benefit plan obligations are based on various assumptions used by our actuaries in calculating these amounts. These assumptions include discount rates, compensation rate increases, expected return on plan assets, retirement rates and mortality rates. Actual results that differ from the assumptions and changes in assumptions could affect future expenses and obligations. Our net pension liability totaled $11.4 million and $18.7 million at December 31, 2021 and December 31, 2020, respectively. This liability is included in pension liability in the accompanying Consolidated Balance Sheets.

Recently Issued Accounting Pronouncements

For a discussion of recently issued accounting pronouncements, *see Note 1 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report for additional information.*

Subsequent Events

On February 2, 2022, the Company announced that its Board of Directors declared a quarterly cash dividend of $0.09 per common share to be paid to the Company’s stockholders of record at the close of business on February 17, 2022. The dividends will be paid on March 3, 2022 in the aggregate amount of approximately $4.4 million.

On January 6, 2022, the Company's stockholders approved the Business Combination by an overwhelming majority. On January 26, 2022, the ADVA shareholder tender offer acceptance period ended, with the required minimum acceptance threshold having been met. According to the rules of the German Securities Acquisition and Takeover Act, ADVA shareholders who did not tender their shares during the initial acceptance period could do so during a two- week additional acceptance period that began on February 1, 2022 and ended February 14, 2022. This resulted in the acceptance of the Exchange Offer by approximately 66% of all shares of ADVA entitled to voting rights existing as of November 30, 2021. On January 24, 2022, CFIUS completed its review of the Business Combination and determined that the transaction was not a “covered transaction” subject to CFIUS’ jurisdiction, satisfying the condition of the Business Combination Agreement related to CFIUS notification. On February 16, 2022, the U.K. Secretary of State for Business, Energy and Industrial Strategy completed its review of the Business Combination and determined that the Secretary of State will be taking no further action under NS&I Act, satisfying the condition of the Business Combination Agreement related to NS&I Act approval. For additional information on the Business Combination, *see Note 3 of Notes to Consolidated Financial Statements included in Part II, Item 8 and Part I, Item 1 of this report.*

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to financial market risks, including changes in foreign currency rates and prices of marketable equity and fixed-income securities. In addition, the ongoing COVID-19 pandemic has caused an economic downturn and volatility in financial markets. The primary objective of the large majority of our investment activities is to preserve principal while at the same time achieve 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. As of December 31, 2021, $52.5 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. Although these depository investments 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 December 31, 2021, approximately $31.7 million of our cash and investments may be directly affected by changes in interest rates. As of December 31, 2021, we held $6.3 million of cash and variable-rate investments where a change in interest rates would impact our interest income. A hypothetical 50 basis point decline in interest rates as of December 31, 2021, assuming all other variables remain constant, would reduce annualized interest income on our cash and investments by less than $0.1 million. In addition, we held $25.3 million of fixed-rate bonds whose fair values may be directly affected by a change in interest rates. A hypothetical 50 basis point increase in interest rates as of December 31, 2021, assuming all other variables remain constant, would reduce the fair value of our fixed-rate bonds by approximately $0.2 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. Our global supply chain predominately invoices us in U.S. dollars and some of our operating expenses are paid in certain local currencies (approximately 11.3% of total operating expense for the year ended December 31, 2021, respectively). Therefore, our revenue, gross margins, operating expenses 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 $6.2 million if the U.S. dollar weakened or strengthened 10% against the billing currencies. All non-functional currencies invoiced by suppliers would result in a combined hypothetical gain or loss of $1.4 million if the U.S. dollar weakened or strengthened 10% against the billing currencies. This change represents an increase in the amount of hypothetical gain or loss compared to prior periods and is mainly due to an increase 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 December 31, 2021, we had certain material contracts subject to currency revaluation, including accounts receivable, accounts payable and lease liabilities denominated in foreign currencies. As of December 31, 2021, we did not have any forward contracts outstanding.

For further information about the fair value of our investments as of December 31, 2021, *see Note 6 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report.*

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following consolidated financial statements are contained in this report.

	Page
Report of Independent Registered Public Accounting Firm	65
Financial Statements	67
Consolidated Balance Sheets, As of December 31, 2021 and 2020	67
Consolidated Statements of (Loss) Income, Years Ended December 31, 2021, 2020 and 2019	68
Consolidated Statements of Comprehensive (Loss) Income, Years Ended December 31, 2021, 2020 and 2019	69
Consolidated Statements of Changes in Stockholders' Equity, Years Ended December 31, 2021, 2020 and 2019	70
Consolidated Statements of Cash Flows, Years Ended December 31, 2021, 2020 and 2019	71
Schedule II - Valuation and Qualifying Accounts, Years Ended December 31, 2021, 2020 and 2019	115

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of ADTRAN, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of ADTRAN, Inc. and its subsidiaries (the "Company") as of December 31, 2021 and 2020, and the related consolidated statements of (loss) income, of comprehensive (loss) income, of changes in stockholders' equity and of cash flows for each of the three years in the period ended December 31, 2021, including the related notes and financial statement schedule listed in the accompanying index (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Excess and Obsolete Inventory Reserve

As described in Note 7 to the consolidated financial statements, the Company's consolidated net inventory and inventory reserve as of December 31, 2021 were $139.9 million and $44.6 million, respectively. Management establishes reserves 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.

The principal considerations for our determination that performing procedures relating to the excess and obsolete inventory reserve is a critical audit matter are (i) the significant judgment by management in estimating the excess and obsolete inventory reserve, which in turn led to (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's significant assumptions related to the estimated reserve percentages.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the excess and obsolete inventory reserve. These procedures also included, among others, testing management's process for developing the excess and obsolete inventory reserve; evaluating the appropriateness of the approach; testing the completeness and accuracy of underlying data used in the approach, including historical usage and inventory age; and evaluating the reasonableness of the estimated reserve percentages used by management to determine the excess and obsolete inventory reserve. Evaluating the reasonableness of the estimated reserve percentages involved assessing whether they were consistent with the historical data and evidence obtained in other areas of the audit.

/s/ PricewaterhouseCoopers LLP
Birmingham, Alabama
February 25, 2022

We have served as the Company's auditor since 1986.

Financial Statements

ADTRAN, INC.
Consolidated Balance Sheets
(In thousands, except per share amount)
December 31, 2021 and 2020

ASSETS	***2021***	***2020***
Current Assets		
Cash and cash equivalents	$ 56,603	$ 60,161
Restricted cash	215	18
Short-term investments (includes $350 and $1,731 of available-for-sale securities as of December 31, 2021 and 2020, respectively, reported at fair value)	350	3,131
Accounts receivable, less allowance for credit losses of $0 and $38 as of December 31, 2021 and 2020, respectively	158,742	98,827
Other receivables	11,228	21,531
Inventory, net	139,891	125,457
Prepaid expenses and other current assets	9,296	8,293
Total Current Assets	**376,325**	**317,418**
Property, plant and equipment, net	55,766	62,399
Deferred tax assets, net	9,079	9,869
Goodwill	6,968	6,968
Intangibles, net	19,293	23,470
Other non-current assets	30,971	25,425
Long-term investments (includes $29,717 and $43,385 of available-for-sale securities as of December 31, 2021 and 2020, respectively, reported at fair value)	70,615	80,130
Total Assets	**$ 569,017**	**$ 525,679**
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Accounts payable	$ 102,489	$ 49,929
Unearned revenue	17,737	14,092
Accrued expenses and other liabilities	13,673	13,609
Accrued wages and benefits	14,900	15,262
Income tax payable, net	6,560	1,301
Total Current Liabilities	**155,359**	**94,193**
Non-current unearned revenue	9,271	6,888
Pension liability	11,402	18,664
Deferred compensation liability	31,383	25,866
Other non-current liabilities	4,500	7,124
Total Liabilities	**211,915**	**152,735**
Commitments and contingencies (see Note 17)		
Stockholders' Equity		
Common stock, par value $0.01 per share; 200,000 shares authorized; 79,652 shares issued and 49,063 shares outstanding as of December 31, 2021 and 79,652 shares issued and 48,241 shares outstanding as of December 31, 2020	797	797
Additional paid-in capital	288,946	281,466
Accumulated other comprehensive loss	(11,914)	(11,639)
Retained earnings	740,820	781,813
Less treasury stock at cost: 30,590 and 31,280 shares as of December 31, 2021 and 2020, respectively	(661,547)	(679,493)
Total Stockholders' Equity	**357,102**	**372,944**
Total Liabilities and Stockholders' Equity	**$ 569,017**	**$ 525,679**

See accompanying notes to consolidated financial statements.

ADTRAN, INC.
Consolidated Statements of (Loss) Income
(In thousands, except per share amounts)
Years ended December 31, 2021, 2020 and 2019

	2021	2020	2019
Revenue			
Network Solutions	$ 498,834	$ 438,015	$ 455,226
Services & Support	64,170	68,495	74,835
Total Revenue	**563,004**	**506,510**	**530,061**
Cost of Revenue			
Network Solutions	307,841	244,226	263,677
Services & Support	36,786	44,733	47,217
Total Cost of Revenue	**344,627**	**288,959**	**310,894**
Gross Profit	**218,377**	**217,551**	**219,167**
Selling, general and administrative expenses	124,414	113,972	130,288
Research and development expenses	108,663	113,287	126,200
Asset impairments	—	65	3,872
Gain on contingency	—	—	(1,230)
Operating Loss	**(14,700)**	**(9,773)**	**(39,963)**
Interest and dividend income	2,844	1,936	2,765
Interest expense	(34)	(5)	(511)
Net investment gain	1,761	4,850	11,434
Other income (expense), net	3,824	(3,254)	1,498
Loss Before Income Taxes	**(6,305)**	**(6,246)**	**(24,777)**
Income tax (expense) benefit	(2,330)	8,624	(28,205)
Net (Loss) Income	**$ (8,635)**	**$ 2,378**	**$ (52,982)**
Weighted average shares outstanding – basic	48,582	47,996	47,836
Weighted average shares outstanding – diluted	48,582	48,288	47,836
(Loss) earnings per common share – basic	$ (0.18)	$ 0.05	$ (1.11)
(Loss) earnings per common share – diluted	$ (0.18)	$ 0.05	$ (1.11)

See accompanying notes to consolidated financial statements.

ADTRAN, INC.
Consolidated Statements of Comprehensive (Loss) Income
(In thousands)
Years ended December 31, 2021, 2020 and 2019

	2021	2020	2019
Net (Loss) Income	$ (8,635)	$ 2,378	$ (52,982)
Other Comprehensive (Loss) Income, net of tax			
Net unrealized (losses) gains on available-for-sale securities	(584)	316	279
Defined benefit plan adjustments	4,008	(395)	(1,185)
Foreign currency translation	(3,699)	4,857	(1,480)
Other Comprehensive (Loss) Income, net of tax	**(275)**	**4,778**	**(2,386)**
Comprehensive (Loss) Income, net of tax	**$ (8,910)**	**$ 7,156**	**$ (55,368)**

See accompanying notes to consolidated financial statements.

ADTRAN, INC.
Consolidated Statements of Changes in Stockholders' Equity
(In thousands, except per share amounts)
Years ended December 31, 2021, 2020 and 2019

	Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance as of December 31, 2018	**79,652**	**$ 797**	**$ 267,670**	**$ 883,975**	**$ (691,747)**	**$ (14,416)**	**$ 446,279**
Net loss	—	—	—	(52,982)	—	—	(52,982)
ASU 2016-02 adoption	—	—	—	4	—	—	4
ASU 2018-02 adoption	—	—	—	(385)	—	385	—
Other comprehensive loss, net of tax	—	—	—	—	—	(2,386)	(2,386)
Dividend payments ($0.09 per share)	—	—	—	(17,212)	—	—	(17,212)
Dividends accrued on unvested restricted stock units	—	—	—	(10)	—	—	(10)
Stock options exercised	—	—	—	(208)	734	—	526
PSUs, RSUs and restricted stock vested	—	—	—	(6,480)	5,909	—	(571)
Purchase of treasury stock	—	—	—	—	(184)	—	(184)
Stock-based compensation expense	—	—	6,962	—	—	—	6,962
Balance as of December 31, 2019	**79,652**	**797**	**274,632**	**806,702**	**(685,288)**	**(16,417)**	**380,426**
Net income	—	—	—	2,378	—	—	2,378
Other comprehensive income, net of tax	—	—	—	—	—	4,778	4,778
Dividend payments ($0.09 per share)	—	—	—	(17,334)	—	—	(17,334)
Dividends accrued on unvested restricted stock units	—	—	—	(180)	—	—	(180)
Deferred compensation adjustments, net of tax	—	—	—	—	(2,806)	—	(2,806)
PSUs, RSUs and restricted stock vested	—	—	—	(9,753)	8,601	—	(1,152)
Stock-based compensation expense	—	—	6,834	—	—	—	6,834
Balance as of December 31, 2020	**79,652**	**797**	**281,466**	**781,813**	**(679,493)**	**(11,639)**	**372,944**
Net loss	—	—	—	(8,635)	—	—	(8,635)
Other comprehensive loss, net of tax	—	—	—	—	—	(275)	(275)
Dividend payments ($0.09 per share)	—	—	—	(17,529)	—	—	(17,529)
Non-cash dividend payments ($0.09 per share)	—	—	—	(5)	5	—	—
Dividends accrued on unvested restricted stock units	—	—	—	(320)	—	—	(320)
Deferred compensation adjustments, net of tax	—	—	—	—	(1,248)	—	(1,248)
Stock options exercised	—	—	—	(1,842)	8,274	—	6,432
PSUs, RSUs and restricted stock vested	—	—	—	(12,662)	10,915	—	(1,747)
Stock-based compensation expense	—	—	7,480	—	—	—	7,480
Balance as of December 31, 2021	**79,652**	**$ 797**	**$ 288,946**	**$ 740,820**	**$ (661,547)**	**$ (11,914)**	**$ 357,102**

See accompanying notes to consolidated financial statements.

ADTRAN, INC.
Consolidated Statements of Cash Flows
(In thousands)
Years ended December 31, 2021, 2020 and 2019

	2021	2020	2019
Cash flows from operating activities:			
Net (Loss) Income	$ (8,635)	$ 2,378	$ (52,982)
Adjustments to reconcile net (loss) income to net cash provided by (used in) operating activities:			
Depreciation and amortization	16,084	16,627	17,771
Asset impairments	—	65	3,872
Gain on investments	(5,127)	(5,802)	(11,434)
Stock-based compensation expense	7,480	6,834	6,962
Deferred income taxes	(1,784)	(1,356)	30,070
Gain on contingency payment	—	—	(1,230)
Gain on life insurance proceeds	—	—	(1,000)
Other, net	112	216	(33)
Inventory reserves	(5,029)	(5,398)	(4,154)
Change in operating assets and liabilities:			
Accounts receivable, net	(60,864)	(7,269)	8,282
Other receivables	9,752	(4,732)	20,046
Inventory	(10,638)	(20,184)	5,406
Prepaid expenses and other assets	(7,146)	(5,239)	2,749
Accounts payable	53,270	4,543	(13,494)
Accrued expenses and other liabilities	10,063	5,093	(4,598)
Income taxes payable	5,470	(2,294)	(8,705)
Net cash provided by (used in) operating activities	**3,008**	**(16,518)**	**(2,472)**
Cash flows from investing activities:			
Purchases of property, plant and equipment	(5,669)	(6,413)	(9,494)
Proceeds from disposals of property, plant and equipment	—	2	—
Proceeds from sales and maturities of available-for-sale investments	50,466	105,100	47,268
Purchases of available-for-sale investments	(35,031)	(56,767)	(48,578)
Acquisition of note receivable	—	(523)	—
Insurance proceeds received	500	—	1,000
Acquisition of business	—	—	13
Net cash provided by (used in) investing activities	**10,266**	**41,399**	**(9,791)**
Cash flows from financing activities:			
Dividend payments	(17,529)	(17,334)	(17,212)
Repayment of bonds payable	—	(24,600)	—
Proceeds from draw on line of credit	10,000	—	—
Repayment of line of credit	(10,000)	—	—
Tax withholdings related to stock-based compensation settlements	(1,860)	(1,043)	—
Proceeds from stock option exercises	6,431	—	526
Purchases of treasury stock	—	—	(184)
Payments on long-term debt	—	—	(1,000)
Net cash used in financing activities	**(12,958)**	**(42,977)**	**(17,870)**
Net increase (decrease) in cash and cash equivalents	316	(18,096)	(30,133)
Effect of exchange rate changes	(3,677)	4,502	(1,598)
Cash, cash equivalents and restricted cash, beginning of year	60,179	73,773	105,504
Cash, cash equivalents and restricted cash, end of year	**$ 56,818**	**$ 60,179**	**$ 73,773**
Supplemental disclosure of cash flow information			
Cash paid during the year for interest	$ 13	$ 24	$ 512
Cash paid during the year for income taxes	$ 1,780	$ 7,609	$ 9,357
Supplemental disclosure of non-cash investing activities			
Purchases of property, plant and equipment included in accounts payable	$ 638	$ 108	$ 90

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements

Note 1 – Nature of Business

ADTRAN, Inc. ("ADTRAN" or the "Company") is a leading global provider of networking and communications platforms, software and services focused on the broadband access market. Our vision is to enable a fully connected world where the power to communicate is available to everyone, everywhere. Our business approach, unmatched industry expertise and innovative solutions enable us to address almost any customer need. Our products and services are utilized by a diverse global customer base of network operators that range from those having regional or national reach and operating as telephone or cable television network operators to alternative network providers such as municipalities or utilities, as well as, managed service providers who serve small- and medium-sized businesses and distributed enterprises.

Principles of Consolidation

The accompanying Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the U.S. ("U.S. GAAP") and include the financial position, results of operations, comprehensive (loss) income, changes in equity and cash flows of ADTRAN and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

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 expenses during the reporting period. Significant estimates include excess and obsolete inventory reserves, warranty reserves, customer rebates, determination and accrual of the deferred revenue related to performance obligations under contracts with customers, estimated costs to complete obligations associated with deferred and accrued revenue 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, fair value of investments, evaluation of other-than-temporary declines in the value of investments and our allowance for current expected credit losses. 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 SARS-CoV-2 coronavirus/COVID-19 global pandemic (or variants of the SARS-CoV-2 coronavirus, including the Omicron and Delta variants) as well as supply chain constraints as of December 31, 2021 and through the date of this report. The accounting matters assessed included, but were not limited to, the allowance for expected credit losses, stock-based compensation, carrying value of goodwill, intangibles and other long-lived assets, financial assets, valuation allowances for tax assets, revenue recognition and costs of revenue. Future conditions related to the magnitude and duration of the COVID-19 pandemic, as well as other factors, including supply chain constraints, could result in further impacts to our consolidated financial statements in future reporting periods.

Correction of Immaterial Misstatements

During the three months ended June 30, 2019, the Company determined that there was an immaterial misstatement of its excess and obsolete inventory reserves in its previously issued annual and interim financial statements. The Company corrected this misstatement by recognizing a $0.8 million out-of-period adjustment during the three months ended June 30, 2019, which increased its excess and obsolete inventory reserve and cost of revenue for the period. For the six and twelve months ended June 30, 2019 and December 31, 2019, respectively, the out-of-period adjustment was a cumulative $0.2 million reduction in its excess and obsolete inventory reserve and cost of revenue. Management determined that the correction of this misstatement was not material to any of its previously issued financial statements on both a quantitative and qualitative basis.

During the first quarter of 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 and the twelve months ended December 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 Consolidated Statement of (Loss) Income 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 Consolidated 2020 Balance Sheet. Management has determined that this misstatement was not material to any of its previously issued financial statements and that correction of the misstatement was not material to the 2020 annual financial results on either a quantitative or qualitative basis.

Summary of Significant Accounting Policies

Cash and Cash Equivalents

Cash and cash equivalents represent demand deposits, money market funds and short-term investments classified as available-for-sale with original maturities of three months or less. We maintain depository investments with certain financial institutions. As of December 31, 2021, $52.5 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. Although these depository investments may exceed government insured depository limits, we have evaluated the credit worthiness of these applicable financial institutions and determined the risk of material financial loss due to the exposure of such credit risk to be minimal.

Restricted Cash

Restricted cash consists of certain collateral which secures the Company's performance obligation under a contract with a certain customer.

Financial Instruments

The carrying amounts reported in the Consolidated Balance Sheets for cash and cash equivalents, accounts receivable, and accounts payable approximate fair value due to the immediate or short-term maturity of these financial instruments.

Investments with contractual maturities beyond one year may be classified as short-term based on their highly liquid nature and because such marketable securities represent the investment of cash that is available for current operations. Despite the long-term nature of their stated contractual maturities, we routinely buy and sell these securities and we believe we have the ability to quickly sell them to the remarketing agent, tender agent or issuer at par value plus accrued interest in the event we decide to liquidate our investment in a particular variable rate demand note. All income generated from these investments is recorded as interest income. We have not recorded any losses relating to variable rate demand notes.

Long-term investments is comprised of deferred compensation plan assets, corporate bonds, municipal fixed-rate bonds, asset-backed bonds, mortgage/agency-backed bonds, U.S. and foreign government bonds, marketable equity securities and other equity investments. Marketable equity securities are reported at fair value as determined by the most recently traded price of the securities at the balance sheet date, although the securities may not be readily marketable due to the size of the available market. Any changes in fair value are recognized in net investment gain (loss). Realized gains and losses on sales of debt securities are computed under the specific identification method and are included in other income (expense). See Note 6 for additional information.

For financing receivables, the Company does not measure the allowance for credit losses for accrued interest receivables, as the uncollectable accrued interest receivable is written off by reversing any previously recorded interest income in a timely manner (as soon as these amounts are determined to be uncollectable).

Accounts Receivable

We record accounts receivable at amortized cost. Prior to establishing payment terms for a new customer, we evaluate the credit risk of the customer. Credit limits and payment terms established for new customers are re-evaluated periodically based on customer collection experience and other financial factors. As of December 31, 2021, single customers comprising more than 10% of our total accounts receivable balance included three customers, which accounted for 59.9% of our total accounts receivable. As of December 31, 2021, these three customers individually accounted for 35.8%, 12.1% and 12.0%, respectively, of our total accounts receivable. As of December 31, 2020, single customers comprising more than 10% of our total accounts receivable balance included three customers, which accounted for 41.5% of our total accounts receivable. As of December 31, 2020, these three customers individually accounted for 15.6%, 14.5% and 11.4%, respectively, of our total accounts receivable.

On January 1, 2020, we adopted ASU 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments.*

Accounting Policy Under Topic 326

We regularly review the need for an allowance for credit losses related to our outstanding accounts receivable balances using the historical loss-rate method as well as assessing asset-specific risks. 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 or 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. Based on this assessment, an allowance for credit losses would be recorded if the Company determined that, based on our historical write-offs, which have been immaterial, and such asset specific risks, there was risk in collectability of the full amount of any accounts receivable.

Accounting Policy Prior to Adoption of Topic 326

Prior to adoption of Topic 326 on January 1, 2020, we regularly reviewed the need to maintain an allowance for doubtful accounts and considered factors such as the age of accounts receivable balances, the current economic conditions that may affect a customer's ability to pay, significant one-time events impacting these customers and our historical experience. If the financial condition of a customer deteriorated, resulting in an impairment of their ability to make payments, we may have been required to record an allowance for credit losses.

Inventory

Inventory is carried at the lower of cost and estimated net realizable value, with cost being determined using the first-in, first-out method. Standard costs for material, labor and manufacturing overhead are used to value inventory and are updated at least quarterly. We establish reserves 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. When we dispose of excess and obsolete inventories, the related disposals are charged against the inventory reserve. See Note 7 for additional information.

Property, Plant and Equipment

Property, plant and equipment, which is stated at cost, is depreciated using the straight-line method over the estimated useful lives of the assets. We depreciate building and land improvements from five to 39 years, office machinery and equipment from three to seven years, engineering machinery and equipment from three to seven years, and computer software from three to five years. Expenditures for repairs and maintenance are charged to expense as incurred. Major improvements that materially prolong the lives of the assets are capitalized. Gains and losses on the disposal of property, plant and equipment are recorded in operating loss. See Note 8 for additional information.

Intangible Assets

Purchased intangible assets with finite lives are carried at cost less accumulated amortization. Amortization is recorded over the estimated useful lives of the respective assets, which is two to 14 years. See Note 11 for additional information.

Impairment of Long-Lived Assets and Intangibles

Long-lived assets used in operations and intangible assets 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. An impairment loss would be recognized in the amount by which the recorded value of the asset exceeds the fair value of the asset, measured by the quoted market price of an asset or an estimate based on the best information available in the circumstances. During the year ended December 31, 2020, we recognized an impairment loss of less than $0.1 million related to the abandonment of certain information technology implementation projects for which we had previously capitalized expenses. There were no impairment losses for long-lived assets during the years ended December 31, 2021 and 2019, or for intangible assets recognized during the years ended December 31, 2021, 2020 or 2019.

Goodwill

Goodwill represents the excess purchase price over the fair value of net assets acquired. We qualitatively assess the carrying value of goodwill each reporting period for events or circumstance changes that would more likely than not reduce the fair value of the reporting unit below its carrying amount. During the fourth quarter of 2021, the Company completed its annual goodwill impairment test. Based on our assessment of certain qualitative factors such as macro-economic conditions, industry and market considerations, costs factors and overall financial performance, management concluded that the fair value of the goodwill was more likely than not greater than its carrying amount as of December 31, 2021. No impairment charges related to goodwill were recognized during the years ended December 31, 2021, 2020 and 2019.

Other Non-Current Assets

Implementation costs incurred for hosting arrangements that are related to service contracts are capitalized and amortized over the term of the arrangement. Capitalized implementation costs totaled $21.0 million and $13.5 million as of December 31, 2021 and 2020, respectively and are included in other non-current assets on the Consolidated Balance Sheets. We depreciate capitalized implementation costs on a straight-line basis over ten years. Amortization expense was $1.0 million for the year ended December 31, 2021, which is recorded almost entirely in selling, general and administrative expenses in the Consolidated Statements of (Loss) Income. No amortization expense was recognized for the years ended December 31, 2020 and 2019.

Liability for Warranty

Our products generally include warranties of 90 days to five years for product defects. We accrue for warranty returns at the time of product shipment based on our historical return rate and 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. The increasing complexity of our products will cause warranty incidences, when they arise, to be more costly. Our 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 our actual experience relative to these factors be worse than our estimates, we will be required to record additional warranty expense. The liability for warranty obligations totaled $5.4 million and $7.1 million as of December 31, 2021 and 2020, respectively. These liabilities are included in accrued expenses and other liabilities in the accompanying Consolidated Balance Sheets.

A summary of warranty expense and write-off activity for the years ended December 31, 2021, 2020 and 2019 is as follows:

	Year Ended December 31,		
(In thousands)	2021	2020	2019
Balance at beginning of period	**$ 7,146**	**$ 8,394**	**$ 8,623**
Plus: Amounts charged to cost and expenses	855	1,538	4,569
Less: Deductions	(2,598)	(2,786)	(4,798)
Balance at end of period	**$ 5,403**	**$ 7,146**	**$ 8,394**

Pension Benefit Plan Obligations

We maintain a defined benefit pension plan covering employees in certain foreign countries. Pension benefit plan obligations are based on various assumptions used by our actuaries in calculating these amounts. These assumptions include discount rates, compensation rate increases, expected return on plan assets, retirement rates and mortality rates. Actual results that differ from the assumptions and changes in assumptions could affect future expenses and obligations. Our net pension liability totaled $11.4 million and $18.7 million as of December 31, 2021 and 2020, respectively.

Stock-Based Compensation

We have two stock incentive plans from which stock options, performance stock units (“PSUs”), restricted stock units (“RSUs”) and restricted stock are available for grant to employees and directors. Costs related to these awards are recognized over their vesting periods.

Stock-based compensation expense recognized for the years ended December 31, 2021, 2020 and 2019 was approximately $7.5 million, $6.8 million, and $7.0 million, respectively. See Note 5 for additional information.

Research and Development Costs

Research and development costs include compensation for engineers and support personnel, contracted services, depreciation and material costs associated with new product development, enhancement of current products and product cost reductions. We continually evaluate new product opportunities and engage in intensive research for product and software development efforts. Research and development costs totaled $108.7 million, $113.3 million and $126.2 million for the years ended December 31, 2021, 2020 and 2019, respectively.

Other Comprehensive (Loss) Income

The following table presents changes in accumulated other comprehensive (loss) income, net of tax, by components of accumulated other comprehensive (loss) income for the years ended December 31, 2021, 2020 and 2019:

(In thousands)	Unrealized Gains (Losses) on Available-for-Sale Securities	Defined Benefit Plan Adjustments	Foreign Currency Adjustments	ASU 2018-02 Adoption (1)	Total
Balance as of December 31, 2018	**$ (563)**	**$ (8,041)**	**$ (5,812)**	**$ —**	**$ (14,416)**
Other comprehensive (loss) income before reclassifications	573	(1,717)	(1,480)	—	(2,624)
Amounts reclassified to retained earnings	—	—	—	385	385
Amounts reclassified from accumulated other comprehensive (loss) income	(294)	532	—	—	238
Balance as of December 31, 2019	**(284)**	**(9,226)**	**(7,292)**	**385**	**(16,417)**
Other comprehensive (loss) income before reclassifications	749	(1,231)	4,857	—	4,375
Amounts reclassified from accumulated other comprehensive (loss) income	(433)	836	—	—	403
Balance as of December 31, 2020	**32**	**(9,621)**	**(2,435)**	**385**	**(11,639)**
Other comprehensive (loss) income before reclassifications	(705)	3,439	(3,699)	—	(965)
Amounts reclassified from accumulated other comprehensive (loss) income	121	569	—	—	690
Balance as of December 31, 2021	**$ (552)**	**$ (5,613)**	**$ (6,134)**	**$ 385**	**$ (11,914)**

(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) income for the years ended December 31, 2021, 2020 and 2019:

(In thousands)	For the year ended December 31,			
Details about Accumulated Other Comprehensive (Loss) Income Components	**2021**	**2020**	**2019**	**Affected Line Item in the Statement Where Net (Loss) Income Is Presented**
Unrealized (loss) gains on available-for-sale securities:				
Net realized (loss) gain on sales of securities	$ (164)	$ 585	$ 397	Net investment gain
Defined benefit plan adjustments – actuarial losses	(825)	(1,212)	(771)	(1)
Total reclassifications for the period, before tax	(989)	(627)	(374)	
Tax benefit	299	224	136	
Total reclassifications for the period, net of tax	**$ (690)**	**$ (403)**	**$ (238)**	

(1) Included in the computation of net periodic pension cost. See Note 15 for additional information.

The following tables present the tax effects related to the change in each component of other comprehensive (loss) income for the years ended December 31, 2021, 2020 and 2019:

	2021		
(In thousands)	**Before-Tax Amount**	**Tax (Expense) Benefit**	**Net-of-Tax Amount**
Unrealized gains (losses) on available-for-sale securities	$ (953)	$ 248	$ (705)
Reclassification adjustment for amounts related to available-for-sale investments included in net income (loss)	164	(43)	121
Defined benefit plan adjustments	4,984	(1,545)	3,439
Reclassification adjustment for amounts related to defined benefit plan adjustments included in net income (loss)	825	(256)	569
Foreign currency translation adjustment	(3,699)	—	(3,699)
Total Other Comprehensive (Loss) Income	**$ 1,321**	**$ (1,596)**	**$ (275)**

(In thousands)	2020 Before-Tax Amount	2020 Tax (Expense) Benefit	2020 Net-of-Tax Amount
Unrealized gains (losses) on available-for-sale securities	$ 1,012	$ (263)	$ 749
Reclassification adjustment for amounts related to available-for-sale investments included in net (loss) income	(585)	152	(433)
Defined benefit plan adjustments	(1,784)	553	(1,231)
Reclassification adjustment for amounts related to defined benefit plan adjustments included in net (loss) income	1,212	(376)	836
Foreign currency translation adjustment	4,857	—	4,857
Total Other Comprehensive (Loss) Income	**$ 4,712**	**$ 66**	**$ 4,778**

(In thousands)	2019 Before-Tax Amount	2019 Tax (Expense) Benefit	2019 Net-of-Tax Amount
Unrealized gains (losses) on available-for-sale securities	$ 774	$ (201)	$ 573
Reclassification adjustment for amounts related to available-for-sale investments included in net loss	(397)	103	(294)
Defined benefit plan adjustments	(2,488)	771	(1,717)
Reclassification adjustment for amounts related to defined benefit plan adjustments included in net income (loss)	771	(239)	532
Foreign currency translation adjustment	(1,480)	—	(1,480)
Total Other Comprehensive (Loss) Income	**$ (2,820)**	**$ 434**	**$ (2,386)**

Income Taxes

The provision for income taxes has been determined using the asset and liability approach of accounting for income taxes. Under this approach, deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid. The provision for income taxes represents income taxes paid or payable for the current year plus the change in deferred taxes during the year. Deferred taxes result from the difference between financial and tax basis of our assets and liabilities and are adjusted for changes in tax rates and tax laws when such changes are enacted. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized.

We establish reserves to remove some or all of the tax benefit of any of our tax positions at the time we determine that the positions become uncertain. We adjust these reserves, including any impact on the related interest and penalties, as facts and circumstances change.

Foreign Currency

Transactions with customers that are denominated in foreign currencies are recorded using the appropriate exchange rates from throughout the year. Assets and liabilities denominated in foreign currencies are remeasured at the balance sheet dates using the closing rates of exchange between those foreign currencies and the functional currency with any transaction gains or losses reported in other income (expense). 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. Adjustments resulting from translating financial statements of international subsidiaries are recorded as a component of accumulated other comprehensive (loss) income.

Revenue

Accounting Policy under Topic 606

Revenue is measured based on the consideration expected to be received in exchange for transferring goods or providing services to a customer and as performance obligations under the terms of the contract are satisfied. Generally, this occurs with the transfer of control of a product to the customer. Review of contracts with customers, for both direct customers and distributors, are performed and assessment made regarding principal versus agent considerations to determine primary responsibility for delivery of performance obligation, presumed inventory risk, and discretion in establishing pricing, when applicable. For transactions where there are multiple performance obligations, individual products and services are accounted for separately if they are distinct (if a product or service is separately identifiable from other items and if a customer can benefit from it on its own or with other resources that are readily available to the customer). The consideration, including any discounts, is allocated between separate products and services based on their stand-alone selling prices. Stand-alone selling prices are determined based on the prices at which the separate products and services are sold

and are allocated based on each item's relative value to the total value of the products and services in the arrangement. For items that are not sold separately, we estimate stand-alone selling prices primarily using the "expected cost plus a margin" approach. Payment terms are generally 30 days in the U.S. and typically longer in many geographic markets outside the U.S. Shipping fees are recorded as revenue and the related cost is included in cost of revenue. Revenue, value-added and other taxes collected concurrently with revenue-producing activities are excluded from revenue. Costs of obtaining a contract, if material, are capitalized and amortized over the period that the related revenue is recognized if greater than one year. We have elected to account for shipping fees as a cost of fulfilling the related contract. We have also elected to apply the practical expedient related to the incremental costs of obtaining contracts and recognize those costs as an expense when incurred if the amortization period of the assets is one year or less. These costs are included in selling, general and administrative expenses. Capitalized costs with an amortization period greater than one year were immaterial.

Revenue is generated by two reportable segments: Network Solutions and Services & Support.

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. The majority of the revenue from this segment is from hardware revenue.

Hardware and Software Revenue

Revenue from hardware sales is recognized when control is transferred to the customer, which is generally when the products are shipped. Shipping terms are generally FOB shipping point. Revenue from software license sales is recognized at delivery and transfer of control to the customer. Revenue is recorded net of estimated discounts and rebates using historical trends. Customers are typically invoiced when control is transferred and revenue is recognized. Our products generally include assurance-based warranties of 90 days to five years for product defects, which are accrued at the time products are delivered.

Services & Support Segment - Includes a complete portfolio of maintenance, network implementation and solutions integration and managed services, which include hosted cloud services and subscription services to complement our Network Solutions segment.

Maintenance Revenue

Our maintenance service periods range from one month to five years. Customers are typically invoiced and pay for maintenance services at the beginning of the maintenance period. We recognize revenue for maintenance services on a straight-line basis over the maintenance period as our customers benefit evenly throughout the contract term and deferred revenue, when applicable, are recorded in current and non-current unearned revenue.

Network Implementation Revenue

We recognize revenue for network implementation, which primarily consists of engineering, execution and enablement services at a point in time when each performance obligation is complete. If we have recognized revenue but have not billed the customer, the right to consideration is recognized as a contract asset that is included in other receivables on the Consolidated Balance Sheet. The contract asset is transferred to accounts receivable when the completed performance obligation is invoiced to the customer.

See Notes 4 and 16 for additional information on reportable segments.

Unearned Revenue

Unearned revenue primarily represents customer billings on maintenance service programs and unearned revenue related to multiple element contracts where we still have contractual obligations to our customers. We currently offer maintenance contracts ranging from one month to five years. Revenue attributable to maintenance contracts is recognized on a straight-line basis over the related contract term. In addition, we provide software maintenance and a variety of hardware maintenance services to customers under contracts with terms up to ten years. When we defer revenue related to multiple performance obligations where we still have contractual obligations, we also defer the related costs. Current deferred costs are included in prepaid expenses and other current assets on the accompanying Consolidated Balance Sheets and totaled $0.7 million and $1.1 million as of December 31, 2021 and 2020, respectively. Non-current deferred costs are included in other non-current assets on the accompanying Consolidated Balance Sheets and totaled $0.1 million as of December 31, 2021 and less than $0.1 million as of December 31, 2020.

(Loss) Earnings per Share

(Loss) earnings per common share and (loss) earnings per common share assuming dilution, are based on the weighted average number of common shares and, when dilutive, common equivalent shares outstanding during the year. See Note 19 for additional information.

Business Combinations

The Company records assets acquired, liabilities assumed, contractual contingencies, when applicable, and intangible assets recognized as part of business combinations based on their fair values on the date of acquisition subject to purchase accounting adjustments. The excess of the purchase price over the estimated fair values of the net tangible and intangible assets and liabilities assumed or acquired is recorded as goodwill. If the estimated fair values of net tangible and intangible assets acquired and liabilities assumed exceed the purchase price, a bargain purchase gain is recorded. The Company's estimates of fair value are based on historical experience, industry knowledge, certain information obtained from the management of the acquired company and, in some cases, valuations performed by independent third-party firms. The results of operations of acquired companies are included in the accompanying Consolidated Statements of (Loss) Income since their dates of acquisition. Costs incurred to complete the Business Combination, such as legal, accounting or other professional fees are charged to selling, general and administrative expenses as incurred.

Recent Accounting Pronouncements Not Yet Adopted

In October 2021, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2021-08, *Business Combinations (Topic 805) Accounting for Contract Assets and Contract Liabilities from Contracts with Customers,* which would require an acquirer to recognize and measure acquired contract assets and contract liabilities in a manner consistent with how the acquiree recognized and measured them in its pre-acquisition financial statements in accordance with *Topic 606, Revenue Recognition*. ASU 2021-08 is effective for annual periods beginning after December 15, 2022, including interim periods within those fiscal years. Adoption of the ASU should be applied prospectively. Early adoption is also permitted, including adoption in an interim period. If early adopted, the amendments are applied retrospectively to all business combinations for which the acquisition date occurred during the fiscal year of adoption. We are currently assessing whether to early adopt ASU 2021-08 in anticipation of the closing of the Business Combination Agreement with ADVA. However, we are unable to estimate the effect on our Consolidated Financial Statements as of the date of this report. For additional information on the Business Combination Agreement, see Note 3.

Recently Adopted Accounting Pronouncements

In August 2018, the FASB issued Accounting Standards Update 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 was effective for public business entities for fiscal years ending after December 15, 2020. The adoption of this standard did not have a material effect on the disclosures in the Consolidated Financial Statements. See Note 15 for additional information.

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. The Company early adopted ASU 2019-12 on April 1, 2020, which was applied on a prospective basis as if the Company adopted the standard on January 1, 2020. The Company early adopted the standard to take advantage of the simplification of rules for income taxes on intra-period tax allocations. Specifically, the adoption of this standard resulted in the recognition of approximately $0.1 million of tax benefit in other comprehensive (loss) income, that otherwise would have been recognized in continuing operations had the intra-period tax allocation been completed. There were no other impacts from this standard on the Consolidated Balance Sheets, Consolidated Statements of (Loss) Income or Consolidated Statements of Cash Flows.

Note 2 – Cash, Cash Equivalents and Restricted Cash

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the Consolidated Balance Sheet that sum to the total of the same such amounts shown in the Consolidated Statement of Cash Flows:

(In thousands)	December 31, 2021	December 31, 2020
Cash and cash equivalents	$ 56,603	$ 60,161
Restricted cash	215	18
Cash, cash equivalents and restricted cash	$ 56,818	$ 60,179

See Note 17 for additional information regarding restricted cash.

Note 3 – Business Combination Agreement

On August 30, 2021, the Company and ADVA, entered into a business combination agreement (the "Business Combination Agreement"), pursuant to which both companies agreed to combine their respective businesses and each become subsidiaries of a new holding company, Acorn HoldCo, a Delaware corporation and currently a wholly-owned direct subsidiary of the Company.

Under the terms of the Business Combination Agreement, Acorn MergeCo, Inc., a newly formed Delaware corporation and wholly-owned direct subsidiary of Acorn HoldCo ("Merger Sub"), will merge with and into ADTRAN, with ADTRAN surviving the merger (the "Merger") as a wholly-owned direct subsidiary of Acorn HoldCo. Pursuant to the Merger, each outstanding share of common stock of the Company will be converted into the right to receive one share of common stock of Acorn HoldCo. Acorn HoldCo has also made a public exchange offer to exchange each issued and outstanding no-par value bearer share of ADVA, pursuant to which each ADVA share tendered and accepted for exchange will be exchanged for 0.8244 shares of common stock of Acorn HoldCo (the "Exchange Offer", and together with the Merger, the "Business Combination"). Upon completion of the Business Combination, and assuming that all of the outstanding ADVA shares are exchanged in the Exchange Offer, former ADTRAN stockholders and former ADVA shareholders will own approximately 54% and 46%, respectively, of the outstanding Acorn HoldCo shares.

The Business Combination Agreement was unanimously approved by the Board of Directors of the Company and by the supervisory board and management board of ADVA. On January 6, 2022, the Company's stockholders approved the Business Combination by an overwhelming majority. The end of the ADVA shareholder tender offer acceptance period was on January 26, 2022, which resulted in the acceptance of the Exchange Offer by more than 60% of all shares of ADVA entitled to voting rights existing as of October 31, 2021, thus exceeding the required minimum acceptance threshold. According to the rules of the German Securities Acquisition and Takeover Act, ADVA shareholders who did not tender their shares during the initial acceptance period could do so during a two-week additional acceptance period that began on February 1, 2022 and ended February 14, 2022. This resulted in the acceptance of the Exchange Offer by approximately 66% of all shares of ADVA entitled to voting rights existing as of November 30, 2021. On January 24, 2022, the Committee on Foreign Investment in the United States ("CFIUS") completed its review of the Business Combination and determined that the transaction was not a "covered transaction" subject to CFIUS' jurisdiction, satisfying the condition of the Business Combination Agreement related to CFIUS notification. On February 16, 2022, the U.K. Secretary of State for Business, Energy and Industrial Strategy completed its review of the Business Combination and determined that the Secretary of State will be taking no further action under the NS&I Act, satisfying the condition of the Business Combination Agreement related to NS&I Act approval. Cooperative proceedings continue with the foreign direct investment authorities in Germany.

The Company anticipates the consummation of the Business Combination around the middle of 2022, subject to customary closing conditions, and regulatory approvals from the foreign direct investment authorities in Germany.

Additional information about the Business Combination Agreement and proposed Business Combination is set forth in the Company's filings with the SEC, as well as in the registration statement on Form S-4 that Acorn HoldCo filed with the SEC, which was declared effective December 2, 2021 (the "Acorn HoldCo Registration Statement").

Note 4 - Revenue

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

Network Solutions - 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 - Includes maintenance, network implementation, solutions integration and managed services, which include hosted cloud services and subscription services.

Revenue by Category

In addition to reportable 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 year ended December 31, 2021:

(In thousands)	Network Solutions	Services & Support	Total
Access & Aggregation	$ 300,343	$ 43,853	$ 344,196
Subscriber Solutions & Experience	189,121	10,500	199,621
Traditional & Other Products	9,370	9,817	19,187
Total	**$ 498,834**	**$ 64,170**	**$ 563,004**

The following table disaggregates revenue by reportable segment and revenue category for the year ended December 31, 2020:

(In thousands)	Network Solutions	Services & Support	Total
Access & Aggregation	$ 262,578	$ 50,560	$ 313,138
Subscriber Solutions & Experience	161,824	9,263	171,087
Traditional & Other Products	13,613	8,672	22,285
Total	**$ 438,015**	**$ 68,495**	**$ 506,510**

The following table disaggregates revenue by reportable segment and revenue category for the year ended December 31, 2019:

(In thousands)	Network Solutions	Services & Support	Total
Access & Aggregation	$ 289,980	$ 58,894	$ 348,874
Subscriber Solutions & Experience	144,651	8,269	152,920
Traditional & Other Products	20,595	7,672	28,267
Total	**$ 455,226**	**$ 74,835**	**$ 530,061**

The aggregate amount of transaction price allocated to remaining performance obligations that have not been satisfied as of December 31, 2021 related to contractual maintenance agreements, contractual SaaS and subscription services, and hardware contracts that exceed one year in duration amounted to $101.1 million, with approximately 74.6% expected to be recognized over the next 12 months and the remainder recognized thereafter. The majority of the Company's remaining performance obligations at December 31, 2021 are related to contracts or orders that have an original expected duration of one year or less, for which the Company is electing to utilize the practical expedient available within the guidance, and are excluded from the transaction price related to these future obligations. The Company will generally satisfy the remaining performance obligations as we transfer control of the products ordered or services to our customers, excluding maintenance services, which are satisfied over time.

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

(In thousands)	December 31, 2021	December 31, 2020
Accounts receivable	$ 158,742	$ 98,827
Contract assets[1]	$ 464	$ 63
Unearned revenue	$ 17,737	$ 14,092
Non-current unearned revenue	$ 9,271	$ 6,888

[1] Included in other receivables on the Consolidated Balance Sheets.

Of the outstanding unearned revenue balance as of December 31, 2020, 2019 and 2018, $11.2 million, $11.0 million and $12.7 million were recognized as revenue during the years ended December 31, 2021, 2020 and 2019, respectively.

Note 5 – Stock-Based Compensation

The following table summarizes stock-based compensation expense related to stock options, PSUs, RSUs and restricted stock for the years ended December 31, 2021, 2020 and 2019:

(In thousands)	2021	2020	2019
Stock-based compensation expense included in cost of revenue	**$ 543**	**$ 426**	**$ 369**
Selling, general and administrative expenses	4,571	4,036	3,889
Research and development expenses	2,366	2,372	2,704
Stock-based compensation expense included in operating expenses	**6,937**	**6,408**	**6,593**
Total stock-based compensation expense	**7,480**	**6,834**	**6,962**
Tax benefit for expense associated with non-qualified stock options, PSUs, RSUs and restricted stock	(1,849)	(1,629)	(1,659)
Total stock-based compensation expense, net of tax	**$ 5,631**	**$ 5,205**	**$ 5,303**

Stock Incentive Program Descriptions

2020 Stock Incentive Plans

At the annual meeting of stockholders held on May 13, 2020, the Company's stockholders approved, upon recommendation of the Board of Directors, the adoption of the ADTRAN, Inc. 2020 Employee Stock Incentive Plan (the "2020 Employee Plan") as well as the ADTRAN, Inc. 2020 Directors Stock Plan (the "2020 Directors Plan"). No additional awards will be granted under the Company's previous stock incentive plans, the ADTRAN, Inc. 2015 Employee Stock Incentive Plan (the "2015 Employee Plan") or the 2010 Directors Stock Plan (the "2010 Directors Plan") subsequent to the stockholders' approval of these new stock plans. Outstanding awards granted under the 2015 Employee Plan and the 2010 Directors Plan will remain subject to the terms of such plans, and shares underlying awards granted under such plans that are cancelled or forfeited will be available for issuance under the 2020 Employee Plan or the 2020 Directors Plan, as applicable.

Under the 2020 Employee Plan, the Company is authorized to issue 2.8 million shares of common stock to certain employees, key service providers and advisors through incentive stock options and non-qualified stock options, stock appreciation rights, RSUs and restricted stock, any of which may be subject to performance-based conditions. RSUs and restricted stock granted under the 2020 Employee Plan will typically vest pursuant to a four-year vesting schedule beginning on the first anniversary of the grant date. Stock options granted under the 2020 Employee Plan will typically become exercisable beginning after one year of continued employment, normally pursuant to a four-year vesting schedule beginning on the first anniversary of the grant date and have a ten-year contractual term. Stock options, RSUs and restricted stock granted under the 2020 Employee Plan reduce the shares authorized for issuance under the 2020 Employee Plan by one share of common stock for each share underlying the award. Forfeitures, cancellations or expirations of awards granted under the 2015 Employee Plan increase the shares authorized for issuance under the 2020 Employee Plan, with forfeitures, cancellations or expirations of RSUs and restricted stock increasing the shares authorized for issuance by 2.5 shares of common stock for each share underlying the award. Forfeitures, cancellations or expirations of stock options from the 2015 Employee Plan increase the shares authorized for issuance under the 2020 Employee Plan by one share of common stock for each share underlying the award.

Under the 2020 Directors Plan, the Company is authorized to issue 0.4 million shares of common stock through stock options, restricted stock and RSUs to non-employee directors. Stock awards issued under the 2020 Directors Plan typically will become vested in full on the first anniversary of the grant date. Stock options issued under the 2020 Directors Plan will have a ten-year contractual term. Stock options, restricted stock and RSUs granted under the 2020 Directors Plan reduce the shares authorized for issuance under the 2020 Directors Plan by one share of common stock for each share underlying the award. Forfeitures, cancellations and expirations of awards granted under the 2010 Directors Stock Plan increase the shares authorized for issuance under the 2020 Directors Plan by one share of common stock for each share underlying the award.

Previous Stock Incentive Plans

In January 2015, the Board of Directors adopted the 2015 Employee Plan, which authorized 7.7 million shares of common stock for issuance to certain employees and officers through incentive stock options and non-qualified stock options, stock appreciation rights, PSUs, RSUs and restricted stock. The 2015 Employee Plan was adopted by stockholder approval at our annual meeting of stockholders held in May 2015. PSUs, RSUs and restricted stock granted under the 2015 Plan reduce the shares authorized for issuance under the 2015 Employee Plan by 2.5 shares of common stock for each share underlying the award. Options granted under the 2015 Employee Plan typically become exercisable beginning after one year of continued employment, normally pursuant to a four-year vesting schedule beginning on the first anniversary of the grant date and have a ten-year contractual term. Expiration dates of options outstanding as of December 31, 2021 under the 2015 Employee Plan range from 2025 to 2026.

In January 2006, the Board of Directors adopted the ADTRAN, Inc. 2006 Employee Stock Incentive Plan (the "2006 Plan"), which authorized 13.0 million shares of common stock for issuance to officers and certain employees through incentive stock options and non-qualified stock options, stock appreciation rights, RSUs and restricted stock. Options granted under the 2006 Plan typically become exercisable beginning after one year of continued employment, normally pursuant to a four-year vesting schedule beginning on the first anniversary of the grant date and had a ten-year contractual term. The 2006 Plan was replaced in May 2015 by the 2015 Employee Plan. Expiration dates of options outstanding as of December 31, 2021 under the 2006 Plan range from 2022 to 2024.

In May 2010, the Company's stockholders approved the 2010 Directors Plan, under which 0.5 million shares of common stock have been reserved for issuance. This plan replaced the 2005 Directors Stock Option Plan. Under the 2010 Directors Plan, the Company may issue stock options, restricted stock and RSUs to our non-employee directors. Stock awards issued under the 2010 Directors Plan become vested in full on the first anniversary of the grant date. Options issued under the 2010 Directors Plan had a ten-year contractual term. All remaining options under the 2010 Directors Plan expired in 2019.

PSUs, RSUs and restricted stock

The following table is a summary of our PSUs, RSUs and restricted stock outstanding as of December 31, 2020 and 2021 and the changes that occurred during 2021:

	Number of shares (In thousands)	Weighted Average Grant Date Fair Value
Unvested PSUs, RSUs and restricted stock outstanding, December 31, 2020	**1,846**	**$ 11.49**
PSUs, RSUs and restricted stock granted	748	$ 20.17
PSUs, RSUs and restricted stock vested	(552)	$ 13.67
PSUs, RSUs and restricted stock forfeited	(112)	$ 11.70
Unvested PSUs, RSUs and restricted stock outstanding, December 31, 2021	**1,930**	**$ 14.11**

The following table details the significant assumptions that impact the fair value estimate of the market-based PSUs:

	2021	2020	2019
Estimated fair value per share	$26.07	$14.43	$9.53 to $18.05
Expected volatility	53.27%	51.88%	32.7% to 38.9%
Risk-free interest rate	0.85%	0.24%	1.6% to 2.46%
Expected dividend yield	1.63%	2.85%	2.3% to 4.09%

For market-based PSUs, the number of shares of common stock earned by a recipient is subject to a market condition based on ADTRAN's relative total shareholder return against all companies in the NASDAQ Telecommunications Index at the end of a three-year performance period. Depending on the relative total shareholder return over the performance period, the recipient may earn from 0% to 150% of the shares underlying the PSUs, with the shares earned distributed upon the vesting. The fair value of the award is based on the market price of our common stock on the date of grant, adjusted for the expected outcome of the impact of market conditions using a Monte Carlo Simulation valuation method. A portion of the granted PSUs vests and the underlying shares become deliverable upon the death or disability of the recipient or upon a change of control of ADTRAN, as defined by the 2020 Employee Plan. The recipients of the PSUs receive dividend credits based on the shares of common stock underlying the PSUs. The dividend credits vest and are earned in the same manner as the PSUs and are paid in cash upon the issuance of common stock for the PSUs.

During the first quarter of 2021 and 2020, the Company issued 0.6 million performance-based PSUs under the 2015 Employee Plan to its executive officers and certain other employees as noted. 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. Subject to the grantee's continued employment, the grantee has the ability to earn shares in a range of 0% to 142.8% of the awarded number of PSUs based on the achievement of a defined performance target at the end of a three-year period. If the Company achieves the performance target at the end of the first or second year during the vesting period, the grantee will be entitled to the target number of performance shares, which will be issued at the end of the three-year period. Equity-based compensation expense with respect to these awards will be adjusted over the vesting period to reflect the probability of achievement of the performance target defined in the award agreements.

The fair value of RSUs and restricted stock is equal to the closing price of our stock on the grant date. RSUs and restricted stock vest ratably over four-year and one-year periods, respectively.

We will continue to assess the assumptions and methodologies used to calculate the estimated fair value of stock-based compensation. If circumstances change, and additional data becomes available over time, we may change our assumptions and methodologies, which may materially impact our fair value determination.

As of December 31, 2021, total unrecognized compensation expense related to the non-vested portion of market-based PSUs, RSUs and restricted stock was approximately $17.5 million, which is expected to be recognized over an average remaining recognition period of 2.9 years and will be adjusted for actual forfeitures as they occur.

As of December 31, 2021, 3.8 million shares were available for issuance under shareholder-approved equity plans in connection with the grant and exercise of stock options, PSU's, RSU's or restricted stock.

Stock Options

The following table is a summary of stock options outstanding as of December 31, 2021 and 2020 and the changes that occurred during 2021:

	Number of Options *(In thousands)*	Weighted Average Exercise Price *(Per share)*	Weighted Avg. Remaining Contractual Life in Years	Aggregate Intrinsic Value *(In thousands)*
Stock options outstanding, December 31, 2020	**2,718**	**$ 21.17**	**2.86**	**$ —**
Stock options granted	—	$ —		$ —
Stock options exercised	(382)	$ 16.82		$ 1,491
Stock options forfeited	—	$ —		$ —
Stock options expired	(615)	$ 28.89		$ 21
Stock options outstanding, December 31, 2021	**1,721**	**$ 19.37**	**2.39**	**$ 6,669**
Stock options exercisable, December 31, 2021	**1,721**	**$ 19.37**	**2.39**	**$ 6,669**

All of these stock options were issued at exercise prices that approximated fair market value at the date of grant. As of December 31, 2021, there was no unrecognized compensation expense related to non-vested stock options.

The aggregate intrinsic values represent the total pre-tax intrinsic value (the difference between ADTRAN's closing stock price on the last trading day of 2021 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 December 31, 2021. The amount of aggregate intrinsic value will change based on the fair market value of ADTRAN's stock and was $6.7 million as of December 31, 2021.

The total pre-tax intrinsic value of options exercised during 2021, 2020 and 2019 was $1.5 million, $0 and $0.1 million, respectively. The fair value of options fully vesting during 2021, 2020 and 2019 was $0, less than $0.1 million and $0.9 million, respectively.

The following table further describes our stock options outstanding as of December 31, 2021:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	**Options Outstanding at December 31, 2021** ***(In thousands)***	**Weighted Avg. Remaining Contractual Life in Years**	**Weighted Average Exercise Price**	**Options Exercisable at December 31, 2021** ***(In thousands)***	**Weighted Average Exercise Price**
$15.33 – $16.97	703	2.75	$ 15.89	703	$ 15.89
$16.98 – $18.97	463	2.77	$ 18.96	463	$ 18.96
$18.98 – $30.36	555	1.64	$ 24.12	555	$ 24.12
	1,721			**1,721**	

The Black-Scholes option pricing model (the "Black-Scholes Model") is used to determine the estimated fair value of stock option awards on the date of grant. The Black-Scholes Model requires the input of certain assumptions that involve judgment. Because our stock options have characteristics significantly different from those of traded options, and because changes in the input assumptions can materially affect the fair value estimate, existing models may not provide reliable measures of fair value of our stock options. The stock option pricing model requires the use of several assumptions that impact the fair value estimate. These variables include, but are not limited to, the volatility of our stock price and employee exercise behaviors.

There were no stock options granted in during the years ended December 31, 2021, 2020 or 2019.

Note 6 – Investments

Debt Securities and Other Investments

As of December 31, 2021, the following debt securities and other investments were included in short-term investments and long-term investments on the Consolidated Balance Sheet and recorded at fair value:

(In thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Corporate bonds	$ 10,776	$ 6	$ (35)	$ 10,747
Municipal fixed-rate bonds	1,553	2	(4)	1,551
Asset-backed bonds	322	3	(3)	322
Mortgage/Agency-backed bonds	4,754	15	(33)	4,736
U.S. government bonds	12,251	12	(92)	12,171
Foreign government bonds	543	—	(4)	539
Available-for-sale debt securities held at fair value	**$ 30,199**	**$ 38**	**$ (171)**	**$ 30,066**

As of December 31, 2020, the following debt securities and other investments were included in short-term investments and long-term investments on the Consolidated Balance Sheet and recorded at fair value:

(In thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Corporate bonds	$ 11,762	$ 123	$ —	$ 11,885
Municipal fixed-rate bonds	2,854	30	—	2,884
Asset-backed bonds	6,634	74	—	6,708
Mortgage/Agency-backed bonds	11,536	114	(6)	11,644
U.S. government bonds	9,763	112	—	9,875
Foreign government bonds	1,334	4	(1)	1,337
Commercial Paper	250	—	—	250
Other	533	—	—	533
Available-for-sale debt securities held at fair value	**$ 44,666**	**$ 457**	**$ (7)**	**$ 45,116**

As of December 31, 2021, our debt securities had the following contractual maturities:

(In thousands)	Corporate bonds	Municipal fixed-rate bonds	Asset-backed bonds	Mortgage / Agency-backed bonds	U.S. government bonds	Foreign government bonds
Less than one year	$ 681	$ 150	$ —	$ 801	$ 1,884	$ —
One to two years	4,902	1,018	—	868	5,320	245
Two to three years	4,333	265	29	—	4,421	294
Three to five years	831	118	—	324	546	—
Five to ten years	—	—	—	1,125	—	—
More than ten years	—	—	293	1,618	—	—
Total	**$ 10,747**	**$ 1,551**	**$ 322**	**$ 4,736**	**$ 12,171**	**$ 539**

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 securities are computed under the specific identification method. The following table presents gross realized gains and losses related to our debt securities for the years ended December 31, 2021, 2020 and 2019:

(In thousands)	For the year ended December 31, 2021	2020	2019
Gross realized gains on debt securities	$ 241	$ 459	$ 108
Gross realized losses on debt securities	(159)	(58)	(50)
Total gain recognized, net	**$ 82**	**$ 401**	**$ 58**

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 the total investment portfolio. The Company did not purchase any available-for-sale debt with credit deterioration during the years ended December 31, 2021, 2020 and 2019.

The following table presents the breakdown of debt securities and other investments with unrealized losses as of December 31, 2021:

(In thousands)	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	$ 6,795	$ (35)	$ —	$ —	$ 6,795	$ (35)
Municipal fixed-rate bonds	1,129	(4)	—	—	1,129	(4)
Asset-backed bonds	198	(3)	—	—	198	(3)
Mortgage/Agency-backed bonds	3,006	(33)	—	—	3,006	(33)
U.S. government bonds	10,552	(92)	—	—	10,552	(92)
Foreign government bonds	294	(4)	—	—	294	(4)
Total	**$ 21,974**	**$ (171)**	**$ —**	**$ —**	**$ 21,974**	**$ (171)**

The following table presents the breakdown of debt securities and other investments with unrealized losses as of December 31, 2020:

(In thousands)	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	$ 336	$ —	$ —	$ —	$ 336	$ —
Municipal fixed-rate bonds	310	—	—	—	310	—
Asset-backed bonds	2	—	—	—	2	—
Mortgage/Agency-backed bonds	2,078	(6)	—	—	2,078	(6)
U.S. government bonds	350	—	—	—	350	—
Foreign government bonds	302	(1)	—	—	302	(1)
Total	**$ 3,378**	**$ (7)**	**$ —**	**$ —**	**$ 3,378**	**$ (7)**

The increase in unrealized losses during 2021 resulted from changes in market positions associated with our fixed income portfolio.

Marketable Equity Securities

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

The Company has an equity investment which does not have a readily determinable fair value, and is recorded 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 the equity investment as of December 31, 2021 and 2020 was $1.0 million and $0.8 million, respectively. During the years ended December 31, 2021 and 2020, impairment charges totaling $0.4 million and $2.6 million, respectively, were recorded related to the equity investment and are included in net investment gain (loss) on the Consolidated Statement of (Loss) Income. There were no impairment charges during the year ended December 31, 2019. During the year ended December 31, 2021, an unsecured loan totaling $0.5 million was converted to equity which increased the Company's carrying value of the equity investment.

The Company has a secured note receivable as of December 31, 2021 and 2020 which totaled $0.4 million and $0.9 million, respectively, and is included in long-term investments on the Consolidated Balance Sheets. During the year ended December 31, 2021, an impairment charge of $0.5 million was recognized against the secured note receivable is included in net investment gain (loss) on the Consolidated Statement of (Loss) Income. There were no impairment charges during the years ended December 31, 2020 and 2019.

The Company had an unsecured loan as of December 31, 2020 totaling $0.5 million.

Realized and unrealized gains and losses for our marketable equity securities for the year ended December 31, 2021, 2020 and 2019 were as follows:

(In thousands)	For the year ended December 31, 2021	2020	2019
Realized losses on equity securities sold	$ (992)	$ (2,382)	$ (96)
Unrealized gains on equity securities held	2,671	6,831	11,472
Total gain (loss) recognized, net	**$ 1,679**	**$ 4,449**	**$ 11,376**

As of December 31, 2021 and 2020, gross unrealized losses related to individual investments in a continuous loss position for twelve months or longer were not material.

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; 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:

	Fair Value Measurements as of December 31, 2021 Using			
(In thousands)	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	$ 652	$ 652	$ —	$ —
Available-for-sale debt securities				
Corporate bonds	10,747	—	10,747	—
Municipal fixed-rate bonds	1,551	—	1,551	—
Asset-backed bonds	322	—	322	—
Mortgage/Agency-backed bonds	4,736	—	4,736	—
U.S. government bonds	12,171	12,171	—	—
Foreign government bonds	539	—	539	—
Marketable equity securities				
Marketable equity securities - various industries	12,606	12,606	—	—
Deferred compensation plan assets	26,935	26,935	—	—
Total	**$ 70,259**	**$ 52,364**	**$ 17,895**	**$ —**

	Fair Value Measurements as of December 31, 2020 Using			
(In thousands)	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	$ 497	$ 497	$ —	$ —
U.S. government bonds	350	350	—	—
Available-for-sale debt securities				
Corporate bonds	11,885	—	11,885	—
Municipal fixed-rate bonds	2,884	—	2,884	—
Asset-backed bonds	6,708	—	6,708	—
Mortgage/Agency-backed bonds	11,644	—	11,644	—
U.S. government bonds	9,875	9,875	—	—
Foreign government bonds	1,337	—	1,337	—
Commercial paper	250	—	250	—
Other investments	533	—	—	533
Marketable equity securities				
Marketable equity securities – various industries	10,963	10,963	—	—
Deferred compensation plan assets	23,891	23,891	—	—
Other investments	1,400	1,400	—	—
Total	**$ 82,217**	**$ 46,976**	**$ 34,708**	**$ 533**

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 consisted 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.

Our variable rate demand notes have a structure that implies a standard expected market price. The frequent interest rate resets make it reasonable to expect the price to stay at par. These securities are priced at the expected market price.

Note 7 – Inventory

As of December 31, 2021 and 2020, inventory, net was comprised of the following:

(In thousands)	2021	2020
Raw materials	$ 74,709	$ 47,026
Work in process	2,143	776
Finished goods	63,039	77,655
Total Inventory, net	**$ 139,891**	**$ 125,457**

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 December 31, 2021 and 2020, our inventory reserve was $44.6 million and $39.6 million, respectively.

Note 8 – Property, Plant and Equipment

As of December 31, 2021 and 2020, property, plant and equipment, net was comprised of the following:

(In thousands)	2021	2020
Land	$ 4,575	$ 4,575
Building and land improvements	35,578	35,142
Building	68,157	68,169
Furniture and fixtures	19,917	19,965
Computer hardware and software	72,274	70,942
Engineering and other equipment	134,771	132,920
Total Property, Plant and Equipment	**335,272**	**331,713**
Less: accumulated depreciation	(279,506)	(269,314)
Total Property, Plant and Equipment, net	**$ 55,766**	**$ 62,399**

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. No impairment charges were recognized during the year ended December 31, 2021. During the years ended December 31, 2020 and December 31, 2019, the Company recognized impairment charges of $0.1 million and $3.9 million, respectively, related to the abandonment of certain information technology projects in which we had previously capitalized expenses related to these projects. The impairment charges were determined based on actual costs incurred as part of the projects.

Depreciation expense was $12.0 million, $12.2 million and $12.5 million for the years ended December 31, 2021, 2020 and 2019, respectively, which is recorded in cost of revenue, selling, general and administrative expenses and research and development expenses in the Consolidated Statements of (Loss) Income.

Note 9 – Leases

We have operating leases for office space, automobiles and various other equipment in the U.S. and in certain international locations. Other contracts, such as manufacturing agreements and service agreements, are reviewed to determine if they contain potential embedded leases. These other contracts are specifically reviewed to determine whether we have the right to substantially all of the economic benefit from the use of any specified assets or the right to direct the use of any specified assets, either of which would indicate the existence of a lease.

As of December 31, 2021, our operating leases had remaining lease terms of one month to forty four months, some of which included options to extend the leases for up to two years, and some of which included options to terminate the leases within three months. For those leases that are reasonably assured to be renewed, we have included the option to extend as part of our right of use asset and lease liability. Supplemental balance sheet information related to operating leases is as follows:

(In thousands)	Classification	December 31, 2021	December 31, 2020
Assets			
Operating lease assets	Other non-current assets	$ 4,922	$ 5,309
Total lease asset		**$ 4,922**	**$ 5,309**
Liabilities			
Current operating lease liability	Accrued expenses and other liabilities	$ 1,730	$ 1,806
Non-current operating lease liability	Other non-current liabilities	3,269	3,574
Total lease liability		**$ 4,999**	**$ 5,380**

Leases with an initial term of 12 months or less are not recorded on the balance sheet and lease expense for these leases is recognized on a straight-line basis over the lease term. Lease expense related to these short-term leases was less than $0.1 million for the twelve months ended December 31, 2021 and 2020 and was $0.4 million of the twelve months ended December 31, 2019, and is included in cost of revenue, selling, general and administrative expenses and research and development expenses in the Consolidated Statements of (Loss) Income. 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 $0.5 million, $0.7 million and $0.9 million for the twelve months ended December 31, 2021, 2020 and 2019, respectively. For lease agreements entered into or reassessed after the adoption of Topic 842, we elected to not separate lease and non-lease components. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants.

The components of lease expense included in the Consolidated Statements of (Loss) Income were as follows:

	For the Year Ended December 31,		
(In thousands)	2021	2020	2019
Cost of revenue	$ 51	$ 113	$ 64
Selling, general and administrative expenses	883	1,311	1,400
Research and development expenses	1,071	1,121	2,417
Total operating lease expense	**$ 2,005**	**$ 2,545**	**$ 3,881**

As of December 31, 2021, operating lease liabilities included on the Consolidated Balance Sheet by future maturity were as follows:

(In thousands)	Amount
2022	1,767
2023	1,419
2024	1,188
2025	710
Thereafter	—
Total lease payments	**5,084**
Less: Interest	(85)
Present value of lease liabilities	**$ 4,999**

Future operating lease payments include $1.6 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 is 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 our weighted average lease terms and weighted average discount rates:

Weighted average remaining lease term (years)	As of December 31, 2021	2020
Operating leases with USD functional currency	1.8	2.4
Operating leases with Euro functional currency	3.5	3.6
Weighted average discount rate		
Operating leases with USD functional currency	3.49%	4.47%
Operating leases with Euro functional currency	1.22%	1.37%

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

(In thousands)	For the year ended December 31, 2021	2020	2019
Cash used in operating activities related to operating leases	$ 1,892	$ 2,632	$ 3,439
Right-of-use assets obtained in exchange for operating lease obligations	$ 1,875	$ 324	$ 11,615

Sales-Type Leases

We are the lessor in sales-type lease arrangements for network equipment, which have initial terms of up to five years. Our sales-type lease arrangements contain either a provision whereby the network equipment reverts back to us upon the expiration of the lease or a provision that allows the lessee to purchase the network equipment at a bargain purchase amount at the end of the lease. In addition, our sales-type lease arrangements do not contain any residual value guarantees or material restrictive covenants. The allocation of the consideration between lease and non-lease components is determined by stand-alone selling price by component. The net investment in sales-type leases consists of lease receivables less unearned income. Collectability of sales-type leases is evaluated periodically at an individual customer level. The Company has elected to exclude taxes related to sales-type leases from revenue and the associated expense of such taxes. As of December 31, 2021 and 2020, we did not have an allowance for credit losses for our net investment in sales-type leases. As of December 31, 2021 and 2020, the components of the net investment in sales-type leases were as follows:

(In thousands)	As of December 31, 2021	2020
Current minimum lease payments receivable[1]	$ 92	$ 702
Non-current minimum lease payments receivable[2]	4	347
Total minimum lease payments receivable	**96**	**1,049**
Less: Current unearned revenue[1]	70	218
Less: Non-current unearned revenue[2]	1	50
Net investment in sales-type leases	**$ 25**	**$ 781**

(1) Included in other receivables on the Consolidated Balance Sheets.
(2) Included in other non-current assets on the Consolidated Balance Sheets.

Components of gross profit related to sales-type lease recognized at the lease commencement date and interest and dividend income, included in the Consolidated Statements of (Loss) Income for the twelve months ended December 31, 2021 and 2020 were as follows:

(In thousands)	For the year ended December 31, 2021	2020	2019
Revenue - Network Solutions	$ 22	$ 78	$ 1,723
Cost of revenue - Network Solutions	5	32	675
Gross profit	**$ 17**	**$ 46**	**$ 1,048**
Interest and dividend income	$ 27	$ 42	$ 357

As of December 31, 2021 future minimum lease payments to be received from sales-type leases were as follows:

(In thousands)	Amount
2022	$ 92
2023	4
2024	—
2025	—
2026	—
Thereafter	—
Total	**$ 96**

Note 10 – Goodwill

Goodwill was $7.0 million as of December 31, 2021 and December 31, 2020 of which $6.6 million and $0.4 million was allocated to our Network Solutions and Services & Support reportable segments, respectively.

Note 11 – Intangible Assets

Intangible assets as of December 31, 2021 and 2020, consisted of the following:

	2021			2020		
(In thousands)	Gross Value	Accumulated Amortization	Net Value	Gross Value	Accumulated Amortization	Net Value
Customer relationships	$ 20,796	$ (9,906)	$ 10,890	$ 21,123	$ (8,055)	$ 13,068
Developed technology	8,200	(3,683)	4,517	8,200	(2,546)	5,654
Licensed technology	5,900	(2,486)	3,414	5,900	(1,830)	4,070
Supplier relationships	—	—	—	2,800	(2,800)	—
Licensing agreements	560	(225)	335	560	(152)	408
Patents	500	(363)	137	500	(294)	206
Trade names	210	(210)	—	210	(146)	64
Total	**$ 36,166**	**$ (16,873)**	**$ 19,293**	**$ 39,293**	**$ (15,823)**	**$ 23,470**

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. No impairment losses of intangible assets were recorded during the year ended December 31, 2021, 2020 and 2019.

Amortization expense was $4.1 million, $4.4 million and $5.3 million for the years ended December 31, 2021, 2020 and 2019, respectively, and was included in cost of revenue, selling, general and administrative expenses and research and development expenses in the Consolidated Statements of (Loss) Income.

As of December 31, 2021, estimated future amortization expense of intangible assets was as follows:

(In thousands)	Amount
2022	$ 3,475
2023	3,323
2024	3,229
2025	3,025
2026	1,986
Thereafter	4,255
Total	**$ 19,293**

Note 12 – Revolving Credit Agreement

On November 2, 2021, the Company, as borrower, renewed its Revolving Credit and Security Agreement and related Promissory Note (together, the "Revolving Credit Agreement") with Cadence Bank, N.A., as lender (the "Lender"). The Revolving Credit Agreement provides the Company with a $10.0 million secured revolving credit facility. Loans under the Revolving Credit Agreement will bear interest at a rate equal to 1.50% over the screen rate as obtained by Reuter's, Bloomberg or another commercially available source as may be designated by the Lender from time to time; provided, however, that in no event shall the applicable rate of interest under the Revolving Credit Agreement be less than 1.50% per annum. Such loans are secured by all of the cash, securities, securities entitlements and investment property in a certain bank account, as outlined in the Revolving Credit Agreement, at a maximum loan-to-value ratio of 75% determined by dividing the full commitment amount under the Revolving Credit Agreement on the date of testing, determined by the Lender each fiscal quarter, by the market value of the collateral. The Revolving Credit Agreement matures on November 3, 2022, subject to earlier termination upon the concurrence of certain events of default. The Company entered into the Revolving Credit Agreement in order to increase the flexibility and management of its short-term liquidity. During the fourth quarter of 2021, the Company made draws totaling $10.0 million under the Revolving Credit Agreement all of which had been repaid as of December 31, 2021. The Company agreed to certain negative covenants that are customary for credit arrangements of this type, including, among other things, restrictions on the Company's ability to enter into mergers, acquisitions or other business combination transactions, grant liens or suffer a material adverse change in the condition or affairs (financial or otherwise) of the Company. The Company must be in compliance with all covenants to be able to draw on the line of credit.

Note 13 – Alabama State Industrial Development Authority Financing

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 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.

Note 14 – Income Taxes

The components of income tax expense (benefit) for the years ended December 31, 2021, 2020 and 2019 are as follows:

(In thousands)	2021	2020	2019
Current			
Federal	$ 11	$ (10,574)	$ (518)
State	(63)	(329)	(1,065)
International	4,166	3,635	(282)
Total Current	**4,114**	**(7,268)**	**(1,865)**
Deferred			
Federal	—	—	24,801
State	—	—	5,815
International	(1,784)	(1,356)	(546)
Total Deferred	**(1,784)**	**(1,356)**	**30,070**
Total Income Tax Expense (Benefit)	**$ 2,330**	**$ (8,624)**	**$ 28,205**

The effective income tax rate differs from the federal statutory rate due to the following:

	2021	2020	2019
Tax provision computed at the federal statutory rate	21.00%	21.00%	21.00%
State income tax provision, net of federal benefit	13.33	11.10	6.97
Federal research credits	53.77	57.63	15.53
Foreign taxes	(4.69)	(17.83)	2.83
Tax-exempt income	3.75	1.93	0.49
State tax incentives	—	—	3.85
Change in valuation allowance	(75.26)	44.79	(172.82)
Non-deductible transaction costs	(39.48)	—	—
Foreign tax credits	0.14	17.90	16.69
Stock-based compensation	10.74	(23.36)	(6.01)
Withholding taxes	0.14	(20.83)	—
Alabama law change	(25.39)	—	—
Impact of CARES Act	—	45.65	—
Return to accrual	9.48	—	—
Global intangible low-taxed income ("GILTI")	(4.29)	(0.49)	(1.87)
Other, net	(0.19)	0.56	(0.49)
Effective Tax Rate	**(36.95)%**	**138.05%**	**(113.83)%**

(Loss) income before expense (benefit) for income taxes for the years ended December 31, 2021, 2020 and 2019 is as follows:

(In thousands)	2021	2020	2019
U.S. entities	$ (14,982)	$ (12,833)	$ (29,829)
International entities	8,677	6,587	5,052
Total	**$ (6,305)**	**$ (6,246)**	**$ (24,777)**

(Loss) income before expense (benefit) for income taxes for international entities reflects (loss) income based on statutory transfer pricing agreements. This amount does not correlate to consolidated international revenue, which occurs from our U.S. entity.

Deferred income taxes on the Consolidated Balance Sheets result from temporary differences between the amount of assets and liabilities recognized for financial reporting and tax purposes. The significant components of current and non-current deferred taxes as of December 31, 2021 and 2020 consist of the following:

(In thousands)	2021	2020
Deferred tax assets:		
Inventory	$ 9,538	$ 8,882
Accrued expenses	3,851	2,331
Deferred compensation	7,027	6,714
Stock-based compensation	1,469	1,971
Uncertain tax positions related to state taxes and related interest	124	149
Pensions	6,061	8,554
Foreign losses	2,862	2,590
State losses and credit carry-forwards	5,914	5,509
Federal loss and research carry-forwards	21,606	17,323
Lease liabilities	1,471	1,588
Capitalized research and development expenditures	9,349	11,832
Valuation allowance	(50,564)	(45,818)
Total Deferred Tax Assets	**18,708**	**21,625**
Deferred tax liabilities:		
Property, plant and equipment	(3,590)	(4,546)
Intellectual property	(3,230)	(4,375)
Right of use lease assets	(1,459)	(1,585)
Investments	(1,350)	(1,250)
Total Deferred Tax Liabilities	**(9,629)**	**(11,756)**
Net Deferred Tax Assets	**$ 9,079**	**$ 9,869**

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) was signed into law. Subsequently, the Internal Revenue Service (“IRS”) released its final GILTI regulations on July 9, 2020. The passage of the CARES Act and subsequent issuance of the GILTI final regulations together resulted in the Company’s recognition of a tax benefit in the amount of $10.8 million during 2020, $7.9 million of which related to the utilization of deferred tax assets which had previously been offset with a valuation allowance and $2.9 million primarily related to the tax rate differential on carrying back losses from 2018 and 2019 tax years to prior years in which the U.S. Corporate tax rate was 35% versus the current 21% federal tax rate.

On February 12, 2021, the Alabama Business Tax Competitiveness Act (the "Act") was signed into law. As a result of the Act, we recognized an expense of $1.6 million in the three months ended March 31, 2021 related to the revaluation of our deferred tax assets, which was offset by changes in our valuation allowance previously recorded against our domestic deferred tax assets.

During the three months ended September 30, 2021, Management decided to pursue a claim for refund related to the revocation of our IRC Section 59(e) election that was made on our originally filed 2018 U.S. federal tax return. The Company filed a related carryback claim of net operating losses generated in 2018 to prior years as allowed under the CARES Act that was passed in 2020. An IRS Section 59(e) election is generally non-revocable except in cases for which IRS Commissioner’s approval is given. Approval is granted only in rare and unusual circumstances. We filed a private letter ruling (“PLR”) request to revoke our election. During the three months ended December 31, 2021, a response to our PLR was published denying our request to revoke the previously made 59(e). As a result of these filings, and Management’s position to pursue them through appeals, we have established a receivable in the amount of $15.2 million and a deferred tax asset related to additional research and development credit carryforward in the amount of $1.8 million that would be available if our revocation request is successful, offset with an uncertain tax liability of $17.0 million.

As of December 31, 2021 and 2020, non-current deferred taxes reflected deferred taxes on net unrealized gains and losses on available-for-sale investments and deferred taxes on unrealized losses in our pension plan. The net change in non-current deferred taxes associated with these items, which resulted in a deferred tax expense of $1.6 million and a deferred tax benefit of $0.1 million in 2021 and 2020, respectively, was recorded as an adjustment to other comprehensive (loss) income, presented in the Consolidated Statements of Comprehensive (Loss) Income.

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*. Our assessment of the realizability of our deferred tax assets includes the evaluation of evidence, some of which requires significant judgment, including historical operating results, the evaluation of a 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 become necessary, it could have a material effect on our consolidated financial statements.

As of December 31, 2021 and 2020, the Company had gross deferred tax assets totaling $59.6 million offset by a valuation allowance totaling $50.6 million and gross deferred tax assets totaling $55.7 million offset by a valuation allowance of $45.8 million, respectively. Of the current valuation allowance, $48.3 million was established against our domestic deferred tax assets and the remaining $2.3 million is related to foreign net operating loss and research and development credit carryforwards where we lacked sufficient activity to realize those deferred tax assets. The change in our valuation allowance for the year ending December 31, 2021 was an increase of $4.7 million. The change in the valuation allowance was primarily related to increases in our deferred tax assets during the year related to generated federal research and development credit carryforwards. As of December 31, 2021, the remaining $9.1 million in deferred tax assets that were not offset by a valuation allowance were located in various foreign jurisdictions where the Company believed it was more likely than not it will realize these deferred tax assets.

Supplemental balance sheet information related to deferred tax assets as of December 31, 2021 and 2020 were as follows:

	December 31, 2021		
(In thousands)	**Deferred Tax Assets**	**Valuation Allowance**	**Deferred Tax Assets, net**
Domestic	$ 48,265	$ (48,265)	$ —
International	11,378	(2,299)	9,079
Total	**$ 59,643**	**$ (50,564)**	**$ 9,079**

	December 31, 2020		
(In thousands)	**Deferred Tax Assets**	**Valuation Allowance**	**Deferred Tax Assets, net**
Domestic	$ 43,791	$ (43,791)	$ —
International	11,896	(2,027)	9,869
Total	**$ 55,687**	**$ (45,818)**	**$ 9,869**

As of December 31, 2021 and 2020, the deferred tax assets for foreign and domestic loss carry-forwards, research and development tax credits, unamortized research and development costs and state credit carry-forwards totaled $39.7 million and $37.3 million, respectively. As of December 31, 2021, $27.3 million of these deferred tax assets will expire at various times between 2022 and 2041. The remaining deferred tax assets will either amortize through 2029 or carryforward indefinitely.

As of December 31, 2021 and 2020, respectively, our cash and cash equivalents were $56.6 million and $60.2 million and short-term investments were $0.4 million and $3.1 million, which provided available short-term liquidity of $57.0 million and $63.3 million. Of these amounts, our foreign subsidiaries held cash of $47.7 million and $49.7 million, respectively, representing approximately 83.5% and 78.5% of available short-term liquidity, which is used to fund ongoing liquidity needs of these subsidiaries. As part of our restructuring plan, the Company's assertion on being indefinitely reinvested changed in a particular jurisdiction in a previous year. The Company has a withholding tax liability of $0.7 million as of December 31, 2021 and 2020. The Company maintains its assertion in all other jurisdictions that it is indefinitely reinvesting its funds held in foreign jurisdictions outside of the U.S., except to the extent any of these funds can be repatriated without withholding tax. However, if all of these funds were repatriated to the U.S., or used for U.S. operations, certain amounts could be subject to tax. Due to the timing and circumstances of repatriation of such earnings, if any, it is not practicable to determine the amount of funds subject to unrecognized deferred tax liability.

During 2021, 2020 and 2019, no income tax benefit or expense was recorded for stock options exercised as an adjustment to equity.

The change in the unrecognized income tax benefits for the years ended December 31, 2021, 2020 and 2019 were as follows:

(In thousands)	2021	2020	2019
Balance at beginning of period	**$ 1,078**	**$ 1,487**	**$ 1,868**
Increases for tax position related to:			
Prior years	17,025	4	—
Current year	136	165	161
Decreases for tax positions related to:			
Prior years	(27)	—	(71)
Expiration of applicable statute of limitations	(376)	(578)	(471)
Balance at end of period	**$ 17,836**	**$ 1,078**	**$ 1,487**

As of December 31, 2021, 2020 and 2019, our total liability for unrecognized tax benefits was $17.8 million, $1.1 million and $1.5 million, respectively, of which $17.8 million, $1.0 million and $1.4 million, respectively, would reduce our effective tax rate if we were successful in upholding all of the uncertain positions and recognized the amounts recorded. We classify interest and penalties recognized on the liability for unrecognized tax benefits as income tax expense. As of December 31, 2021, 2020 and 2019, the balances of accrued interest and penalties were $0.2 million, $0.3 million and $0.5 million, respectively.

We do not anticipate a single tax position generating a significant increase or decrease in our liability for unrecognized tax benefits within 12 months of this reporting date, unless a resolution is reached regarding the appeal of our PLR denial noted above. We file income tax returns in the U.S. for federal and various state jurisdictions and several foreign jurisdictions. We are not currently under audit by the Internal Revenue Service. Generally, we are not subject to changes in income taxes by any taxing jurisdiction for the years prior to 2018.

Note 15 – Employee Benefit Plans

Pension Benefit Plan

We maintain a defined benefit pension plan covering employees in certain foreign countries.

The pension benefit plan obligations and funded status as of December 31, 2021 and 2020, were as follows:

(In thousands)	2021	2020
Change in projected benefit obligation:		
Projected benefit obligation at beginning of period	$ 50,927	$ 43,902
Service cost	1,229	1,270
Interest cost	339	444
Actuarial gain - experience	(750)	(744)
Actuarial (gain) loss - assumptions	(3,327)	2,458
Benefit payments	(756)	(509)
Effects of foreign currency exchange rate changes	(3,498)	4,106
Projected benefit obligation at end of period	**44,164**	**50,927**
Change in plan assets:		
Fair value of plan assets at beginning of period	32,263	28,016
Actual gain on plan assets	2,943	1,744
Contributions	—	24
Effects of foreign currency exchange rate changes	(2,444)	2,479
Fair value of plan assets at end of period	**32,762**	**32,263**
Unfunded status at end of period	**$ (11,402)**	**$ (18,664)**

The accumulated benefit obligation was $44.2 million and $50.9 million as of December 31, 2021 and 2020, respectively. The decrease in the accumulated benefit obligation, projected benefit obligation and the actuarial loss was primarily attributable to an increase in the discount rate during 2021.

The net amounts recognized in the Consolidated Balance Sheets for the unfunded pension liability as of December 31, 2021 and 2020 were as follows:

(In thousands)	2021	2020
Current liability	$ —	$ —
Pension liability	11,402	18,664
Total	**$ 11,402**	**$ 18,664**

The components of net periodic pension cost, other than the service cost component, are included in other income (expense), net in the Consolidated Statements of (Loss) Income. The components of net periodic pension cost and amounts recognized in other comprehensive (loss) income for the years ended December 31, 2021, 2020 and 2019 were as follows:

(In thousands)	2021	2020	2019
Net periodic benefit cost:			
Service cost	$ 1,229	$ 1,270	$ 1,471
Interest cost	339	444	634
Expected return on plan assets	(1,842)	(1,679)	(1,392)
Amortization of actuarial losses	1,088	970	795
Net periodic benefit cost	**814**	**1,005**	**1,508**
Other changes in plan assets and benefit obligations recognized in other comprehensive (loss) income:			
Net actuarial (gain) loss	(4,984)	1,784	2,488
Amortization of actuarial losses	(825)	(1,212)	(771)
Amount recognized in other comprehensive (loss) income	**(5,809)**	**572**	**1,717**
Total recognized in net periodic benefit cost and other comprehensive (loss) income	**$ (4,995)**	**$ 1,577**	**$ 3,225**

The amounts recognized in accumulated other comprehensive (loss) income as of December 31, 2021 and 2020 were as follows:

(In thousands)	2021	2020
Net actuarial loss	$ (7,736)	$ (13,545)

The defined benefit pension plan is accounted for on an actuarial basis, which requires the use of various assumptions, including an expected rate of return on plan assets and a discount rate. The expected return on our German plan assets that is utilized in determining the benefit obligation and net periodic benefit cost is derived from periodic studies, which include a review of asset allocation strategies, anticipated future long-term performance of individual asset classes, risks using standard deviations and correlations of returns among the asset classes that comprise the plans' asset mix. While the studies give appropriate consideration to recent plan performance and historical returns, the assumptions are primarily long-term, prospective rates of return. The discount rate has been derived from the returns of high-quality, corporate bonds denominated in Euro currency with durations close to the duration of our pension obligations.

The weighted-average assumptions that were used to determine the net periodic benefit cost for the years ended December 31, 2021, 2020 and 2019 were as follows:

	2021	2020	2019
Discount rate	1.16%	1.00%	1.75%
Rate of compensation increase	2.00%	2.00%	2.00%
Expected long-term rates of return	5.90%	5.90%	5.90%

The weighted-average assumptions that were used to determine the benefit obligation as of December 31, 2021 and 2020:

	2021	2020
Discount rate	1.16%	0.69%
Rate of compensation increase	2.00%	2.00%

Actuarial gains and losses are recorded in accumulated other comprehensive (loss) income. To the extent unamortized gains and losses exceed 10% of the higher of the market-related value of assets or the projected benefit obligation, the excess is amortized as a component of net periodic pension cost over the remaining service period of active participants.

We do not anticipate making any contributions to the pension plan in 2022.

The following pension benefit payments, which reflect expected future service, as appropriate, are expected to be paid to participants:

(In thousands)	
2022	$ 1,088
2023	1,002
2024	1,204
2025	1,244
2026	1,370
2027 - 2031	8,894
Total	**$ 14,802**

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.

We have categorized our cash equivalents and our investments held at fair value into this hierarchy as follows:

(In thousands)	Fair Value Measurements at December 31, 2021 Using			
	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents	$ 801	$ 801	$ —	$ —
Available-for-sale securities				
Bond funds:				
Corporate bonds	7,528	7,528	—	—
Government bonds	5,721	5,721	—	—
Equity funds:				
Global equity	12,170	12,170	—	—
Balanced fund	2,919	2,919	—	—
Emerging markets	2,259	2,259	—	—
Large cap value	235	235	—	—
Global real estate fund	1,129	1,129	—	—
Available-for-sale securities	**31,961**	**31,961**	**—**	**—**
Total	**$ 32,762**	**$ 32,762**	**$ —**	**$ —**

(In thousands)	Fair Value Measurements at December 31, 2020 Using			
	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents	$ 1,935	$ 1,935	$ —	$ —
Available-for-sale securities				
Bond funds:				
Corporate bonds	6,746	6,746	—	—
Government bonds	5,971	5,971	—	—
Emerging markets bonds	307	307	—	—
Equity funds:				
Global equity	11,638	11,638	—	—
Balanced fund	2,515	2,515	—	—
Emerging markets	1,848	1,848	—	—
Large cap value	198	198	—	—
Global real estate fund	799	799	—	—
Managed futures fund	306	306	—	—
Available-for-sale securities	**30,328**	**30,328**	**—**	**—**
Total	**$ 32,263**	**$ 32,263**	**$ —**	**$ —**

Our investment policy includes various guidelines and procedures designed to ensure assets are invested in a manner necessary to meet expected future benefits earned by participants and consider a broad range of economic conditions. The current target allocation ranges by asset class are 50% for bond funds, 40% for equity funds and 10% for cash, real estate and managed futures. The objectives of the target allocations are to maintain investment portfolios that diversify risk through prudent asset allocation parameters, achieve asset returns that meet or exceed the plans' actuarial assumptions and achieve asset returns that are competitive with like institutions employing similar investment strategies.

The investment policy is periodically reviewed by the Company and a designated third-party fiduciary for investment matters. The policy is established and administered in a manner that is compliant at all times with applicable government regulations.

401(k) Savings Plan

We maintain the ADTRAN, Inc. 401(k) Retirement Plan (the "Savings Plan") for the benefit of eligible employees. The Savings Plan is intended to qualify under Sections 401(a) and 401(k) of the Internal Revenue Code of 1986, as amended (the "Code"), and is intended to be a "safe harbor" 401(k) plan under Code Section 401(k)(12). The Savings Plan allows employees to save for retirement by contributing part of their compensation to the plan on a tax-deferred basis. The Savings Plan also requires us to contribute a "safe harbor"

amount each year. We match up to 4% of employee contributions (100% of an employee's first 3% of contributions and 50% of their next 2% of contributions), beginning on the employee's one-year anniversary date. In calculating our matching contribution, compensation up to the statutory maximum under the Code is used ($290,000 for 2021). All matching contributions under the Savings Plan vest immediately. Employer contribution expense and plan administration costs for the Savings Plan amounted to approximately $3.9 million, $4.0 million and $4.4 million in 2021, 2020 and 2019, respectively.

Deferred Compensation Plans

We maintain four deferred compensation programs for certain executive management employees and our Board of Directors.

The ADTRAN, Inc. Deferred Compensation Program for Employees is offered as a supplement to our tax-qualified 401(k) plan and is available to certain executive management employees who have been designated by our Board of Directors. This deferred compensation plan allows participants to defer all or a portion of certain specified bonuses and up to 25% of remaining cash compensation and permits us to make matching contributions on a discretionary basis without the limitations that apply to the 401(k) plan. To date, we have not made any matching contributions under this plan. We also maintain the ADTRAN, Inc. Equity Deferral Program for Employees. Under this plan, participants may elect to defer all or a portion of their vested PSUs and RSUs to the plan. Such deferrals shall continue to be held and deemed to be invested in shares of ADTRAN stock unless and until the amounts are distributed or such deferrals are moved to another deemed investment pursuant to an election made by the participant.

For our Board of Directors, we maintain the ADTRAN, Inc. Deferred Compensation Program for Directors. This program allows our Board of Directors to defer all or a portion of monetary remuneration paid to the Director, including, but not limited to, meeting fees and annual retainers. We also maintain the ADTRAN, Inc. Equity Deferral Program for Directors. Under this plan, participants may elect to defer all or a portion of their vested restricted stock awards. Such deferrals shall continue to be held and deemed to be invested in shares of ADTRAN stock unless and until the amounts are distributed or such deferrals are moved to another deemed investment pursuant to an election made by the director.

We have set aside the plan assets for all plans in a rabbi trust (the "Trust") and all contributions are credited to bookkeeping accounts for the participants. The Trust assets are subject to the claims of our creditors in the event of bankruptcy or insolvency. The assets of the Trust are deemed to be invested in pre-approved mutual funds as directed by each participant and the participant's bookkeeping account is credited with the earnings and losses attributable to those investments. Benefits are scheduled to be distributed six months after termination of employment in a single lump sum payment or annual installments paid over a three or ten-year term based on the participant's election. Distributions will be made on a pro-rata basis from each of the hypothetical investments of the participant's account in cash. Any whole shares of ADTRAN, Inc. common stock that are distributed will be distributed in-kind.

Assets of the Trust are deemed invested in mutual funds that cover an investment spectrum ranging from equities to money market instruments. These mutual funds are publicly quoted and reported at fair value. The fair value of the assets held by the Trust and the amounts payable to the plan participants as of December 31, 2021 and 2020 were as follows:

(In thousands)	2021	2020
Fair Value of Plan Assets		
Long-term investments	$ 26,935	$ 23,891
Total Fair Value of Plan Assets	**$ 26,935**	**$ 23,891**
Amounts Payable to Plan Participants		
Deferred compensation liability	$ 31,383	$ 25,866
Total Amounts Payable to Plan Participants	**$ 31,383**	**$ 25,866**

The Trust held $4.1 million and $2.8 million of common stock in the Company as of December 31, 2021 and 2020, respectively. Shares of the Company held by the Trust are recorded at cost and classified as treasury stock on the Consolidated Balance Sheet.

Interest and dividend income of the Trust are included in interest and dividend income in the accompanying 2021, 2020 and 2019 Consolidated Statements of (Loss) Income. Changes in the fair value of the plan assets held by the Trust have been included in other income (expense) in the accompanying 2021, 2020 and 2019 Consolidated Statements of (Loss) Income. Changes in the fair value of the deferred compensation liability are included as selling, general and administrative expense in the accompanying 2021, 2020 and 2019 Consolidated Statements of (Loss) Income. Based on the changes in the total fair value of the Trust's assets, we recorded deferred compensation income in 2021, 2020 and 2019 of $0.9 million, $4.3 million and $3.6 million, respectively.

Retiree Medical Coverage

Medical, dental and prescription drug coverage is provided to certain spouses and former spouses of current and former officers on the same terms as provided to our active officers for up to 30 years. As of December 31, 2021 and 2020, this liability totaled $0.3 million and $0.2 million, respectively.

Note 16 – Segment Information and Major Customers

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 products and software defined 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 implementation and solutions integration and managed services, which include hosted cloud services and subscription services.

The performance of each segment 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 income tax (expense) benefit 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 revenue and gross profit of our reportable segments for each of the years ended December 31, 2021, 2020 and 2019:

	2021		2020		2019	
(In thousands)	Revenue	Gross Profit	Revenue	Gross Profit	Revenue	Gross Profit
Network Solutions	$ 498,834	$ 190,993	$ 438,015	$ 193,789	$ 455,226	$ 191,549
Services & Support	64,170	27,384	68,495	23,762	74,835	27,618
Total	**$ 563,004**	**$ 218,377**	**$ 506,510**	**$ 217,551**	**$ 530,061**	**$ 219,167**

For the years ended December 31, 2021, 2020 and 2019, $1.2 million, $1.4 million and $1.7 million, respectively, of depreciation expense was included in gross profit for our Network Solutions segment. For the years ended December 31, 2021, 2020 and 2019, $14 thousand, $32 thousand and $29 thousand, respectively, of depreciation expense was included in gross profit for our Services & Support segment.

Revenue by Category

In addition to our reportable segments, revenue is also reported for the following three categories – (1) Access & Aggregation, (2) Subscriber Solutions & Experience and (3) Traditional & Other Products.

The following tables disaggregate our revenue by category for the years ended December 31, 2021, 2020 and 2019:

	2021		
(In thousands)	Network Solutions	Services & Support	Total
Access & Aggregation	$ 300,343	$ 43,853	$ 344,196
Subscriber Solutions & Experience	189,121	10,500	199,621
Traditional & Other Products	9,370	9,817	19,187
Total	**$ 498,834**	**$ 64,170**	**$ 563,004**

	2020		
(In thousands)	Network Solutions	Services & Support	Total
Access & Aggregation	$ 262,578	$ 50,560	$ 313,138
Subscriber Solutions & Experience	161,824	9,263	171,087
Traditional & Other Products	13,613	8,672	22,285
Total	**$ 438,015**	**$ 68,495**	**$ 506,510**

	2019		
(In thousands)	Network Solutions	Services & Support	Total
Access & Aggregation	$ 289,980	$ 58,894	$ 348,874
Subscriber Solutions & Experience	144,651	8,269	152,920
Traditional & Other Products	20,595	7,672	28,267
Total	**$ 455,226**	**$ 74,835**	**$ 530,061**

Additional Information

The following table presents revenue information by geographic area for the years ended December 31, 2021, 2020 and 2019:

(In thousands)	2021	2020	2019
United States	$ 374,600	$ 352,079	$ 300,853
Germany	65,229	74,882	78,062
United Kingdom	56,355	13,799	2,569
Mexico	4,616	4,087	90,795
Other international	62,204	61,663	57,782
Total	**$ 563,004**	**$ 506,510**	**$ 530,061**

Customers comprising more than 10% of revenue can change from year to year. Single customers comprising more than 10% of revenue in 2021 included one customer, at 18%, which was a distributor and was included in both our Network Solutions and Services & Support segments. Single customers comprising more than 10% of revenue in 2020 included three customers at 15%, 12% and 10% and was included in both our Network Solutions and Services & Support segments. Single customers comprising more than 10% of revenue in 2019 included three customers at 19%, 17% and 13% and was included in both our Network Solutions and Services & Support segments. Other than those with more than 10% of revenue disclosed above our next five largest customers can change, and have historically changed, from year-to-year. The next five largest customers combined represented 38%, 34% and 28% of total revenue in 2021, 2020 and 2019, respectively.

As of December 31, 2021, property, plant and equipment, net totaled $55.8 million, which included $53.0 million held in the U.S. and $2.8 million held outside the U.S. As of December 31, 2020, property, plant and equipment, net totaled $62.4 million, which included $58.4 million held in the U.S. and $4.0 million held outside the U.S. Property, plant and equipment, net is reported on a Company-wide, functional basis only.

Note 17 – Commitments and Contingencies

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 certain current and former members of its Board of Directors. The derivative suit alleges, among other things, that the defendants made or caused the Company to make 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 case was temporarily stayed pending an order on the defendants' motion to dismiss in a separate securities class action case that included similar factual allegations, Burbridge v. ADTRAN, Inc., et al., Case No. 5:20-cv-00050-LCB (N.D. Ala.). The Burbridge case was dismissed on March 31, 2021, and the time to appeal the dismissal has expired, such that the dismissal is now final. Following the dismissal, the plaintiff in the shareholder derivative suit sent a demand letter dated June 29, 2021 to ADTRAN's Board of Directors. The letter contains similar allegations to those made in the plaintiff's filed complaint and in the now dismissed securities class action, and it demands, among other things, that the Board of Directors commence an investigation into the alleged wrongdoing. On December 10, 2021, after investigating the allegations in the demand with the assistance of independent counsel, the directors (Mr. Stanton abstaining) concluded that pursuing the claims asserted in the demand would not be in the Company's best interests and exercised their business judgment to refuse the demand. Since that time, the parties to the derivative litigation have stipulated that plaintiff will either dismiss his complaint or seek to amend it pursuant to a schedule to be ordered by the Court. At this time, we are unable to predict the outcome of or estimate the possible loss or range of loss, if any, associated with the derivative lawsuit or the demand letter.

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 a 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. At this time, we are unable to predict the outcome of or estimate the possible loss or range of loss, if any, associated with such legal matters.

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 December 31, 2021, we had commitments related to these bonds totaling $22.9 million which expire at various dates through April 2025. As of December 31, 2020, we had commitments related to these bonds totaling $15.2 million. 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.

In June 2020, the Company entered into a letter of credit with a bank to guarantee performance obligations under a contract with a certain customer. The obligations under this customer contract will be performed over multiple years. We reached the maximum value of our minimum collateral requirement of $15.0 million during the three months ended March 31, 2021 as the Company reached certain milestones through the first quarter of 2021 as outlined in the customer contract. The letter of credit was secured by a pledge of a portion of the Company's fixed-income securities, which totaled $18.3 million as of December 31, 2021, of which $0.2 million is included in restricted cash and $18.1 million is included in long-term investments on the Consolidated Balance Sheets. This pledged collateral value will fluctuate as the Company changes the mix of the pledged collateral between restricted cash and investments. Any shortfalls in the minimum collateral value are required to be restored by the Company from available cash and cash equivalents, short-term investments and/or long-term investments. The collateral under the letter of credit will be released when all obligations under the customer contract have been met. As of December 31, 2021 and through the date of this report, the Company was in compliance with all contractual requirements under the letter of credit.

Investment Commitment

We have committed to invest up to an aggregate of $5.0 million in a private equity fund, of which $4.9 million has been invested as of December 31, 2021.

Note 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 includes accounts receivable, net investment in sales-type leases, contract assets under the revenue recognition model and outstanding notes receivable. Where appropriate, the Company pools assets if similar risk characteristics exist. Additionally, the Company analyzes its available-for-sale debt securities for impairment and records a credit loss allowance as 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. 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.

As of December 31, 2021, 2020 and January 1, 2020 (the "implementation date"), the Company's net outstanding accounts receivable balance was $158.7 million, $98.8 million and $90.5 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 collectability. 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 the 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.

No allowance for credit losses was recorded for the year ended December 31, 2021, 2020 or on January 1, 2020 related to accounts receivable. The Company's allowance for credit losses related to accounts receivable was $0 as of December 31, 2021 and was less than $0.1 million as of December 31, 2020 and January 1, 2020, 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 December 31, 2021, 2020 and January 1, 2020 (the "implementation date"), the Company's outstanding contract asset balance was $0.5 million, $0.1 million and $2.8 million, respectively, which is included in other receivables on the Consolidated Balance Sheets. 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 collectability. 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 the 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 the 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 be subject to further review and analysis by the Company.

No allowance for credit losses was recorded for the year ended December 31, 2021, 2020 or January 1, 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 December 31, 2021, 2020 and January 1, 2020 (the "implementation date"), the Company's outstanding net investment in sales-type leases was less than $0.1 million, $0.8 million and $1.6 million, respectively, which is included in other receivables and other non-current assets on the Consolidated Balance Sheets. 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 collectability. 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 the overall macro-economic conditions in which the customer operates.

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

	Sales-Type Leases Amortized Cost Basis by Origination Year						
(In thousands)	**2021**	**2020**	**2019**	**2018**	**2017**	**Prior**	**Total**
Payment performance							
Performing	$ 14	$ 11	$ —	$ —	$ —	$ —	$ 25
Non-performing	—	—	—	—	—	—	—
Total	$ 14	$ 11	$ —	$ —	$ —	$ —	$ 25

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 losses was recorded for the year ended December 31, 2021, 2020 or January 1, 2020 related to sales-type leases.

Secured Loan Receivable

The Company has a secured loan receivable totaling $0.4 million and $0.9 million as of December 31, 2021 and 2020, which originated in February 2019, and is included in long-term investments on the Consolidated Balance Sheets as of December 31, 2021 and 2020. The Company assessed the need for an allowance for credit losses related to its secured loan receivable using the historical loss-rate method as well as asset-specific risks. There have been no historical losses related to this receivable. 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 Consolidated Balance Sheets totaled less than $0.1 million as of December 31, 2021 and 2020, and was excluded from the estimate of credit losses for both periods based on the Company's accounting policy election.

No allowance for credit losses was recorded for the years ended December 31, 2021 and 2020 or on the implementation date related to the secured loan receivable.

Off-Balance Sheet Arrangements

The Company did not have any off-balance sheet arrangements as of December 31, 2021, 2020, or January 1, 2020.

Available-for-Sale Debt Securities

As of December 31, 2021, 2020, and January 1, 2020, the Company's available-for-sale debt securities totaled $30.1 million, $45.1 million, and $37.7 million, respectively. These securities were analyzed at the individual investment level, by Committee on Uniform Securities Identification Procedures ("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 December 31, 2021, 2020 and January 1, 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 December 31, 2021, 2020 and January 1, 2020. Accrued interest receivable on available-for-sale debt securities, which is included in other receivables on the Consolidated Balance Sheets as of December 31, 2021, 2020 and 2019, totaled less than $0.1 million, $0.1 million and $0.1 million as of December 31, 2021, 2020 and January 1, 2020, respectively and was excluded from the estimate of credit losses for both periods based on the Company's accounting policy election. Income generated from available-for-sale debt securities was recorded as interest and dividend income in the Consolidated Statements of (Loss) Income.

The Company had 174 positions in available-for-sale debt securities that were in an unrealized loss position as of December 31, 2021. See Note 6 for additional information.

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. Principal and interest payments are considered past due when payment has not been received based on scheduled terms of each debt security. The Company ceases to accrue interest on debt securities on a case by case basis. As of December 31, 2021, 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 losses was recorded for the years ended December 31, 2021 or December 31, 2020 or on the implementation date related to the Company's available-for-sale debt securities.

Note 19 – (Loss) Earnings per Share

The calculations of basic and diluted (loss) earnings per share for the years ended December 31, 2021, 2020 and 2019 are as follows:

(In thousands, except for per share amounts)	2021	2020	2019
Numerator			
Net (Loss) Income	$ (8,635)	$ 2,378	$ (52,982)
Denominator			
Weighted average number of shares – basic	48,582	47,996	47,836
Effect of dilutive securities:			
Stock options	—	—	—
PSUs, RSUs and restricted stock	—	292	—
Weighted average number of shares – diluted	**48,582**	**48,288**	**47,836**
(Loss) earnings per share – basic	$ (0.18)	$ 0.05	$ (1.11)
(Loss) earnings per share – diluted	$ (0.18)	$ 0.05	$ (1.11)

For the years ended December 31, 2021, 2020 and 2019, less than 0.1 million, 0.1 million and 0.5 million shares, respectively, of unvested or unearned, as applicable, PSUs, RSUs and restricted stock were excluded from the calculation of diluted (loss) earnings per share due to their anti-dilutive effect.

For the year ended December 31, 2021, 2020 and 2019, 0.3 million, 3.6 million and 5.2 million stock options, respectively, were outstanding but were not included in the computation of diluted (loss) earnings per share due to their exercise prices being greater than the average market price of the common shares during the quarter, making them anti-dilutive under the treasury stock method.

Note 20 – Restructuring

During the second half of 2019, the Company initiated a restructuring plan to realign its expense structure with the reduction in revenue experienced in recent years and overall Company objectives. As part of this restructuring plan, the Company announced plans to reduce its overall operating expenses, both in the U.S. and internationally. Management continued to assess the efficiency of operations during 2020 and 2021 and, in turn, consolidated locations and personnel, among other things, where possible.

In February 2019, the Company announced the restructuring of a certain portion of its workforce predominantly in Germany, which included the closure of the Company's office location in Munich, Germany accompanied by relocation or severance benefits for the affected employees. Voluntary early retirement was offered to certain other employees and was announced in March 2019 and again in August 2020.

The cumulative amount of restructuring expenses incurred as of December 31, 2021 for the restructuring plans was $12.7 million.

A reconciliation of the beginning and ending restructuring liability, which is included in accrued wages and benefits in the Consolidated Balance Sheets as of December 31, 2021 and 2020, is as follows:

(In thousands)	2021	2020
Balance at beginning of period	$ 4,186	$ 1,568
Plus: Amounts charged to cost and expense	411	6,229
Less: Amounts paid	(3,083)	(3,611)
Balance at end of period	**$ 1,514**	**$ 4,186**

Restructuring expenses included in the Consolidated Statements of (Loss) Income are for the years ended December 31, 2021, 2020 and 2019:

(In thousands)	2021	2020	2019
Network solutions - cost of revenue	$ 13	$ 220	$ 629
Services & support - cost of revenue	3	235	156
Cost of revenue	$ 16	$ 455	$ 785
Selling, general and administrative expenses	221	1,832	2,360
Research and development expenses	174	3,942	2,869
Total restructuring expenses	**$ 411**	**$ 6,229**	**$ 6,014**

The following table represents the components of restructuring expense by geographic area for the years ended December 31, 2021, 2020 and 2019:

(In thousands)	2021	2020	2019
United States	$ 289	$ 2,234	$ 3,336
International	122	3,995	2,678
Total restructuring expenses	**$ 411**	**$ 6,229**	**$ 6,014**

Note 21 – Summarized Quarterly Financial Data (Unaudited)

The following table presents unaudited quarterly operating results for each of the last eight fiscal quarters. This information has been prepared on a basis consistent with the audited financial statements and includes all adjustments, consisting only of normal recurring adjustments, considered necessary for a fair presentation of the data.

Unaudited Quarterly Operating Results

(In thousands, except for per share amounts)	Three Months Ended			
	March 31, 2021	June 30, 2021	September 30, 2021	December 31, 2021
Net revenue	$ 127,533	$ 143,232	$ 138,081	$ 154,158
Gross profit	$ 53,601	$ 62,668	$ 47,673	$ 54,435
Operating (loss) income	$ (1,335)	$ 3,931	$ (10,058)	$ (7,238)
Net (loss) income	$ 896	$ 5,086	$ (10,427)	$ (4,190)
(Loss) earnings per common share - basic	$ 0.02	$ 0.10	$ (0.21)	$ (0.09)
(Loss) earnings per common share - diluted	$ 0.02 [1]	$ 0.10 [1]	$ (0.21)	$ (0.09)

(In thousands, except for per share amounts)	Three Months Ended			
	March 31, 2020[2]	June 30, 2020	September 30, 2020	December 31, 2020
Net revenue	$ 114,523	$ 128,715	$ 133,143	$ 130,129
Gross profit	$ 51,600	$ 53,472	$ 58,962	$ 53,517
Operating (loss) income	$ (4,944)	$ (6,039)	$ 4,534	$ (3,324)
Net (loss) income	$ (9,969)	$ 752	$ 5,481	$ 6,114
(Loss) earnings per common share - basic	$ (0.21)	$ 0.02	$ 0.11	$ 0.13
(Loss) earnings per common share - diluted	$ (0.21)	$ 0.02 [1]	$ 0.11 [1]	$ 0.13 [1]

(1) Assumes exercise of dilutive securities calculated under the treasury stock method.
(2) See footnote 1 for discussion on out of period disclosures impacting these quarterly operating results.

Note 22 – Subsequent Events

On February 2, 2022, the Company announced that its Board of Directors declared a quarterly cash dividend of $0.09 per common share to be paid to the Company's stockholders of record at the close of business on February 17, 2022. The payment date will be March 3, 2022 in the aggregate amount of approximately $4.4 million.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. 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 such term is defined under Rule 13a-15(e) promulgated under the Exchange Act. Based on that evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level.

Management’s Report on Internal Control over Financial Reporting

Management of ADTRAN, Inc. is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended. ADTRAN’s internal control over financial reporting is designed 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. ADTRAN’s internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of ADTRAN;

- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of ADTRAN are being made only in accordance with authorizations of management and directors of ADTRAN; and

- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of ADTRAN’s assets that could have a material effect on the financial statements.

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

Management assessed the effectiveness of ADTRAN’s internal control over financial reporting as of December 31, 2021. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in *Internal Control-Integrated Framework (2013).*

Based on our assessment and those criteria, management has concluded that ADTRAN maintained effective internal control over financial reporting as of December 31, 2021.

The effectiveness of the Company’s internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears in Item 8.

Auditor Attestation Report on Internal Control over Financial Reporting

The attestation report of our registered public accounting firm on our internal control over financial reporting is included in Part II, Item 8, “Financial Statements and Supplementary Data,” of this report.

Changes in Internal Control over Financial Reporting.

There were no changes in the Company's internal control over financial reporting that occurred during the most recent fiscal quarter covered by this report that have materially affected, or are reasonably likely to materially affect, its internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Code of Ethics

We have adopted the ADTRAN, Inc. Code of Business Conduct and Ethics, which applies to all employees, officers and directors of ADTRAN. The Code of Business Conduct and Ethics meets the requirements of a "code of ethics" as defined by Item 406 of Regulation S-K, and applies to our Chief Executive Officer, Chief Financial Officer (who is both our principal financial and principal accounting officer), as well as all other employees, as indicated above. The Code of Business Conduct and Ethics also meets the requirements of a code of conduct under NASDAQ listing standards. The Code of Business Conduct and Ethics is posted on our website at www.adtran.com under the links "About – Investor Relations – Corporate Governance – Charters and Documents – Code of Business Conduct and Ethics." We intend to disclose any amendments to the Code of Business Conduct and Ethics, as well as any waivers for executive officers or directors, on our website at www.adtran.com.

Certain information required by this Item regarding ADTRAN's executive officers is included in Part I of this report under the caption "Information about our Executive Officers" in accordance with the Instructions to Item 401 of Regulation S-K.

Other information required by this Item is incorporated by reference pursuant to General Instruction G(3) of Form 10-K from ADTRAN's definitive Proxy Statement for the 2021 Annual Meeting of Stockholders (the "2021 Proxy Statement") to be filed with the SEC pursuant to Regulation 14A.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated by reference pursuant to General Instruction G(3) of Form 10-K from the 2021 Proxy Statement to be filed with the SEC pursuant to Regulation 14A.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information about our common stock that may be issued under all of our existing equity compensation plans as of December 31, 2021, which includes the 2020 Employee Stock Plan and the 2020 Directors Stock Plan (the "Plans"). Each of the Plans has been approved by our stockholders.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)		Weighted average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)	
Equity compensation plans approved by stockholders	3,075,243	(1)	$ 9.97	3,750,950	(2)
Equity compensation plans not approved by stockholders	—		$ —	—	
Total	3,075,243	(1)	$ 9.97	3,750,950	(2)

(1) Does not include 575,801 target performance share awards outstanding under the Plans as of December 31, 2021.

(2) Represents 3,427,638 shares of common stock available for future issuance pursuant to the 2020 Employee Stock Plan (assuming target payout of outstanding performance share awards) and 323,312 shares of common stock available for future issuance pursuant to the 2020 Directors Stock Plan. Certain shares underlying awards that are forfeited, cancelled or terminated under the Plans will again be available for issuance under the 2020 Employee Stock Plan or the 2020 Directors Stock Plan, as applicable and as described in Note 5 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this report.

The other information required by this Item is incorporated by reference pursuant to General Instruction G(3) of Form 10-K from the 2021 Proxy Statement to be filed with the Securities and Exchange Commission pursuant to Regulation 14A.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated by reference pursuant to General Instruction G(3) of Form 10-K from the 2021 Proxy Statement to be filed with the SEC pursuant to Regulation 14A.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item is incorporated by reference pursuant to General Instruction G(3) of Form 10-K from the 2021 Proxy Statement to be filed with the SEC pursuant to Regulation 14A.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

Documents Filed as Part of This Report.

1. Consolidated Financial Statements

   The consolidated financial statements of ADTRAN and the report of independent registered public accounting firm thereon are set forth under Part II, Item 8 of this report.

   Consolidated Balance Sheets as of December 31, 2021 and 2020

   Consolidated Statements of (Loss) Income for the years ended December 31, 2021, 2020 and 2019

   Consolidated Statements of Comprehensive (Loss) Income for the years ended December 31, 2021, 2020 and 2019

   Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2021, 2020 and 2019

   Consolidated Statements of Cash Flows for the years ended December 31, 2021, 2020 and 2019

   Notes to Consolidated Financial Statements

2. Consolidated Financial Statement Schedule

   Schedule II - Valuation and Qualifying Accounts

3. Exhibits

The following exhibits are filed with or incorporated by reference in this report. Where such filing is made by incorporation by reference to a previously filed registration statement or report, such registration statement or report is identified in parentheses. We will furnish any exhibit upon request to: ADTRAN, Inc., Attn: Investor Relations, 901 Explorer Boulevard, Huntsville, Alabama 35806. There is a charge of $0.50 per page to cover expenses for copying and mailing.

Exhibit Number	Description
2.1†	Asset Sale and Purchase Agreement dated 11 December 2011 Regarding the Sale and Purchase of the NSN DSLAM, GPON and ACI Products and the Related Services Businesses (Exhibit 2.1 to ADTRAN's 2011 Form 10-K/A filed July 26, 2012).
2.2	Business Combination Agreement, dated August 30, 2021, by and among ADTRAN, Inc., Acorn HoldCo, Inc., Acorn MergeCo, Inc. and ADVA Optical Networking SE (incorporated by reference to Exhibit 2.1 to ADTRAN's Form 8-K filed August 30, 2021)
2.3	Irrevocable Undertaking, dated August 30, 2021, by and among Acorn HoldCo, Inc., EGORA Holding GmbH and Egora Investments GmbH (incorporated by reference to Exhibit 2,2 to ADTRAN's Form 8-K filed August 30, 2021)
3.1	Restated Certificate of Incorporation of ADTRAN, Inc. (incorporated by reference to Exhibit 3.1 to ADTRAN's Form 10-Q filed August 6, 2021)
3.2	Bylaws, as amended (Exhibit 3.1 to ADTRAN's Form 8-K filed July 23, 2020).
4.1	Description of Securities (Exhibit 4.1 to ADTRAN's Form 10-K filed February 25, 2020).
10.1	Management Contracts and Compensatory Plans:
	(a) ADTRAN, Inc. Variable Incentive Compensation Plan (Exhibit 10.1 to ADTRAN's Form 8-K filed May 9, 2011).
	(b) Form of Notice Letter under the ADTRAN, Inc. Variable Incentive Compensation Plan. (Exhibit 10.3(b) to ADTRAN's Form 10-K filed February 25, 2020).
	(c) ADTRAN, Inc. 2006 Employee Stock Incentive Plan (Exhibit 4.1 to ADTRAN's Registration Statement on Form S-8 (File No. 333-133927) filed May 9, 2006).
	(d) First Amendment to the ADTRAN, Inc. 2006 Employee Stock Incentive Plan (Exhibit 10.3(h) to ADTRAN's 2007 Form 10-K filed February 28, 2008).
	(e) Form of Nonqualified Stock Option Agreement under the 2006 Employee Stock Incentive Plan (Exhibit 10.1 to ADTRAN's Form 8-K filed June 8, 2006).

(f) Form of Incentive Stock Option Agreement under the 2006 Employee Stock Incentive Plan (Exhibit 10.2 to ADTRAN's Form 8-K filed June 8, 2006).

(g) Summary of Non-Employee Director Compensation (Exhibit 10.3(k) to ADTRAN's 2006 Form 10-K filed February 28, 2007).

(h) ADTRAN, Inc. 2010 Directors Stock Plan (Exhibit 4.3 to ADTRAN's Form S-8 filed July 30, 2010).

(i) Form of Stock Option Award Agreement under the ADTRAN, Inc. 2010 Directors Stock Plan (Exhibit 10.3(k) to ADTRAN's Form 10-K filed February 25, 2020).

(j) Form of Restricted Stock Award Agreement under the ADTRAN, Inc. 2010 Directors Stock Plan (Exhibit 10.3(l) to ADTRAN's Form 10-K filed February 25, 2020).

(k) ADTRAN, Inc. 2015 Employee Stock Incentive Plan (Exhibit 10.1 to ADTRAN's Form 8-K filed May 15, 2015).

(l) Form of Performance Shares Agreement under the ADTRAN, Inc. 2015 Employee Stock Incentive Plan (Exhibit 4.5 to ADTRAN's Form S-8 filed December 21, 2016).

(m) Form of Restricted Stock Unit Agreement under the ADTRAN, Inc. 2015 Employee Stock Incentive Plan (Exhibit 10.1 to ADTRAN's Form 8-K filed November 16, 2016).

(n) Form of Option Award Agreement under the ADTRAN, Inc. 2015 Employee Stock Incentive Plan (Exhibit 10.3(p) to ADTRAN's Form 10-K filed February 25, 2020).

(o) ADTRAN, Inc. Deferred Compensation Program for Employees, as amended and restated as of June 1, 2010 (Exhibit 10.3(n) to ADTRAN's Form 10-K filed February 24, 2016).

(p) ADTRAN, Inc. Deferred Compensation Program for Directors, as amended and restated as of June 1, 2010 (Exhibit 10.3(o) to ADTRAN's Form 10-K filed February 24, 2016).

(q) ADTRAN, Inc. Equity Deferral Program for Employees, as amended and restated as of October 1, 2011 (Exhibit 10.3(p) to ADTRAN's Form 10-K filed February 24, 2016).

(r) ADTRAN, Inc. Equity Deferral Program for Directors, as amended and restated as of October 1, 2011 (Exhibit 10.3(q) to ADTRAN's Form 10-K filed February 24, 2016).

(s) Service Agreement, entered into effective June 25, 2019, between Eduard Scheiterer and ADTRAN GmbH. (Exhibit 10.3(w) to ADTRAN's Form 10-K filed February 25, 2020).

(t) Form of Clawback Agreement, entered into between ADTRAN, Inc. and each executive officer of ADTRAN, Inc. (Exhibit 10.3(x) to ADTRAN's Form 10-K filed February 25, 2020).

(u) Employment Offer Letter, dated September 25, 2018, between Raymond Harris and ADTRAN, Inc. (Exhibit 10.3(y) to ADTRAN's Form 10-K filed February 25, 2020).

(v) Employment Offer Letter, dated November 26, 2018, between Ronald D. Centis and ADTRAN, Inc. (Exhibit 10.3(aa) to ADTRAN's Form 10-K filed February 25, 2020).

(w) ADTRAN, Inc. 2020 Employee Stock Incentive Plan (Exhibit 10.1 to ADTRAN's Form 10-Q filed August 7, 2020).

(x) ADTRAN, Inc. 2020 Directors Stock Plan (Exhibit 10.2 to ADTRAN's Form 10-Q filed August 7, 2020).

(y) Form of ADTRAN Sales Incentive Compensation Program – General Terms (participants include James D. Wilson, Jr.)

(z) Form of Notice Letter under the ADTRAN, Inc. 2020 Employee Stock Incentive Plan.

(aa) Form of Notice Letter under the ADTRAN, Inc. 2020 Directors Stock Incentive Plan.

(ab) Form of Market-Based Performance Stock Unit Agreement under the ADTRAN, Inc. 2020 Employee Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to ADTRAN's Form 10-Q filed May 6, 2021)

(ac) Form of Restricted Stock Unit Agreement under the ADTRAN, Inc. 2020 Employee Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to ADTRAN's Form 10-Q filed May 6, 2021)

(ad) Form of Performance Shares Agreement (and Notice Letter) under the ADTRAN, Inc. 2020 Employee Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to ADTRAN's Form 10-Q filed May 6, 2021)

(ae) Form of Performance Shares Agreement under the ADTRAN, Inc. 2015 Employee Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to ADTRAN's Form 10-Q filed May 6, 2021)

(af)* Amended and Restated Variable Incentive Compensation Plan

10.2+	Revolving Credit and Security Agreement, dated as of November 4, 2020 between ADTRAN, Inc., as borrower, and Cadence Bank, N.A., as lender (Exhibit 10.1 to ADTRAN's Form 10-Q filed November 6, 2020).
10.3	Loan Modification Agreement and Amendment to Loan Documents, dated as of November 4, 2021, between ADTRAN, Inc., as borrower, and Cadence Bank, N.A., as lender (incorporated by reference to Exhibit 10.1 to ADTRAN's Form 10-Q filed November 5, 2021)
10.4	Promissory Note, dated as of November 4, 2020, between ADTRAN, Inc., as borrower, and Cadence Bank, N.A., as lender (Exhibit 10.2 to ADTRAN's Form 10-Q filed November 6, 2020).
10.5+	Security Agreement, dated as of November 4, 2020, between ADTRAN, Inc., as pledgor, and Cadence Bank, N.A., as secured party (Exhibit 10.3 to ADTRAN's Form 10-Q filed November 6, 2020).
10.6	Control Agreement, dated as of November 4, 2020, between ADTRAN, Inc., as pledgor, Cadence Bank, N.A., as secured party, and US Bank, N.A., as intermediary (Exhibit 10.4 to ADTRAN's Form 10-Q filed November 6, 2020).
10.7	Termination Agreement, dated November 26, 2021, between ADTRAN GmbH and Eduard Scheiterer (incorporated by reference to Exhibit 99.1 to ADTRAN's Form 8-K filed November 29, 2021)
21*	Subsidiaries of ADTRAN.
23*	Consent of PricewaterhouseCoopers LLP.
24*	Powers of Attorney.
31*	Rule 13a-14(a)/15d-14(a) Certifications.
32*	Section 1350 Certifications.
101	The following financial statements from the Company's Annual Report on Form 10-K for the year ended December 31, 2021, formatted in inline eXtensible Business Reporting Language (iXBRL): (i) Consolidated Balance Sheets, (ii) Consolidated Statements of (Loss) Income, (iii) Consolidated Statements of Comprehensive Income, (iv) Consolidated Statements of Changes in Stockholders' Equity, (v) Consolidated Statements of Cash Flows, (vi) Notes to Consolidated Financial Statements, and (vii) Schedule II – Valuation and Qualifying Accounts.
104	Cover Page Interactive Data File (formatted in iXBRL and contained in Exhibit 101)

* Furnished or filed herewith, as applicable

(P) Indicates a paper filing with the SEC.

+ Schedules and exhibits omitted pursuant to Item 601(a)(5) of Regulation S-K. The Company agrees to furnish a copy of any omitted schedule or exhibit to the SEC upon request.

† Confidential treatment has been requested as to certain portions of this document. Each such portion, which has been omitted therein and replaced with an asterisk (*), has been filed separately with the Securities and Exchange Commission.

ITEM 16. FORM 10-K SUMMARY

ADTRAN has elected not to provide a summary of the information contained in this report at this time.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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 on February 25, 2022.

ADTRAN, Inc.
(Registrant)

By: /s/ Michael Foliano
Michael Foliano
Senior Vice President of Finance and
Chief Financial Officer
(Principal Accounting Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on February 25, 2022.

Signature	Title
/s/ Thomas R. Stanton Thomas R. Stanton	Chief Executive Officer and Chairman of the Board (Principal Executive Officer)
/s/ Michael Foliano Michael Foliano	Senior Vice President of Finance and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
/s/ H. Fenwick Huss* H. Fenwick Huss	Director
/s/ Gregory McCray* Gregory McCray	Director
/s/ Balan Nair* Balan Nair	Director
/s/ Jacqueline H. Rice* Jacqueline H. Rice	Director
/s/ Kathryn A. Walker* Kathryn A. Walker	Director

*By: /s/ Michael Foliano
Michael Foliano as Attorney in Fact

ADTRAN, INC.

SCHEDULE II
VALUATION AND QUALIFYING ACCOUNTS

(In thousands)	Balance at Beginning of Period	Charged to Costs & Expenses	Deductions	Balance at End of Period
Year ended December 31, 2021				
Allowance for Credit Losses	$ 38	(38)	—	$ —
Deferred Tax Asset Valuation Allowance	$ 45,818	6,347	1,601	$ 50,564
Year ended December 31, 2020				
Allowance for Credit Losses	$ 38	—	—	$ 38
Deferred Tax Asset Valuation Allowance	$ 48,616	5,120	7,918	$ 45,818
Year ended December 31, 2019				
Allowance for Credit Losses	$ 128	38	128	$ 38
Deferred Tax Asset Valuation Allowance	$ 5,816	43,560	760	$ 48,616

Exhibit 10.1 (af)

ADTRAN, INC.
AMENDED AND RESTATED VARIABLE INCENTIVE COMPENSATION PLAN
(originally effective January 1, 2006)
[Last Amended and Restated February 2, 2022]

Section 1. Purpose.

1.1 Background. The Company originally adopted the ADTRAN, Inc. Management Incentive Bonus Plan under a plan document adopted by the Board of Directors (the "Board") of the Company on January 23, 2006 and effective January 1, 2006 (as amended, the "Plan"), and which was approved by the Company's shareholders in May 2006. The Company renamed the Plan the ADTRAN, Inc. Variable Incentive Compensation Plan and amended and restated the Plan, effective January 1, 2011, which was approved by the shareholders of the Company at their annual meeting in May 2011. Pursuant to its authority to amend the Plan under the terms of the Plan, the Board further amended and restated the Plan, effective February 2, 2022.

1.2. General Purpose. The purpose of the Plan is as follows: (i) to provide annual cash incentives and rewards for certain officers and management employees of the Company; and (ii) to attract and retain qualified executives by providing performance-based compensation as an incentive for their efforts to achieve the Company's financial and strategic objectives.

Section 2. Definitions.

The following words and phrases as used in this Plan shall have the meanings set forth in this section unless a different meaning is clearly required by the context.

2.1 "Affiliate" shall mean, as of any date, an entity that, directly or indirectly, controls, is controlled by, or is under common control with the Company.

2.2 "Base Compensation" shall mean a Participant's base rate of salary prorated over the Plan Year (*e.g.*, if a Participant's base salary rate is $10,000 per month (or $120,000 annually) for the first six months of the Plan Year and then $15,000 per month (or $180,000 annually) for the last six months of the Plan Year, then his Base Compensation for the Plan Year for purposes of the Plan will be $150,000).

2.3 "Board" shall mean the Board of Directors of the Company.

2.4 "Change in Control" shall mean the occurrence of any one of the following events, as determined under the provisions of Code Section 409A:

(a) *Change in Ownership*. A change in the ownership of the Company occurs on the date that any one person, or more than one person acting as a group ("Person"), acquires ownership of stock of the Company that, together with stock held by such Person, constitutes more than fifty percent (50%) of the total fair market value or total voting power of the stock of the Company. However, if any Person is considered to own more than fifty percent (50%) of the total fair market value or total voting power of the stock of the Company, the acquisition of additional stock by the same Person is not considered to cause a change in the ownership of the Company or to cause a change in the effective control of the Company (within the meaning of subsection (b) herein). An increase in the percentage of stock owned by any Person as a result of a transaction in which the Company acquires its stock in exchange for property will be treated as an acquisition of stock for purposes of this section. This applies only when there is a transfer of stock of the Company (or issuance of stock of the Company) and stock in the Company remains outstanding after the transaction.

(b) *Change in Effective Control.* A change in the effective control of the Company occurs on the date that either:

(i) Any Person acquires (or has acquired during the 12-month period ending on the date of the most recent acquisition by such Person) ownership of stock of the Company possessing thirty-five percent (35%) or more of the total voting power of the stock of the Company; or

(ii) a majority of members of the Company's Board is replaced during any 12-month period by directors whose appointment or election is not endorsed by a majority of the members of the Board prior to the date of the appointment or election.

A change in effective control may occur in any transaction in which either of the two corporations involved in the transaction has a Change in Control.

(c) *Change in Ownership of a Substantial Portion of Assets.* A change in the ownership of a substantial portion of the Company's assets shall occur on the date that any Person acquires (or has acquired during the 12-month period ending on the date of the most recent acquisition by such Person) assets from the Company that have a total gross fair market value equal to or more than forty percent (40%) of the total gross fair market value of all of the assets of the Company immediately prior to such acquisition or acquisitions. For purposes of this subsection (c), gross fair market value means the value of the assets of the Company, or the value of the assets being disposed of, determined without regard to any liabilities associated with such assets.

In determining whether a Change in Control has occurred, the rules and regulations issued under Code Section 409A shall apply.

2.5 "Chief Executive Officer" or "CEO" shall mean the Chief Executive Officer of the Company.

2.6 "Chief Operating Officer" or "COO" shall mean the Chief Operating Officer of the Company.

2.7 "Code" shall mean the Internal Revenue Code of 1986, as amended. Reference to a specific section of the Code will include such section, any valid regulation or other official applicable guidance promulgated under such section, and any comparable provision of any future legislation or regulation amending, supplementing or superseding such section or regulation.

2.8 "Committee" shall mean the Compensation Committee of the Board or such other committee as may be appointed by the Board to administer the Plan for each Plan Year.

2.9 "Company" shall mean ADTRAN, Inc., a Delaware corporation, and any successor thereto.

2.10 "Eligible Employee" shall mean any officer or such other management employees who are selected by the CEO or COO and recommended to the Committee for participation in the Plan for a particular Plan Year.

2.11 "Independent Director" means a director of the Company who is independent for purposes of serving as a member of the Compensation Committee of the Board under applicable listing standards of The Nasdaq Stock Market.

2.12 "Maximum Performance Award" shall mean, for any individual for a given Plan Year, a Performance Award in an amount equal to Three Million Dollars ($3,000,000).

2.13 "Participant" shall mean an Eligible Employee approved by the Committee under Section 3 to participate in the Plan, who has been notified by the CEO or COO of his or her approved participation.

2.14 "Performance Award" shall mean the cash amounts awarded to a Participant under the terms of the Plan. Performance Awards shall usually be determined as a percentage of the Participant's Base Compensation, subject to the Committee's discretion.

2.15 "Performance Measure" means any one or more of the criteria or measurements by which specific performance goals may be established and performance may be measured, as determined by the Committee in its discretion for any particular Plan Year, pursuant to the provisions of Section 4.3.

2.16 "Plan" shall mean this ADTRAN, Inc. Variable Incentive Compensation Plan, as amended from time to time.

2.17 "Plan Year" shall mean the 12-month period ending on each December 31; provided that if the Company's fiscal year should be changed to any other 12-month period, then the Plan Year shall contemporaneously and automatically change to such 12-month period.

Section 3. Participation.

3.1 Eligibility to Participate. As soon as possible following the commencement of each Plan Year, the Committee shall specify by name or position the Participants eligible to participate in the Plan for that Plan Year. The Committee shall retain discretion to name as a Participant an employee hired or promoted into an eligible position for the first time after the commencement of the Plan Year. A Participant must remain employed by the Company through the date that payment of the Performance Awards is scheduled to be made for a Plan Year in order to be eligible to receive a Performance Award for that Plan Year, except in the case of a Change in Control as provided in Sections 7 and 8 below.

3.2 Termination of Participation. Except in the case of a Change in Control as provided in Sections 7 and 8 below, a Participant's participation in the Plan shall terminate upon his or her termination of employment with the Company. The Committee shall retain the discretion to reduce participation in the Plan to a level less than full participation or to suspend or terminate participation of any Participant reassigned to substantially different duties, undertaking an authorized leave of absence or disqualified for any reason by the Committee. Notice of the reduction in participation or suspension or termination of any individual Participant shall be forwarded to the CEO or COO and the affected Participant or Participants in writing.

Section 4. Establishment of Performance Measures and Performance Awards.

4.1 Establishment of Performance Measures and Performance Awards. The Committee shall specify in writing the Performance Measures and Performance Awards which are to apply for a certain Plan Year with regard to each Participant or each group of Participants (by name or position), subject to the provisions of Sections 4.2 and 4.3. In its discretion, the Committee may establish minimum, target and maximum levels of Performance Measures and the related Performance Awards for each Plan Year. The Committee may establish Performance Measures for each Participant's individual performance, as well as establishing Performance Measures based on corporate performance.

4.2 Performance Awards and Maximum Award. The amount of Performance Awards may vary among Participants and from Plan Year to Plan Year; however, no individual Performance Award to a Participant for a Plan Year shall exceed the Maximum Performance Award.

4.3 Performance Measures. The Committee shall establish its specific Performance Measures for a Plan Year by reference to any one or more of the following: (i) earnings before all or any taxes ("EBT"); (ii) earnings before all or any of interest expense, taxes, depreciation and amortization ("EBITDA"); (iii) earnings before all or any of interest expense, taxes, depreciation, amortization and rent ("EBITDAR"); (iv) earnings before all or any of interest expense and taxes ("EBIT"); (v) net earnings; (vi) net income; (vii) operating income or margin; (viii) earnings per share; (ix) growth; (x) return on shareholders' equity; (xi) capital expenditures; (xii) expenses and expense ratio management; (xiii) return on investment; (xiv) improvements in capital structure; (xv) profitability of an identifiable business unit or product; (xvi) profit margins; (xvii) stock price; (xviii) market share; (xix) revenue; (xx) costs; (xxi) cash flow; (xxii) working capital; (xxiii) return on assets; (xxiv) economic value added; (xxv) industry indices; (xxvi) peer group performance; (xxvii) regulatory ratings; (xxviii) asset quality; (xxix) gross or net profit; (xxx) net sales; (xxxi) total shareholder return; (xxxii) sales (net or gross) measured by product line, territory, customers or other category; (xxxiii) earnings from continuing operations; (xxxiv) net worth; (xxxv) levels of expense, cost or liability by category, operating unit or any other delineation, and (xxxvi) such other reasonable criteria as the Committee may approve. Performance Measures may relate to the Company and/or one or more of its Affiliates, one or more of its divisions or units or any combination of the foregoing, on a consolidated or

nonconsolidated basis, and may be applied on an absolute basis or be relative to one or more peer group companies or indices, or any combination thereof, all as the Committee determines.

Section 5. Determination of Amount of Performance Awards.

5.1 Committee Certification Regarding Performance Measures. As soon as practicable following the end of each Plan Year, the Committee shall certify for each Participant whether the Performance Measures for that Plan Year have been met. If such Measures have been met, the Committee will award such Participant the Performance Award established under Section 4 hereof, subject to the discretion reserved in Section 5.2 to adjust such awards. The Board shall have final approval of the amounts of the Performance Awards payable to the officers of the Company, as recommended and previously approved by the Committee.

5.2 Calculation of Performance Measures. The Committee shall have the authority to adjust or modify the calculation of the Performance Measure for a Plan Year in order to prevent the diminution or enlargement of the rights of the Participant based on one or more of the following events: (a) asset write-downs; (b) litigation or claim judgments or settlements; (c) the effect of changes in tax laws, accounting principles, or other laws or regulatory rules affecting reported results; (d) any reorganization and restructuring programs; (e) nonrecurring items as described in management's discussion and analysis of financial condition and results of operations appearing in the Company's annual report on Form 10-K for the applicable year; (f) acquisitions or divestitures; (g) any other specific unusual, extraordinary or nonrecurring events, or objectively determinable category thereof; and (h) a change in the Company's fiscal year. All determinations of whether the Performance Measure has been achieved and all other matters related to this Section 5.2 shall be made by the Committee in its sole discretion.

Section 6. Payment of Awards.

Performance Awards for a given Plan Year shall be paid in cash as soon as practicable following the certification by the Committee of the attainment of the Performance Measures. The Committee shall certify the attainment of the Performance Measures in a timely manner so that the Performance Awards shall be paid no later than 2 ½ months after the close of the applicable Plan Year. Notwithstanding the above and Section 3.1, the Board or Committee may provide, at the time it approves any Performance Award under Section 4.1, that such Performance Award will be paid in one or more installment payments, that such installment payments will be adjusted for earnings and losses to the date of payment based on a reasonable rate of interest or predetermined actual investment designated at the time of such approval, and that any installment payment is conditioned upon the Participant's continuous employment by the Company through the date of the applicable payment (excluding certain terminations if designated by the Board or Committee).

Payments of Performance Awards (including installment payments) may be subject to deferral by the Participant pursuant to the provisions of any applicable deferred compensation plan maintained by the Company.

Section 7. Termination of Employment.

A Participant whose employment with the Company is terminated for any reason (voluntarily or involuntarily) prior to the scheduled date of a payment of all or a portion of a Performance Award for a Plan Year shall forfeit such payment; except that any Participant whose employment with the Company is terminated on or prior to, and in connection with, a Change in Control, shall continue to be entitled to the payment of his or her Performance Award for the prior Plan Year (if not yet paid), and for the Plan Year in which the Change in Control occurred as set forth in Section 8 below.

Section 8. Change in Control.

Except as approved by the Committee and reflected in a written agreement between the Company and a Participant, if a Change in Control occurs, then the Performance Measures and the Performance Award shall be automatically adjusted on a pro-rata basis (generally, based on the number of days in the Plan Year through the date of the Change in Control, divided by the number of total days in the Plan Year), and to reflect the time value of money. If the Committee, in its discretion, established minimum, target and maximum levels of Performance Measures and the related Performance Awards for such Plan Year, then the automatic adjustment described in this section shall apply to each such level. The Committee shall have the discretion to (i) certify whether each Participant has attained the Performance Measures (as adjusted) as of the date of

the Change in Control or (ii) approve the payment of the Performance Award at the target level. Notwithstanding Section 6 above, each Participant shall receive, at the closing of the Change in Control, an immediate lump sum cash payment of any Performance Award (as adjusted) to which he or she is entitled under this section.

Section 9. Plan Administration.

9.1 Administration by Committee. The Plan shall be administered by the Committee, which shall have the authority in its sole discretion, subject to the provisions of the Plan, to administer the Plan and to exercise all the powers either specifically granted to it under the Plan or necessary or advisable in the administration of the Plan.

The Committee may employ such legal counsel, consultants and agents (including counsel or agents who are employees of the Company or an Affiliate) as it may deem desirable for the administration of the Plan and may rely upon any opinion received from any such counsel, consultant or agent and any computation received from any such consultant or agent. All expenses incurred in the administration of the Plan, including (without limitation) expenses for the engagement of any counsel, consultant or agent, shall be paid by the Company. No member or former member of the Board or the Committee, or any other person involved in the administration of the Plan, shall be liable for any act, omission, interpretation, construction or determination made in connection with the Plan other than as a result of such individual's willful misconduct.

9.2 Interpretation of Plan Provisions. The Committee shall have complete discretion to construe and interpret the Plan and may adopt rules and regulations governing administration of the Plan. The Committee may consult with the management of the Company but shall retain responsibility for administration of the Plan. The Committee's decisions, actions and interpretations regarding the Plan shall be final and binding upon all Participants.

Section 10. Nonassignability.

No Performance Award granted to a Participant under the Plan shall be assignable or transferable, except by will or by the laws of descent and distribution.

Section 11. Effective Date and Term of Plan.

The Plan was originally effective as of January 1, 2006. The Plan shall continue in effect until terminated by the Board.

Section 12. Amendment of the Plan.

The Board may amend, modify or terminate the Plan at any time and from time to time. Notwithstanding the foregoing, no such amendment, modification or termination shall affect the payment of a Performance Award for a Plan Year already ended without the consent of each Participant whose rights under his or her Performance Award would be impaired by such amendment, modification or termination.

Section 13. General Provisions.

13.1 Unfunded Plan. The Plan shall be an unfunded incentive compensation arrangement for a select group of key management employees of the Company. Nothing contained in the Plan, and no action taken pursuant to the Plan, shall create or be construed to create a trust of any kind. A Participant's right to receive a Performance Award shall be no greater than the right of an unsecured general creditor of the Company. All Performance Awards shall be paid from the general funds of the Company, and no segregation of assets shall be made to ensure payment of Performance Awards.

13.2 Governing Law. The Plan shall be interpreted, construed and administered in accordance with the laws of the State of Alabama, without giving effect to principles of conflicts of law.

13.3 Section Headings. The section headings contained in the Plan are for purposes of convenience only and are not intended to define or limit the contents of the Plan's sections.

13.4 Effect on Employment. Nothing contained in the Plan shall affect or be construed as affecting the terms of employment of any Eligible Employee except as expressly provided in the Plan. Nothing in the Plan shall affect or be construed as affecting the right of the Company to terminate the employment of an Eligible Employee at any time for any reason, with or without cause.

13.5 No Limitation to Corporate Action. Nothing in the Plan shall preclude the Company from authorizing the payment to the Eligible Employees of other compensation, including (without limitation) base salaries, awards under any other plan of the Company or its Affiliates, any other incentive payments or bonuses (whether or not based on the attainment of performance objectives) and retention or other special payments.

13.6 Successors. All obligations of the Company with respect to Performance Awards granted under the Plan shall be binding upon any successor to the Company, whether such successor is the result of an acquisition of stock or assets of the Company, a merger, a consolidation or otherwise.

13.8 Withholding of Taxes. The Company shall deduct from each Performance Award the amount of any taxes required to be withheld by any federal, state or local governmental authority.

13.9 Severability. If any provision of the Plan is held unenforceable, the remainder of the Plan shall continue in full force and effect without regard to such unenforceable provision and shall be applied as though the unenforceable provision were not contained in the Plan.

Exhibit 21

SUBSIDIARIES OF ADTRAN, INC.

December 31, 2021

Name of Subsidiary	Country or State of Incorporation
ADTRAN Networks Pty. Ltd	Australia
ADTRAN Networks Comunicações Ltda.	Brazil
ADTRAN Canada, Inc.	Canada
ADTRAN d.o.o.	Croatia
ADTRAN International, Inc.	Delaware
ADTRAN Networks Worldwide, Inc.	Delaware
ADTRAN Networks, LLC	Delaware
Bluesocket, Inc.	Delaware
ADTRAN Oy	Finland
ADTRAN GmbH	Germany
ADTRAN Networks M.E.P.E.	Greece
ADTRAN Networks India Private Limited	India
ADTRAN Holdings Ltd.	Israel
ADTRAN S.R.L.	Italy
ADTRAN K.K.	Japan
ADTRAN Networks Sdn Bhd	Malaysia
ADTRAN Networks S.A. de C.V.	Mexico
ADTRAN Networks & Services, S. de R.L. de C.V.	Mexico
ADTRAN Peru S.R.L.	Peru
ADTRAN Sp. z.o.o.	Poland
ADTRAN, Unipessoal Lda.	Portugal
ADTRAN International, Inc. - Saudi Arabia branch	Saudi Arabia
ADTRAN s.r.o.	Slovakia
ADTRAN Proprietary Ltd.	South Africa
ADTRAN Switzerland GmbH	Switzerland
ADTRAN GmbH (Tunisia Permanent Establishment Branch Office)	Tunisia
ADTRAN SARL	Tunisia
ADTRAN Europe Limited	United Kingdom
SmartRG, Inc.	Delaware

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-249726, 333-249725, 333-215218, 333-168419, 333-133927, 333-126734, 333-66000, 333-41458, 333-78417, 333-30375, 333-29899) of ADTRAN, Inc. and the Registration Statement on Form S-4 of Acorn HoldCo, Inc. (No. 333-259251) of our report dated February 25, 2022 relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Birmingham, Alabama
February 25, 2022

Exhibit 24

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each of the undersigned, being a director of ADTRAN, Inc., a Delaware corporation (the "Company"), by his or her execution hereof or an identical counterpart hereof, hereby constitutes and appoints Thomas R. Stanton and Michael Foliano, and each of them, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign the Annual Report on Form 10-K of the Company for the fiscal year ended December 31, 2021 and any and all amendments thereto, and any other documents in connection therewith as they or any one of them may deem necessary or desirable, each in such form as they or any one of them may approve, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done, as fully and to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, each of the undersigned has hereunto set his or her hand this 25th day of February, 2022.

/s/ H. Fenwick Huss
H. Fenwick Huss
Director

/s/ Gregory McCray
Gregory McCray
Director

/s/ Balan Nair
Balan Nair
Director

/s/Jacqueline H. Rice
Jacqueline H. Rice
Director

/s/Kathryn A. Walker
Kathryn A. Walker
Director

Exhibit 31

CERTIFICATIONS

I, Thomas R. Stanton, certify that:

1. I have reviewed this Annual Report on Form 10-K 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: February 25, 2022

/s/ Thomas R. Stanton
Thomas R. Stanton
Chief Executive Officer and Chairman of the Board

I, Michael Foliano, certify that:

1. I have reviewed this Annual Report on Form 10-K 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: February 25, 2022

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

Exhibit 32

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 Annual Report of ADTRAN, Inc. (the “Company”) on Form 10-K for the period ended December 31, 2021 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 for the periods described herein.

/s/ Thomas R. Stanton
Thomas R. Stanton
Chief Executive Officer and Chairman of the Board
Date: February 25, 2022

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 Annual Report of ADTRAN, Inc. (the "Company") on Form 10-K for the period ended December 31, 2021 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 for the periods described herein.

/s/ Michael Foliano
Michael Foliano
Senior Vice President of Finance and
Chief Financial Officer
(Principal Accounting Officer)
Date: February 25, 2022

Directors and Executive Officers

Thomas R. Stanton
Chairman and Chief Executive Officer

H. Fenwick Huss
Director of the Company
Willem Kooyker Dean of the Zicklin School
of Business at Baruch College

Gregory McCray
Director of the Company
Chief Executive Officer of FDH

Balan Nair
Director of the Company
President and Chief Executive Officer
of Liberty Latin America

Jacqueline H. Rice
Director of the Company
General Counsel and Corporate Secretary
MillerKnoll, Inc.

Kathryn A. Walker
Director of the Company
Chief Technology Officer
Main Street Data

Ronald D. Centis
Senior Vice President
Global Operations

Robert Conger
Senior Vice President
Technology & Strategy

Michael K. Foliano
Chief Financial Officer

Raymond Harris
Chief Information Officer

Marc Kimpe
Senior Vice President
Research and Development

James D. Wilson, Jr.
Chief Revenue Officer

Transfer Agent
American Stock Transfer & Trust Company, LLC
New York, NY

Independent Registered Public Accounting Firm
PricewaterhouseCoopers LLP
Birmingham, AL

Outside Counsel
Maynard Cooper & Gale, P.C.
Birmingham, AL

Form 10-K
Adtran's 2021 Annual Report on Form 10-K (without exhibits) as filed with the Securities and Exchange Commission is available to stockholders without charge upon written request to:

Adtran, Inc.
Attn: Corporate Secretary
901 Explorer Blvd.
Huntsville, Alabama 35806
256 963-8220
investorrelations@adtran.com (email)

Annual Meeting
The 2022 Annual Meeting of Stockholders will be a virtual meeting conducted by live webcast on the Internet on Wednesday, May 11, 2022, at 10:30 a.m., Central Time. You will be able to attend and participate in the meeting by visiting www.virtualshareholdermeeting.com/ADTN2022 and entering the 16-digit control number included on your Notice of Internet Availability of Proxy Materials or on your proxy card.

[This page intentionally left blank]

Corporate Headquarters

ADTRAN, Inc.
901 Explorer Boulevard
Huntsville, AL 35806
USA

P.O. Box 140000
Huntsville, AL 35814-4000

1 800 9ADTRAN

1 256 963-8000

1 256 963-8004 fax

investor.relations@adtran.com
www.adtran.com

Domestic Offices

ADTRAN, Inc.
Huntsville, AL
Santa Barbara, CA
Vancouver, WA

International Offices

ADTRAN Networks Pty. Ltd.
Melbourne, Australia

ADTRAN GmbH
Berlin and Greifswald, Germany

ADTRAN Networks India Private Ltd.
Hyderabad, India

ADTRAN Holdings Ltd.
Tel Aviv, Israel

ADTRAN S.R.L.
Milan, Italy

Saudi Arabian Branch of ADTRAN International, Inc.
Riyadh, Saudi Arabia

ADTRAN s.r.o.
Bratislava, Slovakia

ADTRAN SARL Permanent Establishment
Tunis, Tunisia

ADTRAN Europe Limited
Basingstoke, Hampshire, United Kingdom
Adastral Park, Ipswich, United Kingdom