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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2020

Or

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

For the transition period from to

Commission File No. 001-12593

ATN INTERNATIONAL, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	**47-0728886** (I.R.S. Employer Identification No.)
500 Cummings Center **Beverly, Massachusetts** (Address of principal executive offices)	**01915** (Zip Code)

(978) 619-1300
(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 $.01 per share	ATNI	The Nasdaq Stock Market LLC

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

(Title of each class)

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 Regulation S-T 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 Common Stock held by non-affiliates of the registrant as of June 30, 2020, was approximately $672 million based on the closing price of the registrant's Common Stock as reported on the Nasdaq Global Select Market.

As of March 1, 2021, the registrant had 15,898,477 outstanding shares of Common Stock, $.01 par value.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Definitive Proxy Statement for the 2021 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (this "Report") contains forward-looking statements relating to, among other matters, our future financial performance and results of operations, including the impact of the novel coronavirus pandemic on the economies of the markets we serve and on our business and operations; expectations regarding future revenue, operating income, EBITDA and capital expenditures; the competitive environment in our key markets, demand for our services and industry trends; our expectations regarding construction progress under our FirstNet agreement and the effect such progress will have on our financial results; our expectations regarding the benefits and timing of our pending acquisition of Alaska Communications; the impact of federal support program revenues and the FirstNet transaction; our liquidity; and management's plans and strategy for the future. These forward-looking statements are based on estimates, projections, beliefs, and assumptions and are not guarantees of future events or results. Actual future events and results could differ materially from the events and results indicated in these statements as a result of many factors, including, among others, (1) the general performance of our operations, including operating margins, revenues, capital expenditures, and the future growth and retention of our major customers and subscriber base; (2) our ability to maintain favorable roaming arrangements, receive roaming traffic and satisfy the needs and demands of our major wireless customers; (3) our ability to efficiently and cost-effectively upgrade our networks and IT platforms to address rapid and significant technological changes in the telecommunications industry; (4) government regulation of our businesses, which may impact our FCC and other telecommunications licenses; (5) our reliance on a limited number of key suppliers and vendors for timely supply of equipment and services relating to our network infrastructure; (6) economic, political and other risks and opportunities facing our operations, including those resulting from the pandemic; (7) the loss of or an inability to recruit skilled personnel in our various jurisdictions, including key members of management; (8) our ability to successfully complete our pending acquisition of Alaska Communications and recognize the expected benefits of such acquisition; (9) our ability to find investment or acquisition or disposition opportunities that fit the strategic goals of the Company; (10) the occurrence of weather events and natural catastrophes and our ability to secure the appropriate level of insurance coverage for these assets; (11) increased competition; (12) the adequacy and expansion capabilities of our network capacity and customer service system to support our customer growth; (13) our continued access to capital and credit markets; (14) the impact of our investments and acquisitions; and (15) the risk of currency fluctuation for those markets in which we operate. Statements are based on our management's beliefs and assumptions, which in turn are based on currently available information. These assumptions could be proven inaccurate.

Please keep in mind that any forward-looking statement made by us in this Report or elsewhere speaks only as of the date on which we make it. New risks and uncertainties arise from time to time, and it is impossible for us to predict these events or how they may affect us. In any event, these and other important factors may cause actual results to differ materially from those indicated by our forward-looking statements, including those set forth in Item 1A of this Report under the caption "Risk Factors." We have no duty to, and do not intend to, update or revise the forward-looking statements made by us in this Report after the date of this Report, except as may be required by law.

In this Report, the words "the Company," "we," "our," "ours," "us" and "ATN" refer to ATN International, Inc. and its subsidiaries. This Report contains trademarks, service marks and trade names that are the property of, or licensed by, ATN and its subsidiaries.

References to dollars ($) refer to US dollars unless otherwise specifically indicated.

PART I

ITEM 1. BUSINESS

Overview

We strive to be a leading platform for the operation of, and investment in, smaller and specialty market communications services and technology companies. We have a long track record of delivering critical infrastructure-based solutions to underserved markets. Our majority-owned operating subsidiaries provide facilities-based communications services, along with related information technology solutions, in the United States, Bermuda, and the Caribbean. We also have non-controlling investments in several communications and technology companies, and we continue to consider opportunities to make controlling and minority investments in businesses that we believe have the potential for generating substantial and relatively steady cash flows over extended periods of time or have technologies or business models that might prove valuable to our main operating subsidiaries or create significant longer term growth potential for us as a whole.

At the holding company level, we oversee the allocation of capital within and among our subsidiaries, affiliates, minority investments, and stockholders. We also have developed significant operational expertise and resources that we use to augment the capabilities of our individual operating subsidiaries. Over the past 10 years, we have built a platform of resources and expertise to support our operating subsidiaries and to improve their quality of service, and customer acquisition, retention, and satisfaction while maintaining optimal operating efficiencies. We have a number of shared service functions, including billing, network and engineering and customer service, and the parent company also employs personnel with specialized skills that provide greater economies of scale and expertise than would typically be available at the operating subsidiary level.

We were incorporated in Delaware in 1987, began trading publicly in 1991 and spun off more than half of our operations to stockholders in 1998. We actively evaluate potential acquisitions, investment opportunities and other strategic transactions, both domestic and international, that we believe have the potential for generating steady excess cash flows over extended periods of time. In addition, we consider non-controlling investments in earlier stage businesses that we consider strategically relevant, and which may offer long-term growth potential for us, either individually, or as research and development businesses that can support our operating subsidiaries in new technology, product, and service development and offerings. We have used the cash generated from our established operating units, and any asset sales, to re-invest in our existing businesses, to return cash to our investors, and to make strategic investments in additional businesses. We provide management, technical, financial, regulatory, and marketing services to our subsidiaries and typically receive a management fee equal to a percentage of their revenues, which is eliminated in consolidation. For further information about our financial segments and geographical information about our operating revenues and assets, see Notes 1 and 15 to the Consolidated Financial Statements included in this Report.

Through December 31, 2020, we had identified three operating segments to manage and review our operations and to facilitate investor presentations of our results. These three operating segments are as follows:

- ***International Telecom.*** Businesses contained in our international telecom segment offer a mix of fixed data, internet and voice services (“Fixed”) as well as retail mobility (“Mobility”) services to customers in Bermuda, the Cayman Islands, Guyana and the US Virgin Islands. We offer fixed video services in Bermuda, the Cayman Islands, and the US Virgin Islands and managed information technology services (“Managed Services”) to enterprise customers in all our markets. We also offer services to other telecom providers (“Carrier Services”), such as international long-distance, transport and access services, and roaming from such telecom providers’ customers traveling in our network service areas.

- ***US Telecom.*** In the United States, primarily in the Southwest, we offer Carrier Services, including wholesale roaming services, the leasing of critical network infrastructure such as towers and transport facilities, and site maintenance. We also provide Fixed, Mobility, and Managed Services to our retail and enterprise customers, and private network services to enterprise customers, municipalities and other service providers.

- ***Renewable Energy***. In India, we provided distributed generation solar power to commercial and industrial customers through January 27, 2021. Through November 6, 2018, we also provided distributed generation solar power in the United States in Massachusetts, California and New Jersey.

On December 31, 2020, we announced that we entered into an Agreement and Plan of Merger (the “Alaska Merger Agreement”) with Freedom 3 Capital, LLC (“Freedom3”) to acquire all of the shares of Alaska Communications Systems Group, Inc. (“Alaska Communications”), a publicly listed company (Nasdaq:ALSK) for approximately $340 million, including the assumption of debt (the “Alaska Transaction”). Following the closing of the Alaska Transaction, we will, through our subsidiaries, own and control approximately 51% of Alaska Communications and Freedom3, through its affiliates, will own the remaining 49%. In February 2021, the required waiting period under the Hart Scott Rodino Antitrust Improvements Act of 1976 expired, however the Alaska Transaction remains subject to customary closing terms and conditions including (i) the approval of Alaska Communications' stockholders, (ii) the absence of certain legal impediments, and (iii) obtaining the necessary consents from the Federal Communications Commission ("FCC") and the Regulatory Commission of Alaska.

In January 2021, we completed the sale of 67% of the outstanding equity in our business that owns and operates distributed generation solar power projects operated under the Vibrant ("Vibrant") name in India (the "Vibrant Transaction"). The post-sale results of our ownership interest in Vibrant will be recorded through the equity method of accounting within the Corporate and Other operating segment. As such, our consolidated financial statements will no longer include revenue and operating expenses from Vibrant, but instead, "other income (expense)" within the Corporate and Other operating segment will include our 33% share of Vibrant's profits or losses. We will continue to present the historical results of our Renewable Energy segment for comparative purposes.

The operations of Vibrant did not qualify as discontinued operations because the disposition did not represent a strategic shift that had a major effect on our operations and financial results.

The following chart summarizes the operating activities of our principal subsidiaries, the segments in which we reported our revenue and the markets we served during 2020:

Segment	Services	Markets	Tradenames
International Telecom	Mobility	Bermuda, Guyana, US Virgin Islands	One, GTT+, Viya
	Fixed	Bermuda, Cayman Islands, Guyana, US Virgin Islands	One, Logic, GTT+, Viya
	Carrier Services	Bermuda, Guyana, US Virgin Islands	One, GTT+, Viya
	Managed Services	Bermuda, Cayman Islands, US Virgin Islands, Guyana	Fireminds, One, Logic, GTT+, Viya
US Telecom	Mobility	United States (rural markets)	Choice, Choice NTUA Wireless, Geoverse
	Fixed	United States	Commnet, Choice, Choice NTUA Wireless, Deploycom
	Carrier Services	United States	Commnet, Essextel
	Managed Services	United States	Choice
Renewable Energy	Solar	India	Vibrant Energy

Our principal corporate offices are located at 500 Cummings Center, Suite 2450, Beverly, Massachusetts, 01915. The telephone number at our principal corporate offices is (978) 619-1300**.**

Strategy

The key elements of our strategy consist of the following:

- ***Target Underserved Markets Where We Can Compete Successfully.*** We operate our communications businesses primarily in smaller, rural or under-served markets where we believe we are or will be one of the leading providers of communications services. We seek opportunities to build, manage, and own critical communications infrastructure in areas of unmet need where we have the potential for generating substantial and relatively steady excess cash flows over extended periods of time. By supplementing the business with our operational capabilities and experience at the holding company level, we are able to take on unproven markets with more difficult operating or political environments at a more attractive value entry point. We strive to improve and expand our product and service offerings in the locations we serve in order to better satisfy customer needs, expand our customer bases and revenues and ensure the business is efficient and economically viable.

- ***Partner Directly with Investment Funds and Other Equity Investors***. We seek opportunities to partner with investment funds and other equity investors looking to make direct investments in businesses that own and operate critical communications infrastructure. We believe we have a number of attributes that would make us an attractive partner for these funds, such as substantial operating know-how, experienced personnel, considerable resources and a long, public track record of successful management and operations of critical communications networks. We also have extensive transactional experience and a proven ability to source, develop, and exit investment opportunities and to take on the difficult task of integrating and optimizing acquired assets and businesses.

- ***Provide Operational Expertise in Collaboration with Local Management.*** We believe that strong local management enhances our close relationship with customers and reduces risk. Our businesses typically have or develop strong local brand identities that help them become leaders in the markets they serve. Wherever feasible, we seek to partner with local investors, owners or management teams who have demonstrated a successful track record or have extensive knowledge of the industry or markets in which we operate, and who have local credibility. By maintaining these relationships and leveraging our comprehensive management experience and operational, technical, and financial expertise, we can assist these local management teams in further improving operations and growing their businesses.

- ***Maintain a Disciplined Approach to Capital Allocation.*** We carefully assess the potential for cash flow stability and growth when we evaluate the performance of our subsidiaries, new investment opportunities, and prospective acquisitions or dispositions. In managing our more mature businesses, we seek to solidify our brands, improve customer satisfaction, add new services, control costs and preserve cash flow. In managing newer, early-stage businesses, we seek to invest capital to improve our competitive position, increase our market share and generate strong long-term revenue and cash flow potential. We consider new investments, acquisitions and dispositions on a disciplined, return-on-investment basis. In recent years, we have made several investments in earlier stage businesses whose technology-forward approach we consider strategically relevant and, in addition to the potential for creating attractive returns on our invested capital as they grow, may enhance the potential to expand our more mature businesses.

Communications Services

Our International Telecom segment generates Mobility, Fixed, Carrier Services, and Managed Services revenues in Bermuda, the Cayman Islands, Guyana and the US Virgin Islands. Our revenues from our International Telecom segment were approximately 72% and 73% of our consolidated revenues for fiscal years 2020 and 2019, respectively. Our US Telecom segment generates Mobility, Fixed, Carrier Services, and Managed Services revenues in the mainland United States. Our revenues from our US Telecom segment were approximately 27% and 25% of our consolidated revenues for fiscal years 2020 and 2019, respectively.

International Telecom Segment

Mobility

We provide mobile, data, and voice services to retail and business customers in Bermuda under the “One” brand name, in Guyana under the “GTT+” brand name and in the US Virgin Islands under the “Viya” brand name. We also provide roaming services for many of the largest US providers’ customers visiting these locations. As of December 31, 2020, we had approximately 304,000 Mobility subscribers in our International Telecom segment and over 84% of those subscribers were on prepaid plans.

Products and Services. A significant majority of our customers in our International Telecom segment subscribe to one of our prepaid plans, which require customers to purchase an amount of voice minutes, text messages or data prior to use. A smaller minority of customers subscribe to our postpaid plans that allow customers to select a plan with voice minutes, text messaging, a given amount of data and other features that recur on a monthly basis, which services are billed at the end of the service period.

Network and Operations: We offer our Mobility services over our 3G (WDCMA) 4G (LTE) wireless network in Bermuda and the U.S. Virgin Islands. In Guyana we offer our Mobility services over our 2G (GSM), 3G (WCDMA and 4G (LTE) wireless network. As of December 2020 we owned and operated a total of 454 wireless base stations in the international markets. All of our Mobility networks have their core supporting facilities in the home network in the US Virgin Islands, Bermuda and Guyana. Our local NOCs provide dedicated monitoring of our network to ensure quality and reliable service to our customers and during off hours, weekends and holidays our NOC in the mainland USA provides extended support to ensure we have 24 hours year round monitoring of all our wireless and wireline markets. In 2021 we will start the deployment of Volte in the markets and also trial and test some 5G wireless network deployments.

The transport networks in all the markets are primarily fiber based with route diversity provided by the deployment of fiber rings where possible and supplemental microwave deployments. The vast majority of the networks are IP Based utilizing MPLS for redundancy to provide high availability networks. Standby power is provided by back up battery and generators. In the USVI where we have experienced extreme hurricane events lots of network hardening has been added to the network such as building tower structures to 160 MPH ratings and adding underground and alternate routes where ever possible. All the markets connect to the world thought sub-sea fiber networks described in our "*International Telecom – Fixed – Network*" section below.

Sales and Marketing. We maintain retail stores in our markets and allow customers to pay their bills and "top up," or add additional data and/or minutes to their prepaid plans, through payment terminals at local stores, business centers or our website, by purchasing prepaid calling cards, or via mobile or web-based apps. Our handsets, prepaid cards and prepaid accounts are also sold through independent dealers that we pay on a commission basis.

Handsets and Accessories. We offer a diverse line of wireless devices and accessories designed to meet both the personal and professional needs of our customers. Our device assortment includes a wide range of smartphones including those featuring the Android™ and iOS™ operating systems in addition to a full line of feature phones, wireless hot spots and various wireless solutions for small businesses. To complement our phone offerings, we sell a complete range of original equipment manufacturer and after-market accessories that allow our customers to personalize their wireless experience, including phone protection, battery charging solutions and Bluetooth hands-free kits.

Competition. We believe we compete for wireless retail customers in our international markets based on features, price, technology deployed, network coverage (including through roaming arrangements), quality of service and customer care. We compete against Digicel and Liberty Latin America in the Caribbean region, other smaller local providers, and in some markets, against one or more US national operators.

Fixed Services

High-speed data and related services. We offer high-speed broadband services to both residential and enterprise customers in all our International Telecom markets. We provide a number of broadband internet plans with varying speeds to address different customer needs and price requirements in our various markets. As of December 31, 2020, we had approximately 141,000 high-speed broadband customers across our markets.

Voice services. We offer Fixed voice services that include local exchange, regional and long distance calling and voice messaging services in Bermuda, Guyana, and the US Virgin Islands. As of December 31, 2020, we had an aggregate of approximately 169,000 access lines in service in our markets, which represent both residential and enterprise subscribers. With respect to our international long-distance business, we also collect payments from foreign carriers for handling international long-distance calls originating from the foreign carriers' countries and terminating on our network. We also make payments to foreign carriers for international calls originating on one of our networks and terminating in the foreign carrier's countries and collect from our subscribers or a local originating carrier a rate that is market-based or set by regulatory tariff.

Video services. We offer video services in Bermuda, the Cayman Islands, and the US Virgin Islands. As of December 31, 2020, we had approximately 36,000 video customers across our markets. We have several offerings available to our video customers, including basic and tiered local and cable TV channels grouped into various content categories, such as news, sports and entertainment.

Network. We also offer our Fixed services over our coaxial cable and fiber-optic networks in our international markets. All of our Fixed access lines are digitally switched from our switching centers in the US Virgin Islands, Bermuda and Guyana. Our switching centers provide dedicated monitoring of our network to ensure quality and reliable service to our customers.

In Bermuda and the US Virgin Islands, we deliver our services via a hybrid fiber coaxial ("HFC") cable network and via fiber GPON network in the Cayman Islands and Guyana. In Guyana, we also provide fixed services via DSL and FWA. These networks give us expanded Internet access coverage to an average of 95% of homes across our markets with speeds up to 500 Mbps for residential customers in most markets. Following Hurricanes Irma and Maria in 2017 (collectively, the "Hurricanes"), service to our customers over the HFC network was impacted due to both the loss of power and damage to our network. We have completed remediation efforts to our network such as building tower structures to 160 MPH ratings and adding underground and alternate routes where ever possible.

Our international voice and data networks are linked with the rest of the world principally through our ownership and investments in six undersea fiber-optic cables in the Caribbean and Atlantic regions. These cables are crucial arteries that supply access to communications services for islands and remote markets like the ones in which we operate. For example, in Guyana we co-own with Telesur, the government-owned telecommunications provider in Suriname, the Suriname-Guyana Submarine Cable System that provides us with more robust redundancy, the capacity to meet growing data demands in Guyana, and the opportunity to provide new and enhanced services such as Internet service. In Bermuda, we own the Challenger Bermuda cable that provides us with capacity from Bermuda to the United States.

Sales and Marketing. Our businesses utilize four key sales channels: stores, telesales, business-to-business ("B2B") channels and residential sales (inbound). Certain residential sales are made through inbound communications to customer service representatives who assist with a wide range of inquiries and sell different product offerings to help retain customers or improve their service with upgrades or bundles. Our revenues for our Fixed services are derived from installation charges for new lines, monthly line charges, data and video services and value added services, such as hosting or enterprise voice and data solutions. For our Fixed voice services, rates differ for residential and commercial customers and in certain markets, may be set by regulatory authorities.

Competition. We compete with a limited number of other providers, including Digicel, with respect to various products. We believe our breadth of services and local economies of scale provide us with a strong competitive position and the ability to win and retain an economically viable share of those markets.

In Guyana, we have an agreement with the Government of Guyana for the exclusive right to provide domestic fixed and international voice and data services. However, in October of 2020, the Government implemented new legislation to introduce legal competition into the sector. We believe that our exclusive agreement continues to be valid unless and until such time as we enter into an alternative agreement with the Government. For further discussion regarding the change in competitive landscape following the 2020 Guyana election and new regulatory regime, see *"—Guyana Regulation—Regulatory Developments" and "Risk Factors—Our operations in Guyana are subject to significant political and regulatory risk."*

US Telecom Segment

Carrier & Mobility Services

Carrier Services. In the United States, we provide wholesale mobile voice and data roaming services in rural markets to national, regional, local and selected international wireless carriers as part of our Carrier Services as well as tower rental, backhaul and maintenance services. Our largest wholesale networks are located principally in the western United States.

We currently have roaming agreements with approximately 32 United States-based wireless service providers and, as of December 31, 2020, had roaming arrangements with each of the three US national wireless network operators: Verizon Wireless, AT&T, and T-Mobile. Other than these agreements with the national carriers, our standard roaming agreements are usually terminable within 90 days. In 2020, the three national mobile service providers together accounted for a substantial portion of our Carrier Services revenues, with AT&T and Verizon accounting for an aggregate of approximately 15% of our total consolidated revenue for the year.

The revenue and profits of our Carrier Services business historically were primarily driven by the number of sites and base stations in operation, the amount of voice and data traffic that each of these sites generates, and the rates we receive from our carrier customers on that traffic. Many of our sites are located in popular tourist and seasonal visitor areas, which has historically resulted in higher wholesale revenues in those areas during the summer months.

We are increasingly providing network infrastructure services as part of our expanded Carrier Services, such as tower leasing and transport facilities to our carrier partners, to supplement our historic revenue base. In July 2019, we entered into a Network Build and Maintenance Agreement (the "FirstNet Agreement") with AT&T to build a portion of AT&T's network for the First Responder Network Authority ("FirstNet") as well as a commercial wireless network in or near its current operating area in the Southwestern United States (the "FirstNet Transaction"). Pursuant to the FirstNet Agreement and subject to certain limitations contained therein, all cell sites must be completed and accepted within a specified period of time, which we jointly agreed to extend with AT&T in August 2020 due to the ongoing coronavirus pandemic and other permitting related delays. We began recording construction revenue in September 2020 and have recorded $10.9 million of construction revenue during the year ended December 31, 2020. We expect to record an additional $75 million through 2022 that will be mainly offset by construction costs as sites are completed. As such, revenues from construction are expected to have minimal impact on operating income. Also pursuant to the FirstNet Agreement AT&T has the option to repay construction costs, with interest, over and eight year period. Accordingly, we entered into a receivables credit facility with CoBank, ACB (the "Receivables Credit Facility") in order to assist with this repayment option. The Receivables Credit Facility provides for a senior secured delayed draw term loan in an aggregate principal amount of up to $75 million with the proceeds being used to acquire the receivables related to the construction costs.

Following acceptance of a cell site, AT&T will own the cell site and we will assign to AT&T any third-party tower lease applicable to such cell site. If the cell site is located on a communications tower we own, AT&T will pay us pursuant to a separate lease agreement for an initial term of eight years. In addition to building the network, we will provide ongoing equipment and site maintenance and high capacity transport to and from these cell sites for an initial term ending in 2029.

AT&T will continue to use our wholesale domestic mobile network for roaming services at a fixed rate per site during the construction period until such time as the cell site is transferred to AT&T. Thereafter, revenue from the maintenance, leasing and transport services provided to AT&T is expected to offset revenue from AT&T's decline in usage of wholesale mobile roaming services, albeit at lower operating income margins due to the increased operating expenses associated with leasing and transport services, as compared to our wholesale mobile roaming services. We began receiving roaming revenue from the FirstNet Transaction in the third quarter of 2019 and expect overall operating income contributions from the FirstNet Transaction to continue to have a relatively steady impact going forward.

Mobility Services. We also offer Mobility services to customers in certain rural markets already covered by our wholesale networks. In 2018, we invested in a new platform that provides comprehensive in-building cellular solutions to enable users and devices to roam across public carrier networks seamlessly and securely. Our private 5G/LTE mobile network offering interconnects seamlessly with major mobile operators, delivering a secure, robust and flexible network and services for private applications and high-performance coverage for tenants and visitors.

Network and Operations. Our roaming network offers mobile communications service through a digital wireless voice and data network that utilizes multiple cellular mobile technologies including UMTS/HSPA, CDMA/EvDO and LTE that often will be deployed at a single cell site location in order to maximize revenue opportunities. We provide wireless communications network products and services with owned and leased cellular, PCS, BRS, EBS, AWS, and CBRS spectrum. Our networks comprise base stations and radio transceivers located on owned or leased towers and buildings, telecommunications switches and owned or leased transport facilities. We design and construct our network in a manner that will provide high-quality service to substantially all types of compatible wireless devices. Network reliability is carefully considered and redundancy is employed in many aspects of our network design.

Route diversity, redundant equipment, ring topologies and the use of emergency standby power are used to enhance network reliability and minimize service disruptions from any particular network element failure. We operate high-capacity, carrier-class digital wireless switching systems that are capable of serving multiple markets through a single mobile telephone switching office. Centralized equipment used for network and data management is located in high-availability facilities supported by multiple levels of power and network redundancy. Our systems are designed to incorporate Internet Protocol (IP) packet-based Ethernet technology, which allows for increased data capacity and a more efficient network. Interconnection between the mobile telephone switching office and the cell sites utilizes Ethernet technology over fiber or microwave links for virtually all of our 4G LTE sites.

As of December 31, 2020, we owned and operated a total of 1,044 domestic base stations on 453 owned and leased sites, a Network Operations Center (or "NOC"), and a switching center. We also maintained a presence in numerous leased data centers designed to support network virtualization and provide network resiliency. Our NOC provides dedicated, 24-hour, year-round monitoring of our network to ensure quality and reliable service to our customers. In 2020, we continued to expand and improve our network and plan to test and commercially deploy voLTE technology in 2021. voLTE technology allows customers to utilize a 4G LTE network for both voice and data services, and the migration of our wholesale and retail subscribers in the following years to the more efficient 4G technology from 2G/3G technologies will result in increased spectrum availability.

Competition. With respect to our Carrier Services, we compete with mobile service providers that operate networks in our markets and offer wholesale roaming services. However, the most significant competitive challenge we face in our US wholesale wireless business is the extent to which our carrier customers choose not to roam on our networks or elect to build or acquire their own infrastructure in a market in which we operate, reducing or eliminating their need for our services in those markets. We address this competitive threat mainly by providing a service that would be more costly for the carrier to provide itself, or, at least, a less attractive expenditure than alternative investments in its network or business. With respect to our Mobility services, we compete with other mobile service providers in our retail business and with a variety of providers of private network services.

Our ability to maintain appropriate capacity and relevant technology to respond to our roaming partners' needs also shapes our competitive profile in the markets in which we operate. We believe that currently available technologies and appropriate capital additions will allow sufficient capacity on our networks to meet anticipated demand for voice and data services over the next few years. However, increasing retail demand for high-speed data may require the acquisition of additional spectrum licenses to provide sufficient capacity and throughput.

Fixed Services

Sales and Marketing. Our wholesale transport customers are predominately communications carriers such as local exchange carriers, wireless carriers, internet service providers and interstate integrated providers.

Competition. Our wholesale competitors include Zayo, other national fiber providers and regional wholesale providers and cable television companies that operate fiber-optic networks.

Renewable Energy Services

On April 7, 2016, we acquired Vibrant, and since that time, have constructed a total of 65 MWp of distributed generation solar power projects in the states of Andhra Pradesh and Telangana based on a commercial and industrial business model, similar to our former US renewable energy operations. On January 27, 2021, we completed the Vibrant Transaction, and we continue to retain a 33% interest in Vibrant. In the Vibrant Transaction we received approximately $21 million at closing and the potential for up to $6.3 million of additional "earn out" consideration upon the satisfaction of certain conditions. The Vibrant Transaction is consistent with our strategy of seeking third party equity capital in order to build a larger portfolio and achieve economies of scale and diversification benefits.

Services. Historically, our solar projects were in the "commercial and industrial" ("C&I") sector of the solar market, which is distinguished from utilities and residential customers. Our customers or "offtakers" included high-credit quality corporate entities, utilities, schools, and municipalities, which purchased electricity from us under the terms of long-term power purchase agreements ("PPAs"). In India, we have also executed PPAs with offtakers utilizing a "group captive" construct whereby our offtakers own an equity interest in certain of our projects. This arrangement enables us to extend the term of a PPA for such projects up to twenty five years in duration at predictable and stable prices. As such, we believe the PPAs provide us with high-quality contracted cash flows, which, although our customers may terminate the PPAs with one-year notice, we nevertheless expect will continue over their average remaining life.

Infrastructure. Our existing facilities are located on land owned by Vibrant and are comprised of ground-mounted solar photovoltaic ("PV") installations. We manage our facilities through third party operation and maintenance ("O&M") contracts and our corporate staff tracks the data and services provided by the third-party service provider. We depend on a limited number of key suppliers for the PV modules that we purchase for installation at our facilities, with the majority of facilities constructed with Tier 1 PV modules supplied by GCL Systems, a Tier 1 Chinese module supplier.

ATN Ventures and Minority Investments

In addition to our core telecommunications operating companies, we have also made investments in earlier stage businesses, some of which are non-controlling investments whose technology-forward approach we consider strategically relevant and which, in addition to the potential for creating supplemental cash flow as they grow, can also provide a variety of benefits that enhance the potential to expand our more mature businesses. These benefits include providing entry points into emerging sectors of our existing businesses, enhancing our product offerings, providing visibility into newer technologies and establishing and enhancing strategic relationships.

As a vehicle for our investments, in 2017 we formed ATN Ventures, our corporate venture capital arm that is an active, strategic investor with deep operational expertise seeking to partner with great entrepreneurs to build lasting value. Through ATN Ventures, we invest in services and technology companies that bring synergies to ATN's operating businesses in the US and internationally.

To date, we have engaged in the below investments:

- Stilmark Group: A neutral host infrastructure company engaged in telecommunications tower construction, ownership and maintenance in Australia;
- Tarana Wireless, Inc.: a technology company engaged in research and development of non-line of sight connectivity solutions for fixed wireless access;
- Wafer, LLC: a technology company engaged in research and development of highly advanced phased array antenna technologies for multiband satellite communications; and
- XCom Labs, Inc.: a technology company engaged in research and development of high speed, low latency connectivity solutions for 4G and 5G networks.

Human Capital

As of December 31, 2020, we had approximately 1,700 employees, of whom approximately 1,000 were employed by our international subsidiaries, and approximately 700 were employed in the United States (including in the US Virgin Islands). At the holding company level, we employ our executive management team and staff. Approximately half of our Guyana and US Virgin Islands full-time work forces are represented by unions. Approximately 20% of our Bermuda full-time workforce is represented by unions.

We rely heavily on local management teams to run our subsidiary operating units. Many of the markets in which we operate are small and remote, and in some cases are subject to government restrictions on granting work visas, all of which makes it difficult to attract and retain talented and qualified managers and staff in those markets. We work hard to maintain positive and productive working environments and we believe we have good relations with our employees and management teams.

It is our objective to maintain a respectful and diverse corporate culture. Our culture is driven by our core values, including a demonstrated commitment to inclusion and diversity. Across our core businesses in all our markets, approximately 30% of senior management and an additional 40% of middle management identify as persons of color, including Afro-Caribbean, Latinx, Indo-Caribbean and other races or ethnicities and approximately 15% of senior management and an additional 40% of middle management are women. We are also committed to the principal of equal pay for equal work.

Regulation

Our wireless and wireline communications and video services operations are subject to extensive governmental regulation in each of the jurisdictions in which we provide services. Our operations in the United States and the US Virgin Islands are governed by the Communications Act of 1934, as amended (“Communications Act”), the implementing regulations adopted thereunder by the FCC, including the Telecommunications Act of 1996, as well as judicial and regulatory decisions interpreting and implementing the Communications Act, and other federal, state, and local statutes and regulations. Our operations are also governed by certain foreign laws and regulations.

The following summary of regulatory developments and legislation does not purport to describe all present and proposed federal, state, local, and foreign regulation and legislation that may affect our businesses. Legislative or regulatory requirements currently applicable to our businesses may change in the future and legislative or regulatory requirements may be adopted by those jurisdictions that currently have none. Any such changes could impose new obligations on us that could adversely affect our operating results.

US Federal Regulation

Wireless Services

The FCC regulates, among other things, the licensed and unlicensed use of radio spectrum; the ownership, lease, transfer of control and assignment of wireless licenses; the ongoing technical, operational and service requirements applicable to such licenses; the timing, nature and scope of network construction; the provision of certain services, such as enhanced 911 (“E 911”); and the interconnection of communications networks in the United States.

Licenses. We provide our wireless services pursuant to various commercial mobile radio services (“CMRS”) licenses, including cellular, broadband Personal Communications Services (“PCS”), 600 MHz Band, 700 MHz Band, Advanced Wireless Service (“AWS”), Broadband Radio Service (“BRS”) and Educational Broadband Service (“EBS”) licenses granted by the FCC, and pursuant to leases of licenses from FCC licensed operators. Some of these licenses are site based while others cover specified geographic market areas, e.g., Cellular Market Areas, Basic Trading Areas, and Partial Economic Areas, as defined by the FCC. The specific radio frequencies, the authorized spectrum amounts, and certain of the technical and service rules vary depending on the licensed service. The FCC generally allocates CMRS licenses through periodic auctions, after determining how many licenses to make available in particular frequency ranges, the applicable service rules, and the terms on which the license auction will be conducted. Such licenses are also available via secondary market mechanisms, using procedures and regulations set forth by the FCC. The FCC recently conducted auctions of high-band and mid-band spectrum, and is considering holding a further mid-band spectrum auction in 2021. In the FCC's 2020 auction of Citizens Broadband Radio Service ("CBRS") Priority Access Licenses ("PAL") in the 3.5 GHz band, we won licenses in 590 U.S. counties, and expect these licenses to be issued in 2021. There is no certainty as to whether any of these licenses will be used for wireless services competitive with our services or as to the likelihood that we will acquire spectrum licenses made available in any future auction.

Construction Obligations. The FCC conditions licenses on the satisfaction of certain obligations to construct networks covering a specified geographic area or population by specific dates. The obligations vary depending on the licensed service. Failure to satisfy an applicable construction requirement can result in the assessment of fines and forfeitures by the FCC, a reduced license term, or automatic license cancellation. We are substantially in compliance with the applicable construction requirements that have arisen for the licenses we currently hold and expect to meet our future construction requirements as well.

License Renewals. Our FCC licenses generally expire between 2021 and 2030 and are renewable upon application to the FCC. License renewal applications may be denied if the FCC determines, after appropriate notice and hearing, that renewal would not serve the public interest, convenience, or necessity. At the time of renewal, we must demonstrate that we have maintained operations (and service in some instances) at or above levels needed to satisfy our construction requirements, that we have not permanently discontinued operations at any time during our prior license term, and that we have substantially complied with the rules and regulations of the FCC and the Communications Act. If we are able to make these certifications, we may claim a license renewal safe harbor. If we cannot make these certifications, we must instead file a license renewal showing how we have used our license during our prior license term, which the FCC has broad discretion to approve or deny. If a renewal showing is denied, our license renewal application will be dismissed, and our license will not be renewed for an additional license term. While our licenses have been renewed regularly by the FCC in the past, there can be no assurance that all of our licenses will be renewed in the future.

The FCC may deny license applications and, in extreme cases, revoke licenses if it finds that an entity lacks the requisite qualifications to be a licensee. In making that determination, the FCC considers whether an applicant or licensee has been the subject of adverse findings in a judicial or administrative proceeding involving felonies, the possession or sale of unlawful drugs, fraud, antitrust violations, or unfair competition, employment discrimination, misrepresentations to the FCC or other government agencies, or serious violations of the Communications Act or FCC regulations. To our knowledge, there are no activities and no judicial or administrative proceedings involving either us or the licensees in which we hold a controlling interest that would warrant such a finding by the FCC.

License Acquisitions. Prior FCC approval typically is required for transfers or assignments of a controlling interest in any license or construction permit, or of any rights thereunder. The FCC may approve or prohibit such transactions altogether, or approve such transactions subject to certain conditions such as divestitures or other requirements. Non-controlling minority interests in an entity that holds an FCC license generally may be bought or sold without FCC approval, subject to any applicable FCC notification requirements. The FCC permits licensees to lease spectrum to third parties under certain conditions, subject to prior FCC approval, or in some instances, notification to the FCC. These mechanisms provide additional flexibility for wireless providers to structure transactions and create additional business and investment opportunities.

The FCC no longer caps the amount of CMRS spectrum in which an entity may hold an attributable interest and now instead engages in a case-by-case review of proposed wireless transactions, including spectrum acquired via auction, to ensure that the proposed transaction serves the public interest and would not result in a rule violation or an undue concentration of market power. The FCC utilizes a spectrum aggregation "screen" to determine whether a proposed secondary market transaction requires additional scrutiny. Under this approach, a transaction will be reviewed by the FCC for potential competitive effects if it will result in the acquiring entity having (1) total spectrum holdings generally exceeding approximately one-third of the total amount of suitable and available spectrum in any county (which the FCC raised in 2020 from 240 MHz to 250 MHz) or (2) over 68 MHz of spectrum under 1 GHz. The FCC's additional scrutiny would also be triggered if a proposed transaction results in a material change in the post transaction market share in a particular market as measured by the Herfindahl Hirschman Index. We are well below the spectrum aggregation screen in the majority of geographic areas in which we hold or have access to licenses, and thus we may be able to acquire additional spectrum either from the FCC in an auction or from third parties in private transactions in most locations in which we operate. However, we could trigger the spectrum screen if we attempt to acquire significant additional spectrum in the US Virgin Islands. Similarly, our competitors may be able to strengthen their operations by making additional acquisitions of spectrum in our markets or by further consolidating the industry.

Other Requirements. The Communications Act and the FCC's rules impose a number of additional requirements upon wireless service providers. A failure to meet or maintain compliance with the Communications Act and/or the FCC's rules may subject us to fines, forfeitures, penalties or other sanctions.

Wireless licensees must satisfy a variety of FCC requirements relating to technical and reporting matters. Licensees must often coordinate frequency usage with adjacent licensees and permittees to avoid interference between adjacent systems. In addition, the height and power of transmitting facilities and the type of signals emitted must fall within specified parameters. For certain licensed services, a variety of incumbent government and non-government operations may have to be relocated before a licensee may commence operations, which may trigger the incurrence of relocation costs by the incoming licensee.

The radio systems towers that we own and lease are subject to Federal Aviation Administration and FCC regulations that govern the location, marking, lighting and construction of towers and are subject to the requirements of the National Environmental Policy Act, National Historic Preservation Act, and other environmental statutes enforced by the FCC. The FCC has also adopted guidelines and methods for evaluating human exposure to radiofrequency field emissions from radio equipment. We believe that all of our radio systems on towers that we own or lease comply in all material respects with these requirements, guidelines and methods.

The FCC has adopted requirements for cellular, PCS and other CMRS providers to implement basic 911 and E- 911 services. These services provide state and local emergency service providers with the ability to better identify and locate 911 callers using wireless services, including callers using special devices for the hearing impaired. Because the implementation of these obligations requires that the local emergency services provider have certain facilities available, our specific obligations are set on a market-by-market basis as emergency service providers request the implementation of E-911 services within their locales. As part of an E-911 initiative, the FCC adopted stronger rules regarding E-911 location accuracy and continues to evaluate the potential for improving location accuracy for 911 calls. The extent to which we are required to deploy E-911 services will affect our capital spending obligations. Federal law limits our liability for uncompleted 911 calls to a degree commensurate with wireline carriers in our markets.

The FCC also has adopted rules requiring wireless carriers and certain other text messaging service providers to provide text-to-911 service and an automatic "bounce back" text message to consumers who try to text 911 where text to 911 is not available, indicating the unavailability of such services. Like E-911 services, the obligation to provide these services is largely tied to requests from emergency service providers for these services. We are currently in compliance with all public safety answering point requests we have received. The FCC has also sought further comment regarding additional regulations pertaining to the provision of text to 911 service.

In addition to CMRS licenses, our wireless business relies on FCC-licensed spectrum for "Common Carrier Fixed Point to Point Microwave," referred to as common carrier microwave. We currently operate over 250 licensed microwave links. Common carrier microwave stations are generally used in a point-to-point configuration for cellular site backhaul connections or to connect points on the telephone network that cannot be connected using standard wireline or fiber optic cable because of cost or terrain. The majority of our license grants are for a period of 10 years. The FCC grants license renewal applications in the ordinary course.

The FCC established a Wireless Emergency Alerts system that allows CMRS providers to transmit emergency alerts to the public. This system is voluntary. We have partially opted in to the service and are currently providing it to all of our retail wireless customers to the extent required by applicable regulations and where technically feasible. The rules governing participation contain many requirements, such as point of sale disclosures, geo-targeting alerts, alert logging, maximum message lengths, alert preservation, alerts regarding threats to police officers, and support for non- English messages.

In 2019, the Telephone Robocall Abuse Criminal Enforcement and Deterrence Act ("TRACED Act") was signed into law requiring all IP-based voice service providers to implement, by July 2021, the secure telephone identity revisited and signature-based handling of asserted information using tokens ("STIR/SHAKEN") call authentication standards or take reasonable measures to implement an effective call authentication framework in their non-IP networks or in networks operated by carriers with fewer than 100,000 customers. During 2020, the FCC adopted several Orders to implement the provisions of the TRACED Act. The Company is taking the steps necessary to comply with the new requirements.

The FCC's rules require CMRS providers to offer "roaming" services to other providers. Roaming enables one provider's customers to obtain service from another provider when the customer is using their wireless device in an area served by the second provider. These rules apply to voice, messaging, and data services, including Internet access, although the roaming rules vary somewhat among these services. We are obligated to offer roaming, and we have the right to seek roaming from other providers, on reasonable terms and conditions. The FCC has identified a variety of factors that are relevant to whether an offer to provide roaming is reasonable, including the price, terms and conditions, and whether the two providers' networks are technologically compatible. Changes in the FCC's roaming regulations may affect the terms under which we provide roaming services to third parties and may affect our ability to secure roaming arrangements with other CMRS providers on behalf of our retail wireless customers.

We are obligated to pay certain annual regulatory fees and assessments to support FCC wireless industry regulation, as well as fees supporting federal universal service programs, number portability, regional database costs, centralized telephone numbering administration, telecommunications relay service for the hearing impaired and application filing fees. These fees are subject to change periodically by the FCC and the manner in which carriers may recoup these fees from customers is subject to various restrictions.

Wireline Services

The Communications Act encourages competition in local telecommunications markets by removing barriers to market entry and imposing on non-rural incumbent local exchange carriers ("ILECs") various requirements related to, among other things, interconnection, access to unbundled network elements, co-location, access to poles, ducts, conduits, and rights of way, wholesale and resale obligations, and telephone number portability. Our ILEC operations in the US Virgin Islands through Viya are exempt from most such federal requirements pursuant to a rural exemption.

While, to date, the FCC has declined to classify interconnected voice-over Internet protocol ("VoIP") service as a telecommunications service or information service, it has imposed a number of consumer protection and public safety obligations on interconnected VoIP providers, relying in large part on its general ancillary jurisdiction powers. To the extent that we provide interconnected VoIP service, we are subject to a number of these obligations.

In recent years, the FCC has taken actions to help expedite the deployment of wireline (and wireless) network infrastructure. Those actions include adopting rules to facilitate the attachment of new facilities to utility poles and eliminating or reducing requirements to provide notice of service discontinuance. We expect these FCC actions will facilitate our ability to expand our wireline network coverage.

Video Services

Video services systems are regulated by the FCC under the Communications Act. The FCC regulates our programming selection through local broadcast TV station mandatory carriage obligations, constraints on our retransmission consent negotiations with local broadcast TV stations, and limited regulation of our carriage negotiations with cable programming networks. The FCC and federal laws also impose rules governing, among other things, leased cable set-top boxes, our ability to collect and disclose subscribers' personally identifiable information, access to inside wiring in multiple dwelling units, cable pole attachments, customer service and technical standards, and disability access requirements. Failure to comply with these regulations could subject us to penalties. The FCC is examining whether it should modernize its video regulations and already has updated or eliminated some requirements, but we cannot predict whether and to what extent the FCC will continue to pursue deregulation in this space.

Wireless and Wireline Services

Universal Service. In general, all telecommunications providers are obligated to contribute to the USF, which is used to promote the availability of qualifying telecommunications and broadband service to individuals and families qualifying for federal assistance, households located in rural and high cost areas and to schools, libraries, and rural health care providers. Contributions to the federal USF are based on end-user interstate and international telecommunications revenue. Some states have similar programs that also require contribution. The FCC has suggested that it may examine the way in which it collects carrier contributions to the USF, including a proposal to base collections on the number of telephone numbers or network connections in use by each carrier, and some states have changed or are considering changing their contribution methodologies. We contribute to the USF as required by the rules throughout the US, and receive funds from the USF for providing service in rural areas of the United States, including the US Virgin Islands.

The collection of USF fees and distribution of USF support is under continual review by state and federal legislative and regulatory bodies, and changes to these programs could affect our revenues. We are subject to audit by the Universal Service Administration Company with respect to our contributions and our receipts of universal service funding. We believe we are substantially compliant with all FCC and state regulations related to the receipt and collection of universal service support.

In November 2011, the FCC released an order reforming the USF program for high-cost areas in the continental U.S. As part of the USF reforms, the FCC created a new program, the Connect America Fund.

In August 2018, we were awarded $79.9 million over 10 years under a portion of the Connect America Fund program called the Connect America Fund Phase II Auction. The funding requires us to provide Fixed broadband and voice services to certain eligible areas in the United States. We are subject to operational and reporting requirements under the program. Funding began in the second quarter of 2019 and we record the amounts received as revenue in our financial statements. In the 2020 Rural Digital Opportunity Fund Phase I Auction, pending the FCC's conclusion of the award process, we expect to receive approximately $20.1 million over 10 years to provide broadband coverage to over 10,000 households. Once confirmed, we will be obligated to provide broadband and voice services to certain eligible areas in the United States.

Our business in the US Virgin Islands also benefits from USF support. Our US Virgin Islands wireline business has historically received, and continues to receive, annual support of approximately $16.4 million. In addition, after the devastation caused by the Hurricanes in September 2017, the FCC provided approximately $9.7 million in recovery support in November 2017, and an additional $7.3 million in recovery support in August 2018. In 2018, the FCC initiated a proceeding to reform the USF program for high cost in the US Virgin Islands and Puerto Rico in which it proposed to allocate USF funding of up to $18.7 million per year (inclusive of the $16.4 million per year currently allocated to Viya) for 10 years to support fixed voice and broadband services in the US Virgin Islands through a new Connect USVI Fund.

In September 2019, the FCC adopted an order in this proceeding establishing a new competitive proposal process for awarding the Connect USVI Fund support that will supplant the $16.4 million that Viya currently receives per year. While Viya applied for Connect USVI Fund support allocated for the US Virgin Islands, on November 16, 2020, the FCC announced that Viya was not the recipient of the provisional award and that the FCC had provisionally accepted a bid of approximately $8.6 million per year for a term of 10 years. Viya has challenged this decision and its challenge remains pending before the FCC. If Viya's challenge is not granted, pursuant to the terms of the program, Viya's USF support will be reduced, to 2/3 of the legacy total amount, or $10.9 million during the first year following the finalization of the award and to 1/3 of the legacy total amount, or $5.5 million, during the second year. Thereafter, Viya will not receive high-cost USF support.

Intercarrier Compensation. Under federal and state law, telecommunications providers are sometimes required to compensate one another for originating and terminating traffic for other carriers. Consistent with these provisions, we currently receive compensation from other carriers and also pay compensation to other carriers. In October 2011, the FCC significantly revised its intercarrier compensation regime such that most of these compensation obligations ceased by July 1, 2017, and most remaining obligations ceased on July 1, 2020. As a result, this type of intercarrier compensation is no longer material to our business.

Net Neutrality. In January 2018, the FCC released a decision rescinding various "net neutrality" requirements, which had governed how broadband Internet access providers were permitted to offer broadband service. This decision largely eliminated the FCC's regulation of our ability to block, throttle, or prioritize specific types of Internet traffic, and put a revised transparency-centered regulatory regime in place. Under the 2018 decision's approach, broadband Internet access providers still must publicly disclose detailed information regarding their service offerings, Internet traffic management processes, and other practices affecting broadband customers. The FCC also held that states are preempted from enacting their own versions of these or similar requirements. A federal appeals court upheld most of the FCC's 2018 decision, but it reversed the FCC's blanket preemption of state broadband rules. The court also (1) held that state broadband laws only may be preempted on a case-by-case basis when they conflict with state or federal policy, and (2) remanded certain issues to the FCC. The court subsequently declined to rehear the case, and no party sought review by the U.S. Supreme Court. In October 2020, the FCC affirmed its 2018 decision after addressing the issues remanded by the court. Meanwhile, a number of states have adopted – or are considering – state-level net neutrality requirements. These efforts include enacted legislation and executive orders dating back to 2018. Some state efforts are currently subject to legal challenge by broadband providers and/or the United States government in federal district court. These legal challenges were paused during the appellate proceedings on the FCC's 2018 decision, but have now resumed. We cannot predict with any certainty the likely timing or outcome of these or future challenges, or how state or federal efforts to adopt net neutrality requirements will continue to evolve.

Telecommunications Privacy Regulations. We are subject to federal regulations relating to privacy and data security that impact all parts of our business. Certain federal statutory and regulatory privacy and data security requirements apply to our telecommunications and cable services. Other parts of our business are subject to privacy and data security oversight by other federal regulators, including the Federal Trade Commission. In addition, federal and state regulators have adopted or are considering adopting new privacy laws. For instance, the state of California has enacted two broad new privacy statutes, the first effective January 1, 2020, and the second effective January 1, 2023 although we do not believe that they are applicable to our business. Such state privacy regulations could impact at least some of our operations. In addition, the US Congress is actively discussing establishing a new privacy regime that would impose a uniform privacy framework across the United States and its territories. We believe that we comply with all currently applicable requirements, but we cannot predict the timeline for any future changes of law in this area or the impact of any such changes on our businesses.

CALEA. Under certain circumstances, federal law also requires telecommunications carriers to provide law enforcement agencies with capacity and technical capabilities to support lawful wiretaps pursuant to the Communications Assistance for Law Enforcement Act ("CALEA"). Federal law also requires compliance with wiretap related record keeping and personnel related obligations. The FCC has adopted rules that apply CALEA obligations to high-speed Internet access and VoIP services. We believe that we are in compliance with all such requirements currently applicable to us. Maintaining compliance with these law enforcement requirements may impose additional capital spending obligations on us to make necessary system upgrades.

Obligations Due to Economic Stimulus Grants. One of our subsidiaries has received awards from the Broadband Technology Opportunities Program ("BTOP") of the US Department of Commerce ("DOC") pursuant to the American Recovery and Reinvestment Act of 2009 ("ARRA"). As a BTOP sub-recipient, we are subject to the various terms and conditions included in the agency's Notice of Funds Availability published in the Federal Register on July 9, 2009. We are also required to comply with other terms and conditions of the individual DOC grants. We believe that we are currently in material compliance with all BTOP and DOC requirements applicable to our grants.

US State Regulation

Wireless Services

Federal law generally preempts state and local regulation of the entry of, or the rates charged by, any CMRS provider. For this reason, as a practical matter, we are generally free to establish wireless rates and offer new wireless products and services, and our wireless businesses are subject to minimal state regulatory requirements. However, the states in which we operate maintain nominal oversight jurisdiction. For example, states may regulate the “terms and conditions” of a CMRS provider’s service other than rates. States and localities also assess taxes and fees on wireless carriers.

The location and construction of our wireless transmission towers and antennas are subject to state and local environmental regulation, as well as state or local zoning, land use and other regulation. Before we can put a system into commercial operation or expand a system, we must obtain all necessary zoning and building permit approvals for the cell site and tower locations. The time needed to obtain zoning approvals and requisite permits varies from market to market and state to state. Likewise, variations exist in local zoning processes. If zoning approval or requisite state permits cannot be obtained, or if environmental rules make construction impossible or infeasible on a particular site, our network design might be adversely affected, network design costs could increase and the service provided to our customers might be limited.

In recent years, the FCC has taken actions to help expedite the deployment of wireless network infrastructure. Those actions include limiting state and local regulations governing the construction or modification of towers and the installation of small cells and other facilities within and outside public rights-of-way when the FCC determines those regulations can be barriers to deployment. Among other things, the FCC established new shorter shot clocks for completion of local reviews of small wireless facility applications, and required that fees which states and localities may charge for the location of small cells in rights-of-way must be cost-based. Several of the FCC’s most recent decisions were challenged in court by individual localities and organizations representing local governments. While some of the FCC’s actions have been upheld, others have been vacated or remanded, and others remain subject to petitions for reconsideration or appeal. We cannot predict with certainty the likely timing or outcome of these challenges.

US Virgin Islands Regulation

Virgin Islands Public Service Commission

In addition to the regulations described above, our operations in the US Virgin Islands are also subject to the US Virgin Islands Public Utilities Code, pursuant to which the Virgin Islands Public Service Commission (“PSC”) regulates certain telecommunications and cable TV services that Viya provides in the US Virgin Islands. Among other things, the PSC establishes the rates and fees that we may charge local exchange residential and enterprise customers in the US Virgin Islands for certain wireline telecommunications services. The PSC is required by US Virgin Islands law to review local utility rates every five years. In June 2016, the PSC adopted an order increasing the rates and fees that we may charge subject to certain conditions and future obligations and certain of our subsidiaries entered into a transfer of control agreement with the PSC on July 1, 2016, which imposes certain operational and reporting obligations on the Viya companies. We believe that we have satisfied these requirements. Further, as a condition to Viya’s receipt of USF funds from the FCC, the PSC is required to certify on an annual basis that Viya is in compliance with certain eligible telecommunication carrier (“ETC”) obligations. We believe that we comply with all such obligations but cannot predict the outcome of future PSC proceedings relating to Viya’s ETC status.

Our subsidiaries provide cable TV service in the US Virgin Islands pursuant to two franchises granted by the PSC. Each franchise was renewed in July 2015 by an order issued by the PSC, but the PSC has not yet issued new franchise agreements memorializing these renewals. We cannot predict what requirements will be included in the renewed franchise agreements. However, we understand that the renewed franchise agreements will likely contain substantially similar terms and conditions as the prior franchise agreements, including a 15-year term. We also believe that the renewed franchise agreements will exclude prior language permitting the PSC to regulate our cable rates. In August 2019, the FCC issued a decision placing some limits on the powers of local cable franchising authorities such as the PSC, including limits on their ability to impose franchise fees and to regulate non-cable services. A number of local franchising authorities have challenged that decision in federal appeals court. We cannot predict the outcome of that appeal, or how the FCC’s actions will impact our business.

Virgin Islands Research and Technology Park

Our video, internet and wireless companies in the US Virgin Islands also receive tax benefits as qualifying participants in the US Virgin Islands' Research & Technology Park ("RTPark") program. RTPark was chartered with the goal of promoting technology-based economic development in the territory and offering attractive economic incentives to companies that contribute to the development of the Virgin Islands through local employment and sourcing, as well as significant contributions to both the economy and the non-profit sectors of the community. As part of the program, our participating entities currently receive a 100% tax exemption applied against gross receipts, property, and excise taxes as well as a 90% exemption against income taxes and a reduction in customs duties from 6% to 1%. These benefits resulted in tax exemptions of approximately $1.9 million and $1.8 million during the years ended December 31, 2020 and 2019, respectively.

In order to qualify, we are required to maintain certain capital investments over the first five years of the agreement, pay monthly management fees of 0.4% of tenant company revenue, make annual charitable contributions to the University of the Virgin Islands, purchase products and services locally when feasible and provide in-kind services to RTPark.

Guyana Regulation

Our subsidiary, Guyana Telephone & Telegraph Limited ("GTT"), in which we hold an 80% interest, is subject to regulation in Guyana under the provisions of GTT's License from the Government of Guyana, the Guyana Public Utilities Commission Act of 2016 as amended (or "PUC Law") and the Guyana Telecommunications Act of 2016 (or "Telecommunications Law"). The Ministry of Telecommunications, an agency of the Government of Guyana, has formal authority over telecommunications licensing and related issues. The Public Utilities Commission of Guyana (or "PUC") is an independent statutory body with the principal responsibility for regulating telecommunications rates and services in Guyana. The Telecommunications Agency (or "TA") advises and makes recommendations to the Minister of Telecommunications, implements policy and has principal responsibility for operating licenses and frequency authorizations.

Licenses. GTT provides domestic Fixed (both wireline and wireless) and international voice and data services in Guyana pursuant to licenses from the Government of Guyana granting GTT the right to provide a variety of domestic Fixed services (both wireline and wireless) and international voice and data services. These licenses were issued in October 2020. Pursuant to the licenses, GTT also provides mobile wireless telephone service in Guyana.

PUC Law and Telecommunications Law. The PUC Law and the Telecommunications Law, and related regulations adopted in October 2020, provide the general framework for the regulation of telecommunications services in Guyana. As a general matter, the PUC has authority to regulate GTT's domestic and international telecommunications services and rates and to require GTT to supply certain technical, administrative and financial information as it may request. The PUC claims broad authority to review and amend any of GTT's programs for development and expansion of facilities or services, although GTT has challenged the PUC's view on the scope of its authority. For a description of recent actions of the PUC, see Note 14 to the Consolidated Financial Statements included in this Report.

Regulatory Developments. On October 5, 2020, the Prime Minister of Guyana formally implemented telecommunications legislation previously passed by the Guyana Parliament in 2016 that introduces material changes to many features of Guyana's existing telecommunications regulatory regime with the stated intention of creating a more competitive market. At that time, we were issued a new license to provide domestic and international voice as well as data services and mobile services in Guyana. Two of our competitors, who had previously provided fixed voice and internet services on an unlicensed basis, were issued service licenses as well. While we have requested details of our competitors' licenses, such information has not been made public by the Guyana Telecommunications Agency, and we are not yet able to ascertain whether the licenses issued to our competitors permit any competitors to provide services that have been subject to GTT's exclusive rights contained in its 1990 license.

On October 23, 2020, the Government of Guyana also brought into effect new telecommunications regulations called for by the telecommunications legislation. The regulations include new requirements for the market as a whole, which impact our operations, administrative reporting and services. There can be no assurance that these regulations will be effectively implemented, or that they will be administered in a fair and transparent manner.

FCC Rule-Making and International Long-Distance Rates. The actions of foreign telecommunications regulators, especially the FCC in the United States, can affect the settlement or termination rate payable by foreign carriers to GTT for incoming international voice calls. While the FCC continues to monitor and evaluate termination rate levels and benchmarks, we cannot predict when and if the FCC will further reduce settlement rates or the effect lower rates will have on revenue in our International Telecom segment.

Bermuda Regulation

The Regulatory Authority of Bermuda (the "RA") is the primary regulator of our operations in Bermuda. The relevant legislation is the Regulatory Authority Act 2011 and the Electronic Communications Act 2011. Pursuant to these statutes, the RA is responsible for regulating all electronic communications services in Bermuda, including the broadband, mobile and video services we offer. The statutory framework provides the RA powers in respect of licensing, consumer protections, ex post competition issues, and the identification and remedying of significant market power concerns.

On September 1, 2020, the RA completed its second market review and affirmed its determination that we have significant market power in certain broadband and mobile services. As a consequence, we are subject to, and have initiated a legal challenge of, a series of ex ante remedies that include wholesale obligations, price caps, accounting separation and reporting obligations in addition to the ex post competition rules that generally apply. The ex-ante remedies are burdensome and, if implemented, will require financial, operational, legal and regulatory resources be allocated to ensure compliance.

ITEM 1A. RISK FACTORS

In addition to the other information contained in, or incorporated by reference into, this Report, you should carefully consider the risks described below that could materially affect our business, financial condition, or future results. These risks are not the only risks facing us. Additional risks and uncertainties not presently known to us or that we currently believe are immaterial also may materially adversely affect our business, financial condition and/or results of operations.

Operational Risks

Changes in our relationships with our vendors, changes in import tax policy or trade relations, interruptions in our supply chain or increased commodity or supply chain costs could adversely affect our results of operations.

A number of our equipment suppliers and vendors are based outside the United States, with China serving as a significant non-US source for our telecommunications and solar equipment. Because a large portion of our equipment is sourced, directly or indirectly, from outside the United States, major changes in tax policy or trade relations, such as the disallowance of tax deductions for imported products or the imposition of additional tariffs or duties on imported products, could adversely affect our business, results of operations, effective income tax rate, liquidity and net income. In addition, governmental restrictions on the procurement of equipment from certain Chinese vendors could result in a costly network replacement build that, if not offset by government support, could adversely affect our results of operations. Although the FCC has initiated proceedings to develop a replacement and reimbursement program, and Congress has appropriated funds for the purpose, if we are not able to access the funds that are necessary to remove equipment from restricted vendors or are unable to complete the removal and replacement in the time frame specified in any final rules, it could adversely our ability to operate, maintain or expand our domestic network infrastructure.

Failure of network or information technology systems, including as a result of security breaches, could have an adverse effect on our business.

We are highly dependent on our information technology ("IT") systems for the operation of our network, our facilities, delivery of services to our customers and the compilation of our financial results. Failure of these IT systems, through cyberattacks, breaches of security, or otherwise, may cause disruptions to our operations. There can be no assurance that we will be able to successfully prevent a material security breach stemming from future cyberattacks. Our inability to operate our network, facilities and back office systems as a result of such events, even for a limited period of time, may result in significant expenses and impact the timely and accurate delivery of our services or other information. Other risks that may also cause interruptions in service or reduced capacity for our customers include power loss, increasing reliance on cloud-storage providers (which may themselves be subject to cyberattack or breach), capacity limitations, software defects and breaches of security by computer viruses, break-ins or otherwise. Specifically, we have seen a rise in ransomware attacks in recent years. Telecommunications providers are increasingly being targeted by cyber criminals not necessarily for data about their own business, but access to the data of market participants in potentially more lucrative industries. Disruptions in our networks and the unavailability of our services or our inability to efficiently and effectively complete necessary technology or systems upgrades, or conversions could lead to a loss of customers, damage to our reputation and violation of the terms of our licenses and contracts with customers. Additionally, breaches of security may lead to unauthorized access to our customer or employee information processed and stored in, and transmitted through, our IT systems. We may be required to expend significant additional resources to modify our protective measures or to investigate and remediate vulnerabilities or other exposures arising from operational and security risks, including notification under data privacy laws and regulations, and we may be subject to litigation, regulatory penalties and financial losses. These failures could also lead to significant negative publicity.

Inclement weather and changes in meteorological conditions may materially disrupt our operations.

Many of the areas in which we operate have experienced severe weather conditions over the years including hurricanes, tornadoes, blizzards, fires, damaging storms and floods. Such events may materially disrupt and adversely affect our business operations, such as the impacts of the hurricanes in the US Virgin Islands in 2017, which we assessed caused damage and losses to our wireline and wireless networks of approximately $100 million in operating losses and network rebuilding costs prior to insurance and any other recovery assistance. Major hurricanes also passed directly over Bermuda in the past decade, causing damage to our network and to the island's infrastructure. Guyana and Cayman have suffered from severe rains and flooding in the past as well. These types of events can also cause major disruption and harm to the communities and markets we serve, which can have a material adverse effect on our business. We cannot be sure that these types of events will not have an impact in the future or that we can procure insurance coverage against these types of severe weather events under reasonable business terms and conditions, or that any insurance coverage we are able to maintain will adequately compensate us for all damage and economic losses resulting from natural catastrophes. In addition, it may take significant time to return to pre-storm levels following any such storm or meteorological event. If we are unable to restore service on a timely and cost-effective basis, it could harm our reputation and have a material adverse effect on our business, financial condition or results of operations through continued loss of revenue and customer attrition to our competitors.

In addition, the impacts of climate change may exacerbate the risk of significant damage in the areas in which we operate. For example, rising ocean temperatures in the Atlantic Ocean may result in the intensification of hurricanes over time. Heat waves and severe drought may lead to stronger and more frequent wildfires that could threaten our towers and installed equipment or result in loss of power. Rising sea levels and associated flooding may impact our retail and enterprise customers that operate businesses on the coasts of the United States and in our island markets. As the frequency or duration of more intense weather events increase, the likelihood of significant damage also increases. After major events such as hurricanes, earthquakes or wild fires, which can cause significant destruction to the power grid, our ability to access sites and facilities, obtain fuel and receive sufficient fuel supplies in order to provide power for stand-by generators is often severely limited, and in many cases, is not possible for extended periods of time. Our ability to access ports in order to obtain relief and supplies for affected areas will also likely be significantly hampered for extended periods of time.

We may not be able to timely and effectively meet our obligations to AT&T related to its partnership with the First Responder Network Authority.

On July 31, 2019, the Company, through its wholly owned subsidiary, Commnet Wireless, entered into a Network Build and Maintenance Agreement with AT&T Mobility LLC ("AT&T"), pursuant to which Commnet will engineer, construct, commission, and maintain a radio access network ("RAN") for AT&T for its commercial use and also in support of AT&T's public/private partnership with the First Responder Network Authority ("FirstNet Authority"). In connection with the Network Build & Maintenance Agreement, we are required to build a network in portions of several states in accordance with AT&T's detailed specifications by specified milestone dates and thereafter, to maintain the network in accordance with certain quality metrics. Such services are structured as a set cost agreed upon with AT&T, to be paid over the initial eight year term of the Network Build and Maintenance Agreement. AT&T has the right to terminate this agreement, including its obligation to pay for ongoing maintenance of the sites, in the event that Commnet fails to meet certain milestones or completion dates with respect to the construction of the sites, or fails to meet certain quality metrics and service level agreements ("SLAs") with respect to maintenance services for the built sites.

Our ability to meet required milestones and completion dates and perform the SLAs is dependent on a variety of factors, including:

- our ability to procure equipment and negotiate favorable payment and other terms with suppliers;
- our ability to effectively manage the construction of each of the cell sites, including securing reliable and efficient field construction resources; and
- our ability to cost effectively and reliably deliver and manage the network in accordance with SLAs for both the AT&T commercial and FirstNet Authority networks.

In addition, construction of the cell sites may be also adversely affected by circumstances outside of our control, including inclement weather, adverse geological and environmental conditions, a failure to receive regulatory approvals or necessary permits on schedule or third-party delays in providing supplies and other materials. Further, our ability to undertake construction activities and the availability of our workforce may be impacted by shutdowns due to COVID-19, or our personnel actually contracting the virus. Any construction setbacks or delays could be costly and have a material adverse effect on our ability to perform under the time conditions and strict budget required under the Network Build and Maintenance Agreement.

If AT&T were to terminate the Network Build & Maintenance Agreement, this could have a material adverse impact on our prospects and results of operations in our US Telecom segment as we would have incurred costs to construct the sites, but might not be fully compensated for the construction of the sites through the initial term of the Agreement.

The continued impact of COVID-19 may have a material adverse impact on our business, financial condition and results of operations.

In March 2020, the World Health Organization declared a novel strain of coronavirus, now referred to as COVID-19, as a pandemic, as the virus spread globally to multiple countries, including the United States and other countries in which we have substantial operations. The pandemic has resulted in and will likely continue to result in significant disruptions to global business activities and capital markets around the world.

We are continuing to monitor and assess the effects of the COVID-19 pandemic on our commercial operations, including any potential impact on our revenue in 2021. However, the ultimate extent to which this pandemic impacts our business will depend upon the duration of the outbreak, travel restrictions and actions to contain the outbreak or mitigate its impact, as well as the timing and rollout of approved vaccines to combat the spread of COVID-19 and the impact on the economies in which we operate. For example, the local economies of many of our Caribbean markets are tourism-dependent and the ongoing decline in global travel activity resulting from COVID-19 may continue to impact our revenue and cash flows for certain services in these markets as our retail and enterprise customers are impacted, and we may continue to experience a decline in roaming revenue due to lack of travel to and from these markets.

Additionally, governmental actions in our jurisdictions intended to contain the COVID-19 outbreak have placed restrictions on travel and movement, resulting in significant business interruptions to both our business and that of our customers, delays in receipt of governmental approvals and permits, the acceleration of “population flight” from island markets, and supply chain delays in the procurement process causing delays in our scheduled build plans, including with respect to planned fiber optic installations and maintenance in our Caribbean markets and our ongoing construction pursuant to our FirstNet Agreement with AT&T. Any prolonged interruption could negatively impact our customers’ ability to pay for our services on a timely basis or at all and our ability to expand, as well as the ability of our field technicians to service our (or with respect to FirstNet, our customer’s) telecommunications network. For more information about the risks to our business with respect to failure to perform under our FirstNet Agreement, see *“Operational Risks -- We may not be able to timely and effectively meet our obligations to AT&T related to its partnership with the First Responder Network Authority.*”

We may have difficulty meeting the growing demand for data services.

Demand for smartphones and data services continues to grow across all of our wireless markets and we have seen an acute increase for such demand as a result of the COVID-19 pandemic. Our value to our customers in some markets depends in part on our network’s ability to provide high-quality and high capacity network service to smartphone devices. Indeed, much of the revenue growth in our wireless businesses in the past few years has been attributable to increased demand for data services. However, if data usage increases faster than we anticipate and exceeds the then-available capacity of any of our networks, our costs to deliver services may be higher than we anticipate. In the United States, the dearth of available spectrum and/or non-transparent spectrum allocation practices in our other markets means that we cannot guarantee that we will be able to acquire additional spectrum in a timely fashion, at a reasonable cost, or at all to ensure our ability to maintain or grow our business and traffic volumes. As demand for advanced mobile data services continues to grow, we may have difficulty satisfying our retail and wholesale customers’ demand for these services without substantial upgrades and additional capital expenditures and operating expenses, which could have an adverse effect on our results of operations and financial condition.

Our inability to recruit and retain experienced management and technical personnel could adversely affect our results of operations and ability to maintain internal controls.

The success of our business depends on the ability of our executive officers and the officers of our operating units to develop and execute on our business plan, and to identify and pursue new opportunities and product innovations, as well as on our ability to attract and retain these officers and other highly qualified technical and management personnel. If our executive officers and the officers of our operating units are not able to execute on our business plan, this could adversely affect our business, financial condition and results of operations. Furthermore, we believe that there is, and will continue to be, strong competition for qualified personnel in the communications and energy industries and in our markets, and we cannot be certain that we will be able to attract and retain the personnel necessary for the development of our business. We rely heavily on local management to run our operating units. Many of the markets in which we operate are small and remote, and in some cases are subject to government restrictions on granting work visas, which could make it difficult for us to attract and retain talented and qualified managers and staff in those markets. The loss of key personnel or the failure to attract or retain personnel with the sophistication to run complicated communications equipment, networks and systems could have a material adverse effect on our business, financial condition and results of operations. We do not currently maintain “key person” life insurance on any of our key employees and none of the executives at our parent company have executed employment agreements.

The shift across the world from in-person to remote working may have both negative and positive impacts on our businesses. On one hand, if we are able to hire more remote workers who do not necessarily have to reside in-market, it will expand our talent pool and broaden our hiring capabilities. On the other hand, the more our workforce shifts to remote workers, new challenges present themselves such as providing adequate training and on-boarding, and keeping staff engaged and connected to their colleagues and the increased risk of recruitment by firms that also offer remote work options. In addition, cultural differences abroad and local practices of conducting business in our foreign operations may not be in line with business practices, recordkeeping and ethics standards in the United States. In order to continue to ensure compliance with foreign and US laws, accounting standards and our own corporate policies, we have implemented financial and operational controls, created an internal audit team responsible for monitoring and ensuring compliance with our internal accounting controls, and routinely train our employees, vendors and consultants. However, having substantial foreign operations also increases the complexity and difficulty of developing, implementing and monitoring these internal controls and procedures. If we are unable to manage these risks effectively, it could have a material adverse effect on our business, financial condition and results of operations.

We may have difficulty securing video services content from third parties desirable to our customers on terms and conditions favorable to us.

We have secured licensing agreements with numerous content providers to allow our various video services businesses to offer a wide array of popular programming to our subscribers. Typically, we make long-term commitments relating to these rights in advance even though we cannot predict the popularity of the services or ratings the programming will generate. License fees may be negotiated for a number of years and may include provisions requiring us to pay part of the fees even if we choose not to distribute such programming.

The success of our video services operations depends on our ability to access an attractive selection of video programming from content providers on terms and pricing favorable to us. Our ability to provide movies, sports and other popular programming is a major factor that attracts subscribers to our services. Our inability to provide the content desired by our subscribers on satisfactory terms or at all could result in reduced demand for, and lower revenue from, our cable operations that may not offset the typically large subscription fees that we pay for these services. In certain cases, we may not have satisfactory contracts in place with the owners of our distributed content, leading to such parties' desire for increased renewed contractual pricing or leading to disputes with such parties including claims for copyright or other intellectual property infringement.

The cost of obtaining programming associated with providing our video services is significant. Many of our programming contracts are for multiple year terms and provide for future increases in the fees we must pay. In addition, local over-the-air television stations are increasingly seeking substantial fees for retransmission of their stations over our cable networks. Historically, we have absorbed increased programming costs in large part through increased prices to our customers. We cannot assure that competitive and other marketplace factors will permit us to continue to pass through these costs or that we will be able to renew programming agreements on comparable or favorable terms. Also, programming in the Caribbean typically includes Latin American or Spanish programming, while our subscribers typically prefer content in English. An additional risk with respect to video services is increased competition from so-called "over the top" ("OTT") media service providers. Additionally, more and more content providers have launched their own OTT offerings, for example Netflix, Amazon, HBO, Disney+, and others. As these and other OTT offerings gain market share, it may result in a loss of subscribers across our businesses that offer video services because customers are more attracted to these alternative offerings, or to the extent we are no longer able to offer programming that customers want either due to exclusive licensing arrangements or prohibitive rising costs. To the extent that we are unable to reach acceptable agreements with programmers or obtain desired content, we may be forced to remove programming from our line-up, which could result in a loss of customers and materially adversely affect our results of operations and financial condition.

We rely on a limited number of key suppliers and vendors for the timely supply of handsets, accessories, equipment and services relating to our network or facility infrastructure. If these suppliers or vendors experience problems or favor our competitors, we could fail to obtain sufficient quantities of the products and services we require to operate our businesses successfully.

We depend on a limited number of suppliers and vendors for equipment and services relating to our handset lineup, network infrastructure, and our back-office IT systems infrastructure. If these suppliers experience interruptions or other problems delivering these network components and other equipment on a timely basis, our subscriber or revenue growth and operating results could suffer significantly. In addition, the size of our business relative to our competitors puts us at a disadvantage in terms of whether we will get access to the newest technologies at the same time as our competitors, as well as a financial disadvantage in terms of the ability to achieve economies of scale and receive commensurate discounts that may be available to our competitors.

We source wireless devices for our retail wireless businesses from a small number of handset resellers and to a lesser extent, equipment manufacturers and depend on access to compelling devices at reasonable prices on primary and secondary markets for these devices, as well as timely delivery of devices to meet market demands. The inability to provide a competitive device lineup could materially impact our ability to attract new customers and retain existing customers. Moreover, as we increasingly roll out new products such as voLTE, we will increasingly rely on cooperation from our handset suppliers to ensure interoperability between devices and our network. Without close relationships with suppliers who understand the needs of our business, we may be delayed in deploying the handsets, accessories and equipment that our customers demand. We are also reliant upon a limited number of network equipment manufacturers, including Ericsson and Nokia.

Strategic Risks

Rapid and significant technological changes in the telecommunications industry may adversely affect us.

Our industry faces rapid and significant changes in technology that directly impact our business, including the following:

- migration to new-generation services such as “5G” network technology;
- introduction of new telecom delivery platforms such as next generation satellite services;
- evolving industry standards;
- requirements resulting from changing regulatory regimes;
- the allocation of radio frequency spectrum in which to license and operate wireless services;
- ongoing improvements in the capacity and quality of digital technology;
- changes in end-user requirements and preferences;
- convergence between video and data services;
- development of data and broadband capabilities and rapidly expanding demand for those capabilities;
- increased reliance on third-party cloud storage providers for data storage; and
- consolidation among service providers within the industry.

For us to keep pace with these technological changes and remain competitive, at a minimum we must continue to make significant capital expenditures to add to our networks’ capacity, coverage and technical capability. For example, we have spent considerable amounts adding higher speed and capacity mobile data services to many of our networks in recent years and we think it likely that more such expenditures, including mobile and wireless data capabilities and high capacity, low latency backhaul, will be needed over the next few years.

We cannot predict the effect of technological changes on our business. Alternative or new technologies may be developed that provide communications services superior to those available from us, which may adversely affect our business. For example, to accommodate the demand from our wireless customers for next-generation advanced wireless products such as high-speed data and streaming video, we may be required to purchase additional spectrum, however, we have had difficulty finding spectrum for sale or on terms that are acceptable to us. In addition, usage of wireless voice or broadband services in excess of our expectations could strain our capacity, cause service disruptions and result in higher operating costs and capital expenditures. In each of our markets, providing more and higher speed data services through our wireless or wireline networks may require us to make substantial investments in additional telecommunications transport capacity connecting our networks to the Internet, and in some cases such capacity may not be available to us on attractive terms or at all. Failure to provide these services or to upgrade to new technologies on a timely basis and at an acceptable cost, or to secure any necessary regulatory approvals to roll out such new technologies on a timely basis all could have a material adverse effect on our ability to compete with carriers in our markets.

Increased competition may adversely affect growth, require increased capital expenditures, result in the loss of existing customers and decrease our revenues.

We face competition in the markets in which we operate. For example:

- In the United States, our greatest competitive risk to our wholesale wireless business is the possibility that our current roaming customers may elect to build or enhance their own networks within the rural markets in which we currently provide service, which is commonly known as “over-building.” If our roaming customers, who generally have greater financial resources and access to capital than we do, determine to over-build our network, their need for our roaming services will be significantly reduced or eliminated.
- In Bermuda and the Caribbean, we compete primarily against Digicel, a large mobile telecommunications company in the Caribbean region, and other larger providers such as Liberty Latin America, a multinational telecommunications company.

Over the last decade, an increase in competition in many areas of the telecommunications industry has contributed to a decline in prices for communication services, including mobile wireless services, local and long-distance telephone service and data services. Increased competition in the industry may further decrease prices. In addition, increased competition in the telecommunications and renewable energy industries could reduce our customer base, require us to invest in new facilities and capabilities and result in reduced revenues, margins and returns.

Our International Telecom segment operates in island and other small market locations, where a limited number of providers maintain strong competition. In several of our markets, we hold a dominant position as the local incumbent carrier and in others we may have a competitive advantage in our ability to bundle some combination of voice, data, video and wireless services. Increased competition, whether from new entrants or increased capital investment by our competitors in their existing networks, will make it more difficult for us to attract and retain customers in our small markets, which could result in lower revenue and cash flow from operating activities.

We may not be able to timely and effectively execute on several key initiatives across multiple jurisdictions.

Major business initiatives are underway with respect to improvement in mobile and other retail sales in all markets, digitization of internal processes to allow for quicker response time to customer requirements, modernization of existing internal processes in select markets and revising the strategy of some of our US Telecom businesses to develop additional revenue streams, including the substantial construction and support undertaking of the FirstNet project. Each of these requires significant oversight from senior management to aid in-market teams, and many of these projects are underway simultaneously in different locations. Execution on multiple simultaneous and transformational initiatives will require in depth management attention in multiple jurisdictions in order to capitalize on growth in the US Virgin Islands, economic growth in Guyana and the ongoing shift in business focus in US Telecom.

We may not be able to effectively transform the business model of our legacy US Telecom business.

Historically, a large portion of our revenue has been derived from Carrier Services revenue in our US Telecom segment. A substantial portion of this revenue was generated from three national wireless service providers in 2020, however, these amounts have declined from $74.6 million in 2019 to $72.6 in 2020. During this time period, revenues from Carrier Services have declined due to our mutual agreement with our carrier customers to lower rates in exchange for pricing certainty in longer term contracts, our customers' decisions to overbuild our network, and the consolidation of national wireless service providers (thereby eliminating one or more former carrier customers).

As wholesale roaming revenue in our US Telecom segment has declined, we are increasingly providing network infrastructure services as part of our expanded Carrier Services, such as tower leasing and transport facilities to our carrier partners to supplement our historic revenue base, as with the FirstNet Transaction. During the construction period of the FirstNet Transaction, we will continue to receive payment from AT&T for roaming services at a fixed rate per site until such time as the cell site is transferred to AT&T. Thereafter, AT&T will cease roaming on the majority of our US network and revenue from the maintenance, leasing and transport services provided to AT&T is expected to offset such lost revenue, albeit at lower operating income margins due to the increased operating expenses associated with leasing and transport services, as compared to our wholesale mobile roaming services.

We also intend to offset declining wholesale roaming revenue with a more diversified mix of revenue from carrier services, including more tower rental, backhaul and maintenance services and growing enterprise broadband and private network services. There can be no assurance, however, that we will be able to successfully transform our legacy US Telecom business to support additional Carrier Services product offerings or expand our retail and commercial subscriber base in our US Telecom segment. If we are unable to offset the continued decline in our Carrier Services revenue by expanding diversifying our sources of revenue it may have a material adverse effect on our results of operations and financial condition.

We may have difficulty funding multiple growth opportunities across our businesses.

Historically, we have funded our capital expenditures and transactional matters from a combination of cash on hand, cash from operations, and limited incurrence of debt. As discussed above, our US Telecom segment is in the midst of a business transformation, and may need significant funding as we seek to grow our private LTE and retail businesses. Similarly, we may have other opportunities to inorganically grow our businesses, such as the Alaska Transaction, and our team actively evaluates potential acquisitions, investment opportunities and other strategic transactions, both domestic and international, that have the potential for generating steady excess cash flows over extended periods of time. Any such transactions may be accomplished through the payment of cash, issuance of shares of our capital stock or incurrence of additional debt, or a combination thereof. As of December 31, 2020, we had approximately $105.0 million in cash, cash equivalents, restricted cash, and short term investments and approximately $86.9 million of long-term debt. How and when we deploy our balance sheet capacity will figure prominently in our longer-term growth prospects and stockholder returns. To support multiple simultaneous growth opportunities, we may need to raise additional capital or incur additional debt to fund our future operations or investment opportunities. We cannot provide any assurances that we will be able to secure additional funding from public or private offerings on terms acceptable to us, if at all. If we are unable to obtain the requisite amount of financing, we may have to forgo opportunities to strategically grow our business.

We are actively evaluating investment, acquisition and other strategic opportunities, which may affect our long-term growth prospects.

To date we have grown the Company through a mix of organic growth through our operating companies and inorganic growth through targeting acquisition or other business development opportunities. We actively evaluate acquisition, investment, business divestitures and combinations, and other strategic opportunities, both domestic and international, in telecommunications, energy-related and other industries, including in areas that may not be seen by the broader market as timely today, such as our planned acquisition of Alaska Communications. We may focus on opportunities that we believe have potential for long-term organic and strategic growth or that may otherwise satisfy our return and other investment criteria. Similarly, there are risks inherent in the sale of a business or assets, including the potential of a transaction's failing to close due to last minute negotiations, regulatory issues, or other unpredictable matters that can be costly and disruptive to our operations. There can be no assurance as to whether, when or on what terms we will be able to invest in, acquire or divest any businesses or assets to continue our historic pattern of inorganic growth or that we will be able to successfully integrate the business or realize the perceived benefits of any acquisition or strategic investment.

Risks Relating to our Alaska Transaction

We may not be able to consummate our merger with Alaska Communications on a timely basis or at all.

On December 31, 2020, we announced that we entered into the Alaska Merger Agreement to consummate the Alaska Transaction. The Alaska Transaction remains subject to customary closing terms and conditions including (i) the approval of Alaska Communications' stockholders, (ii) the absence of certain legal impediments, and (iii) obtaining the necessary consents from the Federal Communications Commissions and the Regulatory Commission of Alaska. Although we have received no indication that Alaska Communications stockholders or these regulatory authorities do not plan to grant the required approvals, there can be no guarantee that we will receive such approvals.

Moreover, the board of directors of Alaska Communications may change its recommendation that stockholders approve the Alaska Transaction, and the Alaska Merger Agreement may be terminated in certain circumstances if a competing offer for an alternative transaction is made, in which case the transaction would not close and termination fees may be payable. Upon termination of the Alaska Merger Agreement under certain circumstances, we may be obligated to pay Alaska Communications a termination fee, including (i) a fee of $7,100,000 if we cannot consummate the Alaska Transaction due to lack of financing, or (ii) a fee of $8,800,000 if we fail to consummate the Alaska Transaction after all other conditions to closing are met.

In addition, the FCC may impose conditions on any approval, such as requiring the divestiture of certain markets and spectrum licenses. These conditions, if imposed and if sufficiently significant, may permit Alaska Communications not to consummate the transaction or may have other negative impacts on our business.

Lawsuits have been filed against us and Alaska Communications, challenging the disclosure made to Alaska Communications stockholders in connection with the solicitation of their vote in favor of the Alaska Transaction. An adverse judgment may result in financial penalties or if any plaintiff successfully seeks to enjoin the Alaska Transaction, then the combination of our business with Alaska Communications may not be consummated at all or within the expected timeframe. If the Alaska Transaction is not consummated or is materially delayed for these or any other reason, our business and operations, and our stock price, may be adversely affected.

Our ability to finance the Alaska Transaction depends on our ability to draw upon a new credit facility.

We have secured committed financing, consisting of a combination of (i) equity financing to be provided by us and Freedom3 and (ii) debt financing to be provided by Fifth Third Bank, National Association, to acquire the shares of Alaska Communications. The equity financing and the debt financing, in the aggregate, will be sufficient for us to pay the amounts required to be paid in connection with the Alaska Transaction and the other transactions contemplated by the Alaska Merger Agreement; however, the Alaska Transaction is not subject to a financing condition. We have also entered into a limited guarantee with Alaska Communications pursuant to which we and Freedom3 will guarantee 52% and 48%, respectively, of the termination fees discussed above in connection with Alaska Communications' termination of the Alaska Merger Agreement and certain indemnity and recovery costs, if such amounts become due and payable. Our ability to consummate the Alaska Transaction relies on the continued availability of the committed debt financing, according to the terms of our term sheet with Fifth Third Bank.

If we are able to successfully consummate the Alaska Transaction, we may have difficulties integrating its operations and its business, our business, financial condition and results of operations could be adversely affected.

The Alaska Transaction is the largest and most significant acquisition we have undertaken for a number of years. The complexities of the integration and expansion of Alaska Communications' operations are not yet known. We have devoted and will continue to devote a significant amount of time and attention to integrating these operations with our existing operations teams. Among the challenges we face in doing so are the need to integrate a large number of new employees and integrating and aligning numerous business and work processes, including customer billing, by building and designing our own processes and the information systems necessary to track and handle those processes. If we have other difficulties with the transition process, it could harm our reputation and have a material adverse effect on our business, financial condition or results of operations.

Regulatory Risks

Changes in USF funding could have an adverse impact on our financial condition or results of operations.

Viya, our subsidiary operating video, internet, wireless and landline services in the US Virgin Islands, has historically received, through December 31, 2020, high-cost Universal Service Fund ("USF") support in the US Virgin Islands of approximately $16.4 million per year. In addition, after the devastation caused by the Hurricanes in September 2017, the FCC provided approximately $15.4 million in accelerated USF support and in fixed and mobile recovery support through August 2018. The FCC, in response to the damage caused by the Hurricanes and as part of its general USF reform, established a Connect USVI Fund that replaced the legacy high-cost USF support for the US Virgin Islands that Viya historically has been awarded. In November 2020, the FCC announced that it was provisionally awarding the Connect USVI Fund awards for all of the US Virgin Islands to Viya's competitor in the amount of approximately $8.6

million per year for a term of 10 years. Pursuant to the terms of the program, Viya's USF spending will be reduced, upon finalization of the award, to approximately two-thirds of the legacy total amount, or $10.9 million for one year to approximately one-third of the legacy total amount, or $5.47 million, for the year after. Thereafter, Viya will not be eligible for high-cost USF support.

This reduction in the overall amount of USF support we receive as a result of the Connect USVI Fund proceeding relative to historical levels of high-cost USF support we have received could negatively affect our efforts to build, maintain and operate networks in the US Virgin Islands and our ability to provide services previously supported by USF funds. Viya is currently undertaking a review and reassessment of its business plan to consider the extent to which we will provide further investment or operational resources to Viya or the territory. This could have an adverse effect on our business, financial condition or results of operations in our International Telecom segment and there can be no assurance that any revised business plan will offset or reduce the loss of revenue, customer attrition and increased competition as a result of the cessation of high cost USF funding.

Our operations in Guyana are subject to significant political and regulatory risk.

Since 1991, pursuant to an agreement with the Government of Guyana, GTT has operated in Guyana pursuant to a license from the Government of Guyana to be the exclusive provider of domestic Fixed and international voice and data services. That license from the Government of Guyana included an initial term ending in December 2010, which was renewable at our sole option for an additional 20-year term. In November 2009, we notified the Government of Guyana of our election to renew our exclusive license for an additional 20-year term expiring in 2030. On December 15, 2010, we received correspondence from the Government of Guyana indicating that our license had been renewed until such time that new legislation was enacted to expand competition within the sector.

On October 5, 2020, the Prime Minister of Guyana formally implemented telecommunications legislation previously passed by the Guyana Parliament in 2016 that introduces material changes to many features of Guyana's existing telecommunications regulatory regime with the intention of creating a more competitive market. At that time, we were issued a new license to provide domestic and international voice as well as data services and mobile services in Guyana. Two of our competitors, who had previously provided fixed voice and internet services on an unlicensed basis, were issued service licenses as well. While we have requested details of our competitors' licenses, such information has not been made public by the Guyana Telecommunications Agency, and we are not yet able to ascertain whether the licenses issued to our competitors permit any competitors to provide services that have been subject to GTT's exclusive rights contained in its 1990 license.

On October 23, 2020, the Government of Guyana also brought into effect new telecommunications regulations called for by the telecommunications legislation. The regulations include new requirements for the market as a whole, which impact our operations, administrative reporting and services. There can be no assurance that these regulations will be effectively implemented, or that they will be administered in a fair and transparent manner. We believe our existing, exclusive license continues to be valid unless and until such time as we enter into an alternative arrangement with the Government. Under these circumstances, however, there can be no assurance that our discussions with the Government of Guyana will resume or be concluded, or that such discussions will satisfactorily address our contractual exclusivity rights. While we might seek damages or other compensation for any involuntary termination of our contractual exclusivity rights, we cannot guarantee that we would prevail in any proceedings to enforce our rights.

Regulatory changes may impose restrictions that adversely affect us or cause us to incur significant unplanned costs in modifying our business plans or operations.

We are subject to US federal, state and local regulations and foreign government regulations, all of which are subject to change. As new laws and regulations are issued or discontinued, we may be required to materially modify our business plans or operations. We cannot be certain that we can do so in a cost effective manner. Our operations in the United States are subject to the Communications Act and the FCC's implementing regulations, as well as regulation by state public utility commissions in certain states in which we operate. The interpretation and implementation of the various provisions of the Communications Act and the FCC rules implementing the Communications Act continue to be heavily debated and may have a material adverse effect on our business. Also, there have been indications that Congress may substantially revise the Telecommunications Act of 1996 and other regulations in the next few years. Further, the leadership of the FCC changed in January 2021, and the FCC may pursue new and differed regulatory priorities.

Our international operations are subject to similar regulations, the interpretation and implementation of which are also often debated, and which may have a material adverse effect on our business. Our interpretations of our obligations may differ from those of regulatory authorities. Both federal and state regulators, as well as international regulators, require us to pay various fees and assessments, file periodic reports and comply with various rules regarding our consumer marketing practices and the contents of our bills, on an on-going basis. If we fail to comply with these requirements, we may be subject to fines or potentially be asked to show cause as to why our licenses to provide service should not be revoked.

The loss of certain licenses could adversely affect our ability to provide wireless and broadband services.

In the United States, wireless licenses generally are valid for 10 years from the effective date of the license, although recently-issued 600 MHz licenses were issued for a slightly longer initial term to account for the need for broadcast television incumbents to vacate the spectrum before the new wireless licensees could construct. Licensees may renew their licenses (including renewal of 600 MHz licenses) for additional 10 year periods by filing renewal applications with the FCC. Our 600 MHz wireless licenses all expire in 2029. Our other wireless licenses in the US expire between 2021 and sometime after 2030. We intend to renew our licenses expiring this year, and the renewal applications are subject to FCC review and are put out for public comment to ensure that the licensees meet their licensing requirements and comply with other applicable FCC mandates. Failure to file for renewal of these licenses or failure to meet any licensing requirements could lead to a denial of the renewal application and thus adversely affect our ability to continue to provide service in that license area. Furthermore, our compliance with regulatory requirements, such as E-911 and CALEA requirements, may depend on the availability of necessary equipment or software.

In our international markets, telecommunications licenses are typically issued and regulated by the applicable telecommunications ministry. The application and renewal process for these licenses may be lengthy, require us to expend substantial renewal fees, and/or be subject to regulatory or legislative uncertainty, such as we are experiencing in Guyana, as described above. Failure to comply with these regulatory requirements may have an adverse effect on our licenses or operations and could result in sanctions, fines or other penalties.

Economic Risks

General economic factors, domestically and internationally, may adversely affect our business, financial condition and results of operations.

General economic factors could adversely affect demand for our products and services, require a change in the services we sell or have a significant impact on our operating costs. Energy costs are historically volatile and are subject to fluctuations arising from changes in domestic and international supply and demand, labor costs, competition, market speculation, government regulations, or weather conditions. Rapid and significant changes in these and other commodity prices may affect our sales and profit margins. General economic conditions can also be affected by the outbreak of war, acts of terrorism, or other significant national or international events, such as the COVID-19 pandemic.

In addition, an economic downturn in the markets in which we currently operate or in the global market generally may lead to slower economic activity, increased unemployment, concerns about inflation, decreased consumer confidence and other adverse business conditions that could have an impact on our businesses. For example, among other things:

- a decrease in tourism could negatively affect revenues and growth opportunities from operations in the islands and in a number of areas covered by US rural and wholesale wireless operations that serve tourist destinations; and
- an increase in "bad debt," or the amounts that we have to write off of our accounts receivable could result from our inability to collect subscription fees from our subscribers.

In 2020 we saw a decrease in tourism in all of our tourism-dependent markets. Government imposed shutdowns and travel restrictions limited the amount of customers roaming onto our network, in addition to depressing demand for our services generally in the hospitality industry (e.g. hotels, bars, and restaurants) that is traditionally supported by the tourism industry. Further, we also started to see population flight from some of our island markets as lockdowns continued. It is unknown what the long-term economic effects of these negative impacts on the tourism industry will be, but our business operations and revenue may certainly be adversely impacted as a result.

The long-term impact, if any, that these events might have on us and our business, is uncertain.

Our operations are subject to economic, political, currency and other risks that could adversely affect our revenues or financial position.

Our operations may face adverse financial consequences and operational problems due to political or economic changes, such as changes in national or regional political or economic conditions, laws and regulations that restrict repatriation of earnings or other funds, or changes in foreign currency exchange rates. As new laws and regulations are issued or discontinued to implement an agenda set by the current US administration, we may be required to materially modify our business plans or operations. For example, some of our markets in our International Telecom segment are cash-based economies where customers come into our stores to pay their bills in cash. Where local governments have imposed lockdowns requiring people to stay home and/or the closure of retail locations, we run the risk of not being able to collect monthly invoices as expected. Any of these changes could adversely affect our revenues or financial position.

Our debt instruments include restrictive and financial covenants that limit our operating flexibility.

The credit facilities that we and our subsidiaries maintain include certain financial and other covenants that, among other things, restrict our ability to take specific actions, even if we believe such actions are in our best interest. These include restrictions on our ability to do the following:

- incur additional debt;
- create liens or negative pledges with respect to our assets;
- pay dividends or distributions on, or redeem or repurchase, our capital stock;
- make investments, loans or advances or other forms of payments;
- issue, sell or allow distributions on capital stock of specified subsidiaries;
- enter into transactions with affiliates; or
- merge, consolidate or sell our assets.

Any failure to comply with the restrictions of the credit facilities or any subsequent financing agreements may result in an event of default. Such default may allow our creditors to accelerate the repayment of the related debt and may result in the acceleration of the repayment of any other debt to which a cross-acceleration or cross-default provision applies. In addition, these creditors may be able to terminate any commitments they had made to provide us with further funds.

Other Risks

Our founder is our largest stockholder and could exert significant influence over us.

Cornelius B. Prior, Jr., our founder and the father of our Chairman and Chief Executive Officer, together with related entities, affiliates and family members (including our Chairman and Chief Executive Officer), beneficially owns approximately 26% of our outstanding Common Stock. As a result, he has the ability to exert significant influence over all matters presented to our stockholders for approval, including election and removal of our directors and change of control transactions. His interests may not always coincide with the interests of other holders of our Common Stock.

Low trading volume of our stock may limit our stockholders' ability to sell shares and/or result in lower sale prices.

For the three months prior to February 1, 2021, the average daily trading volume of our Common Stock was approximately 49,000 shares. As a result, our stockholders may have difficulty selling a large number of shares of our Common Stock in the manner or at a price that might be attainable if our Common Stock were more actively traded. In addition, the market price of our Common Stock may not be reflective of its underlying value.

We may not pay dividends in the future.

Our stockholders may receive dividends out of legally available funds if, and when, they are declared by our Board of Directors. We have consistently paid quarterly dividends in the past, but may cease to do so or decrease the dividend amount at any time. Our credit facility sets certain limitations on our ability to pay dividends on, or repurchase, our capital stock. We may incur additional indebtedness in the future that may further restrict our ability to declare and pay dividends. We may also be restricted from paying dividends in the future due to restrictions imposed by applicable state laws, our financial condition and results of operations, capital requirements, management's assessment of future capital needs and other factors considered by our Board of Directors.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We lease approximately 21,000 square feet of office space at 500 Cummings Center, Beverly, MA 01915 for our corporate headquarters. Worldwide, we utilize the following approximate square footage of space for our operations:

Type of space	International Telecom	US Telecom	Renewable Energy
Office	287,467	94,385	2,810
Retail stores	24,182	17,011	—
Technical operations	1,941,049	130,616	—

All of the above locations are leased except for the office and technical space within our International Telecom segment, which we own. As of December 31, 2020, we operated fourteen retail stores in our US Telecom segment and twenty two retail stores in our International Telecom segment.

Our offices and technical operations are in the following locations:

International Telecom	US Telecom	Renewable Energy
Georgetown, Guyana	Little Rock, AR	Hyderabad, India
Bermuda	Castle Rock, CO	Singapore
US Virgin Islands	Atlanta, GA	
Cayman Islands		

Within our communications operations, we globally own 286 towers, lease an additional 373 towers and have five switch locations within rented locations. In addition, our renewable energy operations own 65 MWp commercial solar projects at six sites. We consider our owned and leased properties to be suitable and adequate for our business operations.

ITEM 3. LEGAL PROCEEDINGS

GTT holds an exclusive license to provide domestic Fixed services and international voice and data services in Guyana. The license, whose initial term of twenty years expired at the end of 2010, allowed for GTT at its sole option, to extend the term for an additional twenty years, until December 2030. GTT exercised its extension right, in accordance with the terms of its License and its agreement with the Government of Guyana, in November 2009.

On October 5, 2020, the Prime Minister of Guyana formally implemented telecommunications legislation previously passed by the Guyana Parliament in 2016 that introduces material changes to many features of Guyana's existing telecommunications regulatory regime with the intention of creating a more competitive market. At that time, we were issued a new license to provide domestic and international voice as well as data services and mobile services in Guyana. Two of our competitors were issued service licenses as well. While we have requested details of our competitors' licenses, such information has not been made public by the Guyana Telecommunications Agency, and we are not yet able to ascertain whether the licenses issued to our competitors permit any competitors to provide services that have been subject to GTT's exclusive rights contained in its 1990 license.

On October 23, 2020, the Government of Guyana also brought into effect new telecommunications regulations called for by the telecommunications legislation. The regulations include new requirements for the market as a whole, which impact our operations, administrative reporting and services. There can be no assurance that these regulations will be effectively implemented, or that they will be administered in a fair and transparent manner.

On May 8, 2009, Digicel filed a lawsuit in Guyana challenging the legality of GTT's exclusive license rights under Guyana's constitution. Digicel initially filed this lawsuit against the Attorney General of Guyana in the High Court. On May 13, 2009, GTT petitioned to intervene in the suit in order to defend against Digicel's claims and that petition was granted on May 18, 2009. GTT filed an answer to the charge on June 22, 2009, and the case is pending. We believe that any legal challenge to GTT's exclusive license rights granted in 1990 is without merit, and we intend to vigorously defend against such a legal challenge.

GTT has filed several lawsuits in the High Court of Guyana asserting that Digicel is engaged in international bypass in violation of GTT's exclusive license rights, the interconnection agreement between the parties, and the laws of Guyana. GTT is seeking injunctive relief to stop the illegal bypass activity and punitive damages caused thereby. Digicel filed counterclaims alleging that GTT has violated the terms of the interconnection agreement and Guyana laws. These suits, filed in 2010 and 2012, have been consolidated with Digicel's constitutional challenge described above. Prior to the imposition of COVID-19 related travel and business restrictions in Guyana, the consolidated cases were scheduled to proceed to trial in 2020. GTT expects to resume the litigation following the lifting of COVID-19 related restrictions and intends to prosecute these matters vigorously; however, we cannot accurately predict at this time when the consolidated suit will go to trial.

GTT is also involved in several legal claims regarding its tax filings with the Guyana Revenue Authority dating back to 1991 regarding the deductibility of intercompany advisory fees as well as other tax assessments. We maintain that any liability GTT might be found to have with respect to the disputed tax assessments, totaling $44.1 million, would be offset in part by the amounts necessary to ensure that GTT's return on investment was no less than 15% per annum for the relevant periods.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

The following table sets forth information regarding our executive officers as of March 1, 2021:

Name	Age	Position
Michael T. Prior	56	Chairman, President, Chief Executive Officer, and Director
Justin D. Benincasa	58	Chief Financial Officer
Brad Martin	45	Executive Vice President, Business Operations
Mary Mabey	39	Senior Vice President, General Counsel and Secretary

Executive Officers

Michael T. Prior is the chairman of the Board of Directors and has been our President and Chief Executive Officer since December 2005 and an officer of the Company since June 2003. He was elected to the Board in May 2008. Previous to joining the Company, Mr. Prior was a partner with Q Advisors LLC, a Denver based investment banking and financial advisory firm focused on the technology and telecommunications sectors. Mr. Prior began his career as a corporate attorney with Cleary Gottlieb Steen & Hamilton LLP in London and New York. He received a B.A. degree from Vassar College and a J.D. degree summa cum laude from Brooklyn Law School. Mr. Prior currently serves on the Board of Directors of the Competitive Carriers Association. In 2008, Mr. Prior was named Entrepreneur of the Year for the New England Region by Ernst & Young LLP and One of America's Best CEOs by DeMarche Associates, Inc.

Justin D. Benincasa is our Chief Financial Officer. Prior to joining us in May 2006, Mr. Benincasa was a Principal at Windover Development, LLC since 2004. From 1998 to 2004, he was Executive Vice President of Finance and Administration at American Tower Corporation, a leading wireless and broadcast communications infrastructure company, where he managed finance and accounting, treasury, IT, tax, lease administration and property management. Prior to that, he was Vice President and Corporate Controller at American Radio Systems Corporation and held accounting and finance positions at American Cablesystems Corporation. Mr. Benincasa holds an M.B.A. degree from Bentley University and a B.A. degree from the University of Massachusetts.

Brad Martin is our Executive Vice President, Business Operations. Prior to joining us in 2018, he previously served as Chief Operating Officer for Senet Inc., a leading "low power wide area" network (LPWAN) operator and global service provider. From 2013 through 2015, Mr. Martin served as Senior Vice President and Chief Quality Officer with Extreme Networks, a global leader in software-driven networking solutions for Enterprise and Service Provider customers. Between 2008 and 2013, Mr. Martin served as Vice President of Engineering Operations and Quality with Siemens Enterprise Communications and Enterasys Networks, delivering voice and data networking hardware and software solutions to global enterprises. Mr. Martin holds a Bachelor of Science, Mechanical Engineering from the University of Maine, is a published author and featured industry speaker.

Mary Mabey is our Senior Vice President and General Counsel. Ms. Mabey joined us in 2009 and previously served as our Deputy General Counsel. Prior to joining us, Ms. Mabey was with the law firm of Edwards Angell Palmer & Dodge LLP (now Locke Lord LLP) in Boston, where she advised public and private companies in domestic and international transactions on corporate and securities law matters, merger, acquisition and financing transactions, corporate governance, and other general corporate matters. Ms. Mabey received a B.A. degree from the University of Notre Dame and a J.D. degree from the University of Texas School of Law.

PART II

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

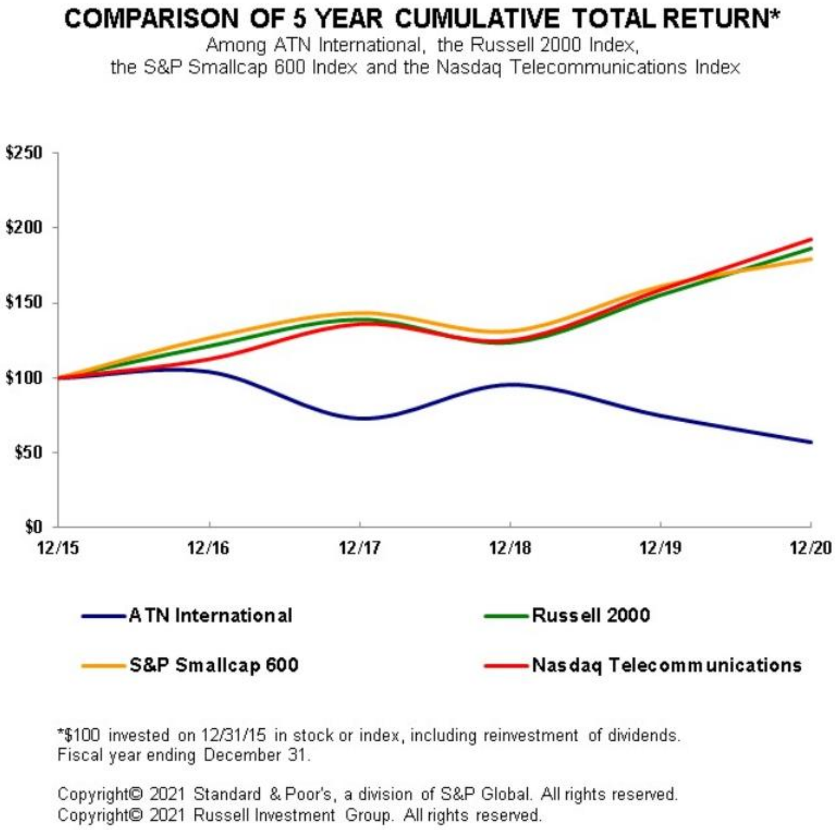
Our Common Stock, $.01 par value, is listed on the Nasdaq Global Select Market under the symbol "ATNI." The number of holders of record of Common Stock as of March 1, 2021 was 95.

Issuer Purchases of Equity Securities in the Fourth Quarter of 2020

On September 19, 2016, our Board of Directors authorized the repurchase of up to $50.0 million of our Common Stock from time to time on the open market or in privately negotiated transactions (the "2016 Repurchase Plan"). As of December 31, 2020, we have $30.9 million remaining authorized to be repurchased under the 2016 Repurchase Plan. We did not repurchase any shares of our Common Stock during the quarter ended December 31, 2020.

Stock Performance Graph

The graph below matches ATN International's cumulative 5-Year total shareholder return on Common Stock with the cumulative total returns of the Russell 2000 index, the S&P Smallcap 600 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 12/31/2015 to 12/31/2020.



	12/15	12/16	12/17	12/18	12/19	12/20
ATN International	**100.00**	**104.26**	**73.06**	**95.59**	**74.91**	**57.22**
Russell 2000	**100.00**	**121.31**	**139.08**	**123.76**	**155.35**	**186.36**
S&P Smallcap 600	**100.00**	**126.56**	**143.30**	**131.15**	**161.03**	**179.20**
Nasdaq Telecommunications	**100.00**	**112.56**	**135.96**	**125.10**	**158.73**	**192.30**

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

ITEM 6. SELECTED FINANCIAL DATA

You should read the selected financial data in conjunction with our "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our Consolidated Financial Statements for the years ended December 31, 2020, 2019 and 2018 and the related Notes to those Consolidated Financial Statements included in this Report. The historical results set forth below are not necessarily indicative of the results of future operations. Period to period comparisons are also significantly affected by our significant acquisitions. See Note 6 to the Consolidated Financial Statements included in this Report for a more detailed discussion of our recent acquisitions and discontinued operations.

The selected Consolidated Income Statement data for the years ended December 31, 2020, 2019 and 2018 and the selected Consolidated Balance Sheet data as of December 31, 2020 and 2019 are derived from our Consolidated Financial Statements beginning on page F-1 of this Annual Report on Form 10-K. The selected Consolidated Income Statement data for the years ended December 31, 2017 and 2016 and the selected Consolidated Balance Sheet data as of December 31, 2018, 2017 and 2016 are derived from our Consolidated Financial Statements not included in this Annual Report on Form 10-K.

	Year ended December 31,				
	2020	**2019**	**2018**	**2017**	**2016**
	(In thousands, except per share data)				
Income Statement Data					
Revenue	$ 455,444	$ 438,722	$ 451,207	$ 481,193	$ 457,003
Operating expenses	446,264	425,345	390,184	425,885	405,733
Income from operations	9,180	13,377	61,023	55,308	51,270
Other income (expense):					
Interest income	421	2,263	1,811	1,613	1,239
Interest expense	(5,347)	(5,010)	(7,973)	(8,838)	(5,362)
Other, net(1)	(4,161)	(4,558)	(1,119)	(530)	(1,773)
Other income (expense), net	(9,087)	(7,305)	(7,281)	(7,755)	(5,896)
Income from continuing operations before income taxes	93	6,072	53,742	47,553	45,374
Income (benefit) provisions	801	4,105	18,870	(1,341)	21,160
Net income	(708)	1,967	34,872	48,894	24,214
Net income attributable to non-controlling interests, net of tax	(13,414)	(12,773)	(15,057)	(17,406)	(12,113)
Net income attributable to ATN International, Inc. Stockholders	$ (14,122)	$ (10,806)	$ 19,815	$ 31,488	$ 12,101
Net income per weighted average basic share attributable to ATN International, Inc. Stockholders:					
Basic	(0.89)	(0.68)	1.24	1.95	0.75
Diluted	(0.89)	(0.68)	1.24	1.94	0.75
Dividends per share applicable to Common Stock	0.68	0.68	0.68	1.02	1.32

	2020	2019	2018	2017	2016
			(In thousands)		
Balance Sheet Data (as of December 31,):					
Cash, restricted cash, and short term investments	$ 104,997	$ 162,774	$ 193,300	$ 226,966	$ 297,595
Working capital	92,137	109,054	135,116	181,223	217,264
Fixed assets, net	536,462	605,581	626,852	643,146	647,712
Total assets	1,083,711	1,130,726	1,107,304	1,205,605	1,198,218
Short-term debt (including current portion of long-term debt)	3,750	3,750	4,688	10,919	12,440
Long-term debt, net	69,073	82,676	86,294	144,873	144,383
ATN International, Inc. stockholders' equity	645,649	676,122	695,387	688,727	677,055
Statement of Cash Flow Data					
(for the years ended December 31,):					
Net cash provided by (used in):					
Operating activities:	$ 86,284	$ 87,903	$ 115,865	$ 145,725	$ 111,656
Investing activities:	(70,198)	(88,262)	(87,319)	(172,318)	(296,580)
Financing activities:	(73,367)	(29,908)	(55,230)	(42,101)	75,334
Capital expenditures	(75,323)	(72,725)	(185,921)	(142,371)	(124,282)

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

Overview

We strive to be a leading platform for the operation of, and investment in, smaller and specialty market communications services and technology companies. We have a long track record of delivering critical infrastructure-based solutions to underserved markets. Our majority-owned operating subsidiaries provide facilities-based communications services, along with related information technology solutions, in the United States, Bermuda, and the Caribbean. We also have non-controlling investments in several communications and technology companies, and we continue to consider opportunities to make controlling and minority investments in businesses that we believe have the potential for generating substantial and relatively steady cash flows over extended periods of time or have technologies or business models that might prove valuable to our main operating subsidiaries or create significant longer term growth potential for us as a whole.

At the holding company level, we oversee the allocation of capital within and among our subsidiaries, affiliates, minority investments, and stockholders. We also have developed significant operational expertise and resources that we use to augment the capabilities of our individual operating subsidiaries. Over the past 10 years, we have built a platform of resources and expertise to support our operating subsidiaries and to improve their quality of service, and customer acquisition, retention, and satisfaction while maintaining optimal operating efficiencies. We have a number of shared service functions, including billing, network and engineering and customer service, and the parent company also employs personnel with specialized skills that provide greater economies of scale and expertise than would typically be available at the operating subsidiary level.

We were incorporated in Delaware in 1987, began trading publicly in 1991 and spun off more than half of our operations to stockholders in 1998. We actively evaluate potential acquisitions, investment opportunities and other strategic transactions, both domestic and international, that we believe have the potential for generating steady excess cash flows over extended periods of time. In addition, we consider non-controlling investments in earlier stage businesses that we consider strategically relevant, and which may offer long-term growth potential for us, either individually, or as research and development businesses that can support our operating subsidiaries in new technology, product, and service development and offerings. We have used the cash generated from our established operating units, and any asset sales, to re-invest in our existing businesses, to make strategic investments in additional businesses, and to return cash to our investors. We provide management, technical, financial, regulatory, and marketing services to our subsidiaries and typically receive a management fee equal to a percentage of their revenues, which is eliminated in consolidation. For further information about our financial segments and geographical information about our operating revenues and assets, see Notes 1 and 15 to the Consolidated Financial Statements included in this Report.

Through December 31, 2020, we had identified three operating segments to manage and review our operations and to facilitate investor presentations of our results. These three operating segments are as follows:

- ***International Telecom.*** Businesses contained in our international telecom segment offer a mix of fixed data, internet and voice services ("Fixed") as well as retail mobility ("Mobility") services to customers in Bermuda, the Cayman Islands, Guyana and the US Virgin Islands. We offer fixed video services in Bermuda, the Cayman Islands, and the US Virgin Islands and managed information technology services ("Managed Services") to enterprise customers in all our markets. We also offer services to other telecom providers ("Carrier Services"), such as international long-distance, transport and access services, and roaming from such telecom providers' customers traveling in our network service areas.

- ***US Telecom.*** In the United States, primarily in the Southwest, we offer Carrier Services, including wholesale roaming services, the leasing of critical network infrastructure such as towers and transport facilities, and site maintenance. We also provide Fixed, Mobility, and Managed Services to our retail and enterprise customers, and private network services to enterprise customers, municipalities and other service providers.

- ***Renewable Energy***. In India, we provided distributed generation solar power to commercial and industrial customers through January 27, 2021. Through November 6, 2018, we also provided distributed generation solar power in the United States in Massachusetts, California and New Jersey. See *Sale of Renewable Energy Operations* for further details.

The following chart summarizes the operating activities of our principal subsidiaries, the segments in which we reported our revenue and the markets we served as of December 31, 2020:

Segment	Services	Markets	Tradenames
International Telecom	Mobility	Bermuda, Guyana, US Virgin Islands	One, GTT+, Viya
	Fixed	Bermuda, Cayman Islands, Guyana, US Virgin Islands	One, Logic, GTT+, Viya
	Carrier Services	Bermuda, Guyana, US Virgin Islands	One, GTT+, Viya
	Managed Services	Bermuda, Cayman Islands, US Virgin Islands, Guyana	Fireminds, One, Logic, GTT+, Viya
US Telecom	Mobility	United States (rural markets)	Choice, Choice NTUA Wireless, Geoverse
	Fixed	United States	Commnet, Choice, Choice NTUA Wireless, Deploycom
	Carrier Services	United States	Commnet, Essextel
	Managed Services	United States	Choice
Renewable Energy	Solar	India	Vibrant Energy

COVID-19

In March 2020, the World Health Organization declared a novel strain of coronavirus, now referred to as COVID-19, as a pandemic, and the virus has now spread globally to over 200 countries and territories, including the United States and other countries in which we have substantial operations. We are continuing to monitor and assess the effects of the COVID-19 pandemic on our commercial operations, the safety of our employees and their families, our sales force and customers and any potential impact on our revenue in 2021.

The preparation of the condensed consolidated financial statements requires us to make estimates, judgments and assumptions that may affect the reported amounts of assets, liabilities, equity, revenues and expenses and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate estimates, judgments and methodologies. We assessed certain accounting matters and estimates that generally require consideration of forecasted financial information in context with the information and estimates reasonably available to us and the unknown future impacts COVID-19 as of December 31, 2020 and through the date of this report. The accounting matters assessed included, but were not limited to, our allowance for credit losses, the carrying value of our goodwill and other long-lived assets, financial assets, valuation allowances for tax assets and revenue recognition. We assessed the impacts of COVID-19 on our consolidated financial statements as of and for the year ended December 31, 2020, in particular the impacts on lines of revenues, operating expenses as well as the deferral and savings on other operating expenses and capital expenditures. During the year ended December 31, 2020, while our International Telecom segment experienced strengthened demand for both its Mobility and Fixed services, its Carrier Services revenue declined as a result of a reduction in roaming revenue due to pandemic-related travel and stay-at-home restrictions as compared to 2019. Such restrictions also resulted in decreased Mobility and Carrier Services revenues within our US Telecom segment during the year ended December 31, 2020 as compared to the same period of 2019. However, in response to certain anticipated impacts, we were able to implement operating expense savings, particularly with respect to our International Telecom segment, that when coupled with Company-wide travel expense savings and capital expenditure deferrals, acted to offset much of the revenue loss or additional credit loss allowances caused by anticipated customer non-payment activity in the year. As a result, our assessment did not indicate that there was a material impact to our consolidated financial statements as of and for the year ended December 31, 2020. However, our future assessments of the impacts of COVID-19 into 2021 or our ability to realize continued operational expense savings, as well as other factors, could result in material impacts to our consolidated financial statements in future reporting periods. For example, the local economies of many of our Caribbean markets are tourism-dependent and the decline in global travel activity resulting from COVID-19 may continue to impact our revenue and cash flows for certain services in these markets as our retail and enterprise customers may be unable to pay for services, and our international roaming revenue may decline as compared to last year. The extent to which the COVID-19 pandemic ultimately impacts our business, financial condition, results of operations, cash flows, and liquidity may differ from our current estimates due to inherent uncertainties regarding the duration and further spread of the outbreak, its severity, actions taken to contain the virus or treat its impact, and how quickly and to what extent economic conditions normalize and more customary operating conditions resume.

Pending Acquisition of Alaska Communications System Group, Inc.

On December 31, 2020, we announced that we entered into an Agreement and Plan of Merger (the "Alaska Merger Agreement") with Freedom 3 Capital, LLC ("Freedom3") to acquire all of the shares of Alaska Communications Systems Group, Inc. ("Alaska Communications"), a publicly listed company (Nasdaq:ALSK) for approximately $340 million, including the assumption of debt (the "Alaska Transaction"). Following the closing of the Alaska Transaction, we will, through our subsidiaries, own and control approximately 51% of Alaska Communications and Freedom3, through its affiliates, will own the remaining 49%. In February 2021, the required waiting period under the Hart Scott Rodino Antitrust Improvements Act of 1976 expired, however the Alaska Transaction remains subject to customary closing terms and conditions including (i) the approval of Alaska Communications' stockholders, (ii) the absence of certain legal impediments, and (iii) obtaining the necessary consents from the Federal Communications Commissions ("FCC") and the Regulatory Commission of Alaska.

Sale of Renewable Energy Operations

International Solar Operations

In January 2021, we completed the sale of 67% of the outstanding equity in our business that owns and operates distributed generation solar power projects operated under the Vibrant ("Vibrant") name in India (the "Vibrant Transaction"). The post-sale results of our ownership interest in Vibrant will be recorded through the equity method of accounting within the Corporate and Other operating segment. As such, our consolidated financial statements will no longer include revenue and operating expenses from Vibrant, but instead, "other income (expense)" within the Corporate and Other operating segment will include our 33% share of Vibrant's profits or losses. We will continue to present the historical results of our Renewable Energy segment for comparative purposes.

The operations of Vibrant did not qualify as discontinued operations because the disposition did not represent a strategic shift that had a major effect on our operations and financial results.

US Solar Operations

On November 6, 2018, we completed the sale of our US Solar Operations business that owned and managed distributed generation solar power projects operated under the Ahana name in Massachusetts, California and New Jersey (the "US Solar Transaction"). The US Solar Transaction had a total value of approximately $122.6 million, which included a cash purchase price of $65.3 million and the assumption of approximately $57.3 million in debt, and is subject to certain other post-closing adjustments. Approximately $6.5 million of the purchase price was held in escrow for a period of twelve months after the closing to secure our indemnification obligations. We received the escrow in November 2019.

The operations sold in connection with the US Solar Transaction did not qualify as discontinued operations because the disposition did not represent a strategic shift that had a major effect on our operations and financial results.

FirstNet Agreement

In July 2019 and August 2020, we entered into a Network Build and Maintenance Agreement (the "FirstNet Agreement") and First Amendment to that agreement with AT&T Mobility, LLC ("AT&T"), respectively, to build a portion of AT&T's network for the First Responder Network Authority ("FirstNet") as well as a commercial wireless network in or near our current operating area in the Southwestern United States (the "FirstNet Transaction"). Pursuant to the FirstNet Agreement and subject to certain limitations contained therein, all cell sites must be completed and accepted within a specified period of time. We expect to recognize construction revenue of approximately $80 million to $85 million through 2022 that will be mainly offset by construction costs as sites are completed. Revenues from construction are expected to have minimal impact on operating income. Also pursuant to the FirstNet Agreement AT&T has the option to repay construction costs, with interest, over and eight year period. Accordingly, we entered into a receivables credit facility with CoBank, ACB (the "Receivables Credit Facility") in order to assist with this repayment option. The Receivables Credit Facility provides for a senior secured delayed draw term loan in an aggregate principal amount of up to $75 million with the proceeds being used to acquire the receivables related to the construction costs. The network build portion of the FirstNet Agreement has continued during the COVID-19 pandemic but the overall timing of the build schedule has been delayed. Subject to ongoing delays caused by COVID-19 related restrictions, we currently expect construction revenues to continue through 2022.

Following acceptance of a cell site, AT&T will own the cell site and we will assign to AT&T any third-party tower lease applicable to such cell site. If the cell site is located on a communications tower we own, AT&T will pay us pursuant to a separate lease agreement for an initial term of eight years. In addition to building the network, we will provide ongoing equipment and site maintenance and high capacity transport to and from these cell sites for an initial term ending in 2029.

AT&T will continue to use our wholesale domestic Mobility network for roaming services at a fixed rate per site during the construction period until such time as the cell site is transferred to AT&T. Thereafter, revenue from the maintenance, leasing and transport services provided to AT&T is expected to generally offset revenue from wholesale Mobility roaming services. We began receiving revenue from the FirstNet Transaction in the third quarter of 2019 and expect overall operating income contributions from the FirstNet Transaction to have a relatively steady impact going forward.

See *Sources of Cash* below for a discussion regarding our March 26, 2020 credit agreement providing the ability to finance the assets built under the FirstNet Agreement.

Universal Service Fund

The Federal Universal Service Fund ("USF") is a subsidy program managed by the FCC. USF funds are disbursed to telecommunication providers through four programs: the High Cost Program; Low Income Program ("Lifeline Program"); Schools and Libraries Program ("E-Rate Program"); and Rural Health Care Support Program. We participate in the High Cost Program, Lifeline Program, E-Rate Program, and Rural Health Care Support Program as further described below. All of these funding programs are subject to certain operational and reporting compliance requirements. The Company believes it is in compliance with all applicable requirements.

During the years ended December 31, 2020, 2019 and 2018, we recorded $16.4 million, $16.4 million, and $16.5 million, respectively, of revenue from High Cost Support in our International Telecom segment for its US Virgin Islands operations under the "Viya" name. In addition, we recorded revenue of $15.5 million during the year ended December 31, 2018, from additional funding authorized by the FCC following the Hurricanes. In 2018, the FCC initiated a proceeding to reform the High Cost Program in the US Virgin Islands and Puerto Rico in which it proposed to allocate USF funding of up to $18.7 million per year (inclusive of the $16.4 million per year currently allocated to Viya) for 10 years to supplant the $16.4 million that Viya currently receives per year. While Viya applied for Connect USVI Fund support allocated for the US Virgin Islands, on November 16, 2020, the FCC announced that Viya was not the recipient of the provisional award and that the FCC had provisionally accepted a bid of approximately $8.6 million per year for a term of 10 years. Viya has challenged this decision and its challenge remains pending before the FCC. If Viya's challenge is not granted, pursuant to the terms of the program, Viya's USF support will be reduced, to two-thirds of the legacy total amount, or $10.9 million, during the first year following the finalization of the award and to one-third of the legacy total amount, or $5.5 million, during the second year. Thereafter, Viya will not receive high-cost USF support.

Also, during each year ended December 31, 2020, 2019 and 2018, we recorded $1.2 million of High Cost Support revenue in our US Telecom segment. We are subject to certain operational, reporting and construction requirements as a result of this funding and we believe that we are in compliance with all of these requirements.

In August 2018, we were awarded $79.9 million over 10 years under the Connect America Fund Phase II Auction. In connection with this award, we are required to provide Fixed broadband and voice services to certain eligible areas in the United States. We are also subject to operational and reporting requirements under the program and we expect to incur additional capital expenditures to comply with these requirements. We have determined the award is a revenue grant, and as a result we will record the funding as revenue upon receipt. The Company recorded $7.6 million and $5.3 million of revenue in the years ended December 31, 2020 and 2019, respectively, from the Connect America Fund Phase II program.

We also receive construction grants to build network connectivity for eligible communities. The funding is used to reimburse construction costs and is distributed upon completion of a project. As of December 31, 2020, we were awarded approximately $15.8 million of grants. We were awarded an additional construction grant of $1.0 million in 2020. As of December 31, 2020, we have completed our construction obligations on $10.2 million of these projects and $6.6 million of such construction obligations remain with completion deadlines beginning in September 2021. Once these projects are constructed, we are obligated to provide service to the participants. We receive funds upon construction completion. During 2020, we received $2.9 million, which was used to offset operating activities. During 2019, we received $5.4 million, of which $3.1 million was a reimbursement of capital expenditures and $2.3 million offset operating activities. We expect to meet all requirements associated with these grants.

We also receive funding to provide discounted telecommunication services to eligible customers under the E-Rate, Lifeline, and Rural Health Care Support Programs. During the years ended December 31, 2020, 2019, and 2018, we recorded revenue of $10.0 million, $6.1 million, and $8.2 million, respectively, in the aggregate from these programs. We are subject to certain operational and reporting requirements under the above mentioned programs and we believe that we are in compliance with all of these requirements.

CARES Act

During the fourth quarter of 2020, we received $16.3 million of funding under the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"). The funding was utilized to construct network infrastructure in our US Telecom segment. The construction was completed in the fourth quarter of 2020 and was recorded as a reduction to property, plant and equipment and subsequently will be recorded as a reduction to depreciation expense.

Tribal Bidding Credit

As part of the broadcast television spectrum incentive auction, the FCC implemented a tribal lands bidding credit to encourage deployment of wireless services utilizing 600 MHz spectrum on the lands of federally recognized tribes. We received a bidding credit of $7.4 million under this program in 2018. A portion of these funds will be used to offset network capital costs and a portion will be used to offset the costs of supporting the networks. We currently estimate that we will use $5.8 million to offset capital costs, consequently reducing future depreciation expense and $1.6 million to offset the cost of supporting the network which will reduce future operating expense. Through December 31, 2020, we have spent $5.8 million on capital expenditures and have recorded $0.2 million in offsets to the cost of supporting the network. The credits are subject to certain requirements, including deploying service by January 2021 and meeting minimum coverage metrics. If the requirements are not met the funds may be subject to claw back provisions. We currently expect to comply with all applicable requirements related to these funds.

CBRS Auction

During the third quarter of 2020, we participated in the FCC's Citizens Broadband Radio Service (CBRS) auction for Priority Access Licenses (PALs) in the 3.5 GHz spectrum band. These PALs are licensed on a county-by-county basis and are awarded for a 10-year renewable term. We were a winning bidder for PALs located strategically throughout the United States at a total cost of approximately $20.4 million. In connection with the awarded licenses, we will have to achieve certain CBRS spectrum build out obligations. We currently expect to comply with all applicable requirements related to these licenses.

Platform Investment

During the second quarter of 2018, we invested in a new platform, based in the United States, to develop in-building wireless network technology that enables building owners to capitalize on the growing demand for better indoor wireless solutions.

RDOF

In the 2020 Rural Digital Opportunity Fund Phase I Auction ("RDOF"), pending the FCC's conclusion of the award process, we expect to receive approximately $20.1 million over 10 years to provide broadband coverage to over 10,000 households. Once confirmed, we will be obligated to provide broadband and voice services to certain eligible areas in the United States.

Impact of Hurricanes

During September 2017, the US Virgin Islands economy, our customer base and our operations were severely impacted by Hurricanes Irma and Maria (collectively, the "Hurricanes"). Our wireless and wireline networks and commercial operations were all severely damaged by these storms and as a result of the significant damage to the wireline network and the lack of consistent commercial power in the territory, we were unable to provide most of our wireline services, which comprise the majority of our revenue in this business, from mid-September 2017 and through most of 2018.

During the year ended December 31, 2018, the Company received $15.5 million in one-time additional funding from the FCC's USF to further subsidize its operations in the US Virgin Islands. This amount was recorded as revenue during the year ended December 31, 2018.

During the years ended December 31, 2019 and 2018, we spent $0.1 million and $80.2 million, respectively, for network restoration and resiliency enhancements that allowed the reconnection of a significant majority of affected US Virgin Islands households and businesses.

Presentation of Revenue

Effective January 1, 2020, we changed our presentation of revenue in the Consolidated Income Statements and in the Selected Segment Financial Information tables. This change is intended to better align our financial performance with the views of management and industry competitors, and to facilitate a more constructive dialogue with the investment community.

Specifically, the previously disclosed revenue categories of wireless and wireline revenue are being represented as Mobility, Fixed and Carrier Services revenue within our segment information and are included within communications services revenue within our Income Statements. Managed Services revenue, which was previously a component of wireline revenue, is now included in other revenue along with revenue from our Renewable Energy operations.

Selected Segment Financial Information

The following represents selected segment information for the years ended December 31, 2020 and 2019 (in thousands):

For the Year Ended December 31, 2020	International Telecom	US Telecom	Renewable Energy	Corporate and Other (1)	Consolidated
Revenue					
Communication Services					
Mobility	$ 83,136	$ 9,626	$ —	$ —	$ 92,762
Fixed	230,375	22,269	—	—	252,644
Carrier Services	7,120	79,448	—	—	86,568
Other	1,535	—	—	—	1,535
Total Communication Services Revenue	322,166	111,343	—	—	433,509
Other					
Renewable Energy	—	—	4,555	—	4,555
Managed Services	6,467	—	—	—	6,467
Construction	—	10,913	—	—	10,913
Total Other Revenue	6,467	10,913	4,555	—	21,935
Total Revenue	328,633	122,256	4,555	—	455,444
Operating income (loss)	58,064	7,388	(23,749)	(32,523)	9,180

For the Year Ended December 31, 2019	International Telecom	US Telecom	Renewable Energy	Corporate and Other (1)	Consolidated
Revenue					
Communication Services					
Mobility	$ 84,560	$ 10,532	$ —	$ —	$ 95,092
Fixed	224,534	14,211	—	—	238,745
Carrier Services	9,070	83,906	—	—	92,976
Other	1,295	—	—	—	1,295
Total Communication Services Revenue	319,459	108,649	—	—	428,108
Other					
Renewable Energy	—	—	5,534	—	5,534
Managed Services	5,080	—	—	—	5,080
Total Other Revenue	5,080	—	5,534	—	10,614
Total Revenue	324,539	108,649	5,534	—	438,722
Operating income (loss)	46,921	8,064	(7,243)	(34,365)	13,377

(1) Reconciling items refer to corporate overhead costs and consolidating adjustments.

A year-to-date comparison of our segment results is as follows:

International Telecom. Revenues within our International Telecom segment increased $4.1 million, or 1.3%, to $328.6 million from $324.5 million for the year ended December 31, 2020 and 2019, respectively, as a result of an increase in broadband services in many of our international telecom markets which more than offset the impact of the reduction in Carrier Services and Mobility services (including handset sale revenues) as a result of COVID-19 related travel and stay-at-home restrictions.

Operating expenses within our International Telecom segment decreased by $7.1 million, or 2.6%, to $270.5 million from $277.6 million for the year ended December 31, 2020 and 2019, respectively. The decrease was primarily the result of the impact of COVID-19 and other cost reduction measures which reduced roaming, advertising, contract labor and facility costs throughout all of our markets within this segment.

As a result, our International Telecom segment's operating income increased $11.2 million, or 23.9%, to $58.1 million from $46.9 million for the year ended December 31, 2020 and 2019, respectively.

US Telecom. Revenue within our US Telecom segment increased by $13.7 million, or 12.6%, to $122.3 million from $108.6 million for the year ended December 31, 2020 and 2019, respectively, primarily as a result of an increase in construction revenue from the FirstNet Transaction and an increase in Fixed revenues, including broadband services and funding from the Connect America Fund Phase II program.

Operating expenses within our US Telecom segment increased $14.4 million, or 14.3%, to $114.9 million from $100.5 million for the year ended December 31, 2020 and 2019, respectively, as a result of construction costs and other expenses being incurred in connection with the FirstNet Transaction partially offset by the impact of COVID-19 related travel and stay-at-home restrictions.

As a result of the above, our US Telecom segment's operating income decreased $0.7 million, or 8.6%, to $7.4 million from $8.1 million for the year ended December 31, 2020 and 2019, respectively.

Renewable Energy. Revenue within our Renewable Energy segment decreased $0.9 million, or 16.4%, to $4.6 million from $5.5 million for the year ended December 31, 2020 and 2019, respectively, primarily as a result of a decrease in production as a result of the impact of COVID-19.

Operating expenses within our Renewable Energy segment increased to $28.3 million from $6.2 million for the year ended December 31, 2020 and 2019 as a result of the loss recorded on the Vibrant Transaction of $21.5 million.

As a result of the above, our Renewable Energy segment's operating loss increased to $23.7 million for the year ended December 31, 2020 as compared to a loss of $0.7 million for the year ended December 31, 2019.

The following represents a year over year discussion and analysis of our results of operations for the years ended December 31, 2020 and 2019 (in thousands):

	Year Ended December 31, 2020	Year Ended December 31, 2019	Amount of Increase (Decrease)	Percent Increase (Decrease)
REVENUE:				
Communication services	$ 433,509	$ 428,108	$ 5,401	1.3 %
Other	21,935	10,614	11,321	106.7
Total revenue	455,444	438,722	16,722	3.8
OPERATING EXPENSES (*excluding depreciation and amortization unless otherwise indicated*):				
Termination and access fees	111,763	112,943	(1,180)	(1.0)
Construction costs	10,616	—	10,616	100.0
Engineering and operations	73,350	77,649	(4,299)	(5.5)
Sales, marketing and customer services	37,557	38,730	(1,173)	(3.0)
General and administrative	101,454	100,534	920	0.9
Transaction-related charges	1,641	244	1,397	572.5
Depreciation and amortization	88,311	89,125	(814)	(0.9)
Goodwill impairment	—	3,279	(3,279)	100.0
Loss on disposition of long-lived assets	21,572	2,841	18,731	659.3
Total operating expenses	446,264	425,345	20,919	4.9
Income from operations	9,180	13,377	(4,197)	(31.4)
OTHER INCOME (EXPENSE):				
Interest income	421	2,263	(1,842)	(81.4)
Interest expense	(5,347)	(5,010)	(337)	6.7
Other expense	(4,161)	(4,558)	397	(8.7)
Other expense, net	(9,087)	(7,305)	(1,782)	24.4
INCOME BEFORE INCOME TAXES	93	6,072	(5,979)	(98.5)
Income tax expense	801	4,105	(3,304)	(80.5)
NET INCOME	(708)	1,967	(2,675)	(136.0)
Net income attributable to non-controlling interests, net of tax:	(13,414)	(12,773)	(641)	5.0
NET INCOME (LOSS) ATTRIBUTABLE TO ATN INTERNATIONAL, INC. STOCKHOLDERS	$ (14,122)	$ (10,806)	$ (3,316)	30.7 %

Communications services

Mobility revenue. Our Mobility revenue consists of retail revenue generated within both our International Telecom and US Telecom segments by providing mobile voice and data services over our wireless networks and the sale of related equipment such as handsets and other accessories to our subscribers. Mobility revenue decreased by $2.8 million, or 2.2%, to $92.8 million for the year ended December 31, 2020 from $95.1 million for the year ended December 31, 2019. The decrease in Mobility revenue, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, Mobility revenue decreased by $1.5 million, or 1.8%, to $83.1 million for the year ended December 31, 2020 from $84.6 million for the year ended December 31, 2019. The impact of COVID-19 related travel and stay-at-home restrictions resulted in a decrease in our Mobility services as well as our equipment sales.

- *US Telecom*. Mobility revenue within our US Telecom segment decreased by $0.9 million, or 8.6%, to $9.6 million from $10.5 million for the year ended December 31, 2020 and 2019, respectively. This decrease is related to a decrease in subscribers within our retail Mobility operations which was primarily related to the impact of COVID-19.

We expect that Mobility revenue within both our International and US Telecom segments may continue to decline if the COVID-19 related travel restrictions continue for an extended period of time or become more severe so as to result in significant business interruptions and retail store closures.

Fixed communications revenue. Fixed communications revenue is primarily generated by internet, voice, and video service revenues provided to retail and enterprise customers over our wireline networks. Fixed revenue within our US Telecom segment also includes revenue from the Connect America Fund Phase II program award. Fixed communications revenue increased by $13.9 million, or 5.8%, to $252.6 million from $238.7 million for the year ended December 31, 2020 and 2019, respectively. The increase in Fixed communications revenue, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, Fixed communications revenue increased by $5.9 million, or 2.6%, to $230.4 million from $224.5 million, for the year ended December 31, 2020 and 2019, respectively, primarily as a result of an increase in Fixed broadband services in order to enable remote working and better connectivity during the COVID-19 pandemic. This increase was partially offset by a decrease in revenue from certain enterprise customers, such as hotels, which were impacted by the effects of COVID-19 related travel restrictions and stay-at-home restrictions.

- *US Telecom*. Fixed communications revenue within our US Telecom segment increased by $8.1 million, or 57.0%, to $22.3 million from $14.2 million for the year ended December 31, 2020 and 2019, respectively. This increase was related to an increase in usage to support remote working and better connectivity during the COVID-19 pandemic and an increase related to the Connect America Fund Phase II program award which began during mid-2019, as well as an increase in subscribers.

We expect that Fixed revenue within our International Telecom segment may decline as a result of the response, such as long delays in the return of tourism activity, to the COVID-19 pandemic which could result in significant business interruptions that might impact our customers' ability to pay for our services. Fixed revenue may also decline in many of our international markets as a result of a decline in video revenues due to subscribers using alternative methods to receive video content.

We expect that Fixed revenue within the US Telecom segment may also decline as a result of our customers' inability to pay for our services if COVID-19 related travel restrictions continue for an extended period of time or become more severe. However, those declines may be partially offset by the stable nature of our federal support contracts, such as the Connect America Fund Phase II program award, which are expected to provide steady and predictable revenues.

Carrier Services revenue. Carrier Services revenue is generated by both our International Telecom and US Telecom segments. Within our International Telecom segment, Carrier Services revenue includes international long-distance services, roaming revenues generated by other carriers' customers roaming into our retail markets, transport services and access services provided to other telecommunications carriers. Within our US Telecom segment, Carrier Services revenue includes services provided under the FirstNet Transaction, wholesale roaming revenues, the provision of network switching services, tower lease revenue and other services provided to carriers. Carrier Services revenue decreased by $6.4 million, or 6.9%, to $86.6 million from $93.0 million for the year ended December 31, 2020 and 2019, respectively. The decrease, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, Carrier Services revenue decreased by $2.0 million, or 22.0%, to $7.1 million from $9.1 million for the year ended December 31, 2020 and 2019, respectively, as a result of decreased roaming revenues within most of our International Telecom markets as a result of the travel and stay-at-home restrictions implemented in response to COVID-19.

- *US Telecom*. Carrier Services revenue within our US Telecom segment decreased by $4.5 million, or 5.4%, to $79.4 million from $83.9 million, for the year ended December 31, 2020 and 2019, respectively, primarily as a result of the 2020 restructuring of certain carrier contracts.

Within our International Telecom segment, we expect that Carrier Services revenue may continue to decline if COVID-19 related travel restrictions continue for an extended period of time or become more severe. Also within our International Telecom segment, we expect that Carrier Services revenue from our international long-distance business in Guyana will continue to decrease as consumers seek to use alternative technology services to place calls. In addition, such revenue may decline as the result of the implementation, by the Government of Guyana, of recently-passed legislation which terminates our right to be the exclusive provider of domestic fixed and international long-distance service in Guyana. While the loss of our exclusive rights may cause an immediate reduction in our Carrier Services revenue, the complete impact of the new legislation to our operations will not be fully known until the Government of Guyana makes the terms and conditions of licenses, issued to two of our competitors, available to us. Over the longer term, such declines may be offset by increased revenue from broadband services to consumers and enterprises in Guyana, an increase in regulated local calling rates in Guyana or possible economic growth within that country. See Note 14 to the Condensed Consolidated Financial Statements included in this report.

Within our US Telecom segment, we expect Carrier Services revenue to decrease as we progress through the construction phase of the FirstNet Transaction and from the impact of continued reduced contractual rates and imposed revenue caps. We believe that maintaining roaming and other Carrier Services favorable to our carrier customers allows us to preserve revenue for a longer period of time while creating the potential for long-lived shared infrastructure solutions for carriers in areas they may consider to be non-strategic.

The most significant competitive factor we face within our US Telecom segment is the extent to which our carrier customers in our wholesale Mobility business choose to roam on our networks and lease our tower space and transport services or elect to build or acquire their own infrastructure in a market, reducing or eliminating their need for our services in those markets. We also face competition from other providers of such shared infrastructure solutions. In the past, we have entered into buildout projects with existing carrier customers to help these customers accelerate the buildout of a given area in exchange for the carrier’s agreement to lease us spectrum in that area and enter into a contract with specific pricing and terms. Historically, these arrangements have differed from our FirstNet Transaction and have typically included a purchase right in favor of the carrier to purchase that portion of the network for a predetermined price, depending on when the right to purchase is exercised.

Other communications services revenue. Other communications services revenue includes miscellaneous services that the operations within our International Telecom segment provide to retail subscribers. Other communications services revenue increased to $1.5 million from $1.3 million for the year ended December 31, 2020 and 2019, respectively.

Other revenue

Renewable energy revenue. Renewable energy revenue includes the generation of power through Power Purchase Agreements (“PPAs”) from our solar plants in India. Our PPAs, which are typically priced at or below local retail electricity rates and allow our customers to secure electricity at predictable and stable prices over the duration of their long-term contracts, provide us with high-quality contracted cash flows.

Renewable energy revenue decreased by $0.9 million, or 16.4%, to $4.6 million from $5.5 million for the year ended December 31, 2020 and 2019, respectively, primarily as a result of a decreases in production due to the impact of COVID-19.

As a result of the Vibrant Transaction, we will no longer record renewable energy revenue after recording a nominal amount in the first quarter of 2021.

Managed Services revenue. Managed Services revenue is generated primarily in our International Telecom segment and includes network, application, infrastructure, and hosting services.

Managed Services revenue increased by $1.4 million, or 27.5%, to $6.5 million from $5.1 million for the year ended December 31, 2020 and 2019, respectively, primarily as a result of an increase in consulting and hosting services as well as equipment sales.

We expect that Managed Services revenue may continue to increase but could be negatively impacted if COVID-19 related travel restrictions continue for an extended period of time or become more severe so as to result in significant business interruptions to our customers.

Construction revenue. Construction revenue represents revenue generated within our US Telecom segment for the construction of network cell sites related to the FirstNet Agreement. During the year ended December 31, 2020, we recognized $10.9 million of construction revenue. We expect the construction phase of the FirstNet Agreement to continue through 2022.

Operating expenses

Termination and access fee expenses. Termination and access fee expenses are charges that we incur for voice and data transport circuits (in particular, the circuits between our Mobility sites and our switches), internet capacity, video programming costs, access fees we pay to terminate our calls, telecommunication spectrum fees and direct costs associated with our Managed Services and technology business and our renewable energy operations. Termination and access fees also include bad debt reserves and the cost of handsets and customer resale equipment incurred by our retail businesses.

Termination and access fees decreased by $1.1 million, or 1.0%, to $111.8 million from $112.9 million for the year ended December 31, 2020 and 2019, respectively. The net decrease in termination and access fees, within our segments, consisted of the following:

- *International Telecom.* Within our International Telecom segment, termination and access fees decreased by $0.3 million, or 0.4%, to $73.4 million from $73.7 million, for the year ended December 31, 2020 and 2019, respectively. This decrease was primarily related to a decrease in the cost of retail telecommunication equipment sales as many of our retail stores were closed during much of 2020 as a result of the impact of COVID-19. The decreases were partially offset by increases in our managed information technology services business as a result of an increase in the volume and cost of its equipment sales as well as increases within our US Virgin Islands operations which incurred certain variable termination and access fees in 2020 that were not incurred during 2019 as a result of the impact of the Hurricanes.

- *US Telecom*. Termination and access fees within our US Telecom segment increased by $0.7 million, or 1.8%, to $39.6 million from $38.9 million for the year ended December 31, 2020 and 2019, respectively. This increase was primarily a result of an increase in data transport costs in connection with the FirstNet Transaction partially offset by decreases in our wholesale long-distance voice services businesses.

- *Renewable Energy*. Termination and access fees within our Renewable Energy segment decreased $0.2 million, or 50.0%, to $0.2 million from $0.4 million for the year ended December 31, 2020 and 2019, respectively.

We expect that termination and access fee expenses may increase within all of our segments due to an expected increase in roaming and other termination costs when the COVID-19 related travel restrictions are lifted. Within the US Telecom segment, we expect an increase in termination and access fees due to the anticipated expansion of our early stage private network business, expenses associated with our recent funding award under the CARES Act, and as a result of our performance under the FirstNet Transaction during the construction phase which is expected to continue through 2022.

Construction costs. Construction costs include the expenses incurred in connection with constructing and making the FirstNet sites available for delivery to ATT in accordance with our FirstNet Agreement. Construction costs, all of which are incurred within our US Telecom segment, were $10.6 million during the year ended December 31, 2020 and were incurred in connection with the FirstNet Transaction. We expect the construction phase of the FirstNet Agreement to continue through 2022.

Engineering and operations expenses. Engineering and operations expenses include the expenses associated with developing, operating, upgrading and supporting our telecommunications networks and renewable energy operations, including the salaries and benefits paid to employees directly involved in the development and operation of those businesses.

Engineering and operations expenses decreased by $4.2 million, or 5.5%, to $73.4 million from $77.6 million for the year ended December 31, 2020 and 2019, respectively. The net decrease in engineering and operations expenses, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, engineering and operations expenses decreased by $4.9 million, or 7.9%, to $57.1 million from $62.0 million, for the year ended December 31, 2020 and 2019, respectively. This decrease was recognized within all of our international markets as a result of the impact of the COVID-19 pandemic which caused a reduction in contract labor, site repairs and maintenance and travel costs.

- *US Telecom*. Engineering and operations expenses increased within our US Telecom segment by $0.8 million, or 5.3%, to $15.8 million from $15.0 million, for the year ended December 31, 2020 and 2019, respectively, primarily in order to support the construction phase of the FirstNet Transaction and our expanding early stage private network business. This increase was partially offset by the impact of the COVID-19 pandemic which caused a reduction in contract labor, site repairs and maintenance and travel costs.

- *Corporate Overhead*. Engineering and operations expenses within our corporate overhead decreased by $0.3 million, or 42.9%, to $0.4 million from $0.7 million for the year ended December 31, 2020 and 2019, respectively.

We expect engineering and operating expenses to continue to increase in our US Telecom segment due to the anticipated expansion of our early-stage private network business, expenses associated with our recent funding awarded under the CARES Act, and expenses incurred during the construction phase of the FirstNet Transaction which we expect to continue through 2022. We also expect that engineering and operations expenses to increase within all of our segments when COVID-19 related restrictions are lifted.

Sales and marketing expenses. Sales and marketing expenses include salaries and benefits we pay to sales personnel, customer service expenses, sales commissions and the costs associated with the development and implementation of our promotion and marketing campaigns.

Sales and marketing expenses decreased by $1.1 million, or 3.0%, to $37.6 million from $38.7 million for the year ended December 31, 2020 and 2019, respectively. The net decrease in sales and marketing expenses, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, our sales and marketing expenses decreased by $3.0 million, or 9.1%, to $30.1 million from $33.1 million for the year ended December 31, 2020 and 2019, respectively. This decrease was incurred within all of our international markets primarily as a result of a reduction in advertising and promotions and the impact of COVID-19 restrictions.

- *US Telecom*. Sales and marketing expenses increased within our US Telecom segment by $1.7 million, or 29.8%, to $7.4 million from $5.7 million, for the year ended December 31, 2020 and 2019, respectively, primarily as a result of increased spending in our retail business within our US Mobility operations and within our expanding early stage private network business. These increases were partially offset by the impact of COVID-19 related travel and stay-at-home restrictions.

Within our US Telecom segment, sales and marketing expenses may increase as a result of the expansion of our early stage private network and retail businesses. We also expect sales and marketing expenses to increase in both our International and US Telecom segments when COVID-19 related travel restrictions are lifted.

General and administrative expenses. General and administrative expenses include salaries, benefits and related costs for general corporate functions including executive management, finance and administration, legal and regulatory, facilities, information technology and human resources. General and administrative expenses also include internal costs associated with our performance of due-diligence in connection with acquisition activities.

General and administrative expenses increased by $1.0 million, or 0.9%, to $101.5 million from $100.5 million for the year ended December 31, 2020 and 2019, respectively. The net increase in general and administrative expenses, within our segments, consisted of the following:

- *International Telecom*. General and administrative expenses increased within our International Telecom segment by $1.1 million, or 2.1%, to $53.7 million from $52.6 million, for the year ended December 31, 2020 and 2019, respectively. The increase was the result of increased expenditures in information technology to further enhance our network security partially offset by the impact of COVID-19 related restrictions which resulted in a reduction in travel and certain facility costs such as utilities.

- *US Telecom*. General and administrative expenses increased by $0.4 million, or 2.3%, to $18.1 million from $17.7 million for the year ended December 31, 2020 and 2019, respectively, primarily as a result of an increase within our early-stage-private network business to support its expanding operations partially offset by certain cost reduction measures within our US Mobility business and the impact of COVID-19 related restrictions on travel.

- *Renewable Energy*. General and administrative expenses within our Renewable Energy segment increased by $0.3 million, or 9.1%, to $3.6 million from $3.3 million for the year ended December 31, 2020 and 2019, respectively, as a result of the expansion of operations partially offset by the impact of COVID-19 related restrictions on travel.

- *Corporate Overhead*. General and administrative expenses within our corporate overhead decreased by $0.8 million, or 3.0%, to $26.1 million from $26.9 million, for the year ended December 31, 2020 and 2019, respectively, primarily related to certain cost reduction measures including reduced professional fees along with the impact of COVID-19, partially offset by an increase in information technology expenditures to further enhance our network security.

Within our US Telecom segment, we expect to incur increased general and administrative expenses to support our early-stage private network operations as well as expenses associated with our recent funding awarded under the CARES Act. In addition, we expect general and administrative expenses within our International and US Telecom segments as well as our Corporate Overhead segment to increase as COVID-19 related travel restrictions are lifted and as we work to further enhance our network security.

As a result of the Vibrant Transaction, we will no longer record general and administrative expenses within our Renewable Energy segment after recording a nominal amount in the first quarter of 2021.

Transaction-related charges. Transaction-related charges include the external costs, such as legal, tax, accounting and consulting fees directly associated with acquisition and disposition-related activities, which are expensed as incurred. Transaction-related charges do not include internal costs, such as employee salary and travel-related expenses, incurred in connection with acquisitions or dispositions or any integration-related costs.

We incurred $1.6 million and $0.2 million of transaction-related charges during the year ended December 31, 2020 and 2019, respectively. The transaction-related charges incurred during 2020 were primarily related to the Vibrant Transaction and the Alaska Transaction.

Depreciation and amortization expenses. Depreciation and amortization expenses represent the depreciation and amortization charges we record on our property and equipment and on certain intangible assets.

Depreciation and amortization expenses decreased by $0.8 million, or 0.9%, to $88.3 million from $89.1 million for the year ended December 31, 2020 and 2019, respectively. The net decrease in depreciation and amortization expenses, within our segments, consisted primarily of the following:

- *International Telecom*. Depreciation and amortization expenses increased within our International Telecom segment by $0.3 million, or 0.5%, to $56.3 million from $56.0 million, for the year ended December 31, 2020 and 2019, respectively. This increase was a result of recent upgrades and expansions to this segment's network assets partially offset by certain assets becoming fully depreciated in recent periods.

- *US Telecom*. Depreciation and amortization expenses increased within our US Telecom segment by $0.3 million, or 1.3%, to $23.4 million from $23.1 million, for the year ended December 31, 2020 and 2019, respectively, primarily as a result of capital expenditures within our US Mobility and early-stage private business.

- *Renewable Energy*. Depreciation and amortization expenses within our Renewable Energy segment decreased $1.1 million, or 33.3%, to $2.2 million from $3.3 million for the year ended December 31, 2020 and 2019, respectively, as a result of certain assets becoming fully depreciated in recent periods.

- *Corporate Overhead*. Depreciation and amortization expenses decreased within our corporate overhead by $0.3 million, or 4.5%, to $6.4 million from $6.7 million, for the year ended December 31, 2020 and 2019, respectively, primarily as a result of certain assets becoming fully depreciated in recent periods.

We expect depreciation and amortization expense to increase in our International Telecom, US Telecom and Corporate Overhead segments as we acquire tangible assets to expand or upgrade our telecommunications networks. As a result of the Vibrant Transaction, we will no longer record depreciation and amortization within our Renewable Energy segment after recording a nominal amount in the first quarter of 2021.

Goodwill impairment. During the year ended December 31, 2019, we recorded a $3.3 million goodwill impairment charge within our Renewable Energy segment. See Note 8 to the Consolidated Financial Statements in this Report.

Loss on disposition of long-lived assets. During the year ended December 31, 2020, we recorded a loss on the disposition of long-lived assets of $21.6 million, primarily related to the Vibrant Transaction.

During the year ended December 31, 2019, we recorded a $2.8 million loss on the disposition of long-lived assets primarily in connection with certain asset disposals and partner settlement agreements within our Renewable Energy segment.

Interest income. Interest income represents interest earned on our cash, cash equivalents, restricted cash and short term investment balances.

Interest income decreased $1.9 million to $0.4 million from $2.3 million for the year ended December 31, 2020 and 2019, respectively, as a result of a reduction in the balances of our cash, cash equivalents and short-term investments as well as our return on those balances.

Interest expense. We incur interest expense on the Viya Debt and the One Communications Debt (each as defined below), as well as commitment fees, letter of credit fees and the amortization of debt issuance costs on our 2019 Credit Facility (as defined below). Beginning on March 26, 2020, we also began incurring interest expense, related to the amortization of debt issuance costs, on the Receivables Credit Facility (as defined below).

Interest expense increased by $0.3 million, or 6.7%, to $5.3 million from $5.0 million for the year ended December 31, 2020 and December 31, 2019, respectively, primarily as a result of the amortization of debt issuance costs related to the Receivables Credit Facility partially offset by a reduction in our long-term debt.

We expect that interest expense may increase in future periods as a result of future borrowings under the Receivables Credit Facility.

Other expenses. Other expenses represents miscellaneous non-operational income earned and expenses incurred.

For the year ended December 31, 2020, other expenses was $4.1 million which was primarily related to $3.4 million of losses related to non-controlling investments and $1.4 million relating to losses on foreign currency transactions. These expenses were partially offset by $0.6 million of income recognized on certain employee benefit plans.

For the year ended December 31, 2019, other expense was $4.6 million which was primarily related to a $4.7 million write down of a non-controlling equity investment and $1.6 million relating to a net loss on foreign currency transactions. These expenses were partially offset by $1.0 million of income recognized on certain employee benefit plans.

We expect that the impact of foreign currency fluctuations may decline as a result of the Vibrant Transaction as we will no longer be exposed to fluctuations in the value of the Indian Rupee.

Income taxes. Our effective tax rate for the years ended December 31, 2020 and 2019 was 858.3% and 67.6%, respectively. On March 27, 2020, the U.S. federal government enacted the CARES Act. The CARES Act, among other things, allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. Our effective tax rate for the year ended December 31, 2020 was primarily impacted by the following items: (i) a $3.1 million net benefit attributable to the remeasurement of domestic losses at a higher tax rate due to carryback provisions as provided by the CARES Act (ii) a $2.1 million net increase of unrecognized tax positions, (iii) a $1.5 million net increase for permanently non-deductible expenses, (iv) a $21.5 million loss on the sale of Vibrant with no tax benefit, and (v) the mix of income generated among the jurisdictions in which we operate along with the exclusion of losses in jurisdictions where we cannot benefit from those losses as required by ASC 740-270-30-36(a), primarily in the US Virgin Islands.

The effective tax rate for the year ended December 31, 2019 was primarily impacted by the following items: (i) a $3.9 million net increase of unrecognized tax positions, (ii) a $3.8 million net increase for permanently non-deductible expenses, (iii) a $1.2 million deferred tax benefit related to an investment tax credit, and (iv) the mix of income generated among the jurisdictions in which we operate along with the exclusion of losses in jurisdictions where we cannot benefit from those losses as required by ASC 740-270-30-36(a), primarily in the US Virgin Islands and India.

Our effective tax rate is based upon estimated income before provision for income taxes for the year, composition of the income in different countries, and adjustments, if any, in the applicable quarterly periods for potential tax consequences, benefits and/or resolutions of tax contingencies. Our consolidated tax rate will continue to be impacted by any transactional or one-time items in the future and the mix of income in any given year generated among the jurisdictions in which we operate. While we believe we have adequately provided for all tax positions, amounts asserted by taxing authorities could materially differ from our accrued positions as a result of uncertain and complex applications of tax law and regulations. Additionally, the recognition and measurement of certain tax benefits include estimates and judgments by management. Accordingly, we could record additional provisions or benefits for US federal, state, and foreign tax matters in future periods as new information becomes available.

Net income attributable to non-controlling interests, net of tax. Net income attributable to non-controlling interests, net of tax reflected an allocation of $13.4 million and $12.8 million of income generated by our less than wholly owned subsidiaries for the year ended December 31, 2020 and 2019, respectively, an increase of $0.6 million, or 5.5%. Changes in net income attributable to non-controlling interests, net of tax, within our segments, consisted of the following:

- *International Telecom*. Net income attributable to non-controlling interests, net of tax decreased by $0.2 million, or 2.1%, to $9.5 million from $9.7 million for the year ended December 31, 2020 and 2019, respectively, primarily as a result of an increase in profitability at certain less than wholly owned subsidiaries offset by an increase in our ownership in those subsidiaries as well as a decrease in profitability in other less than wholly owned subsidiaries.

- *US Telecom*. Net income attributable to non-controlling interests, net of tax increased by $1.0 million, or 32.3%, to $4.1 million from $3.1 million for the year ended December 31, 2020 and 2019, respectively, primarily as a result of increased profitability at certain less than wholly owned subsidiaries within our US Mobility retail operations.

Net loss attributable to ATN International, Inc. stockholders. Net loss attributable to ATN International, Inc. stockholders was $14.1 million and $10.8 million for the year ended December 31, 2020 and 2019, respectively.

On a per diluted share basis, net loss was $0.89 and $0.68 per diluted share for the year ended December 31, 2020 and 2019, respectively.

Selected Segment Financial Information

The following represents selected segment information for the years ended December 31, 2019 and 2018 (in thousands):

For the Year Ended December 31, 2019

	International Telecom	US Telecom	Renewable Energy	Corporate and Other (1)	Consolidated
Revenue					
Communication Services					
Mobility	$ 84,560	$ 10,532	$ —	$ —	$ 95,092
Fixed	224,534	14,211	—	—	238,745
Carrier Services	9,070	83,906	—	—	92,976
Other	1,295	—	—	—	1,295
Total Communication Services Revenue	319,459	108,649	—	—	428,108
Other					
Renewable Energy	—	—	5,534	—	5,534
Managed Services	5,080	—	—	—	5,080
Total Other Revenue	5,080	—	5,534	—	10,614
Total Revenue	324,539	108,649	5,534	—	438,722
Operating income (loss)	46,921	8,064	(7,243)	(34,365)	13,377

For the Year Ended December 31, 2018	International Telecom	US Telecom	Renewable Energy	Corporate and Other (1)	Consolidated
Revenue					
Communication Services					
Mobility	$ 85,152	$ 11,759	$ —	$ —	$ 96,911
Fixed	213,765	7,860	—	—	221,625
Carrier Services	8,846	95,861	—	—	104,707
Other	2,080	—	—	—	2,080
Total Communication Services Revenue	309,843	115,480	—	—	425,323
Other					
Renewable Energy	—	—	22,158	—	22,158
Managed Services	3,726	—	—	—	3,726
Total Other Revenue	3,726	—	22,158	—	25,884
Total Revenue	313,569	115,480	22,158	—	451,207
Operating income (loss)	45,022	36,813	13,440	(34,252)	61,023

(1) Reconciling items refer to corporate overhead costs and consolidating adjustments.

A year-to-date comparison of our segment results is as follows:

International Telecom. Revenues within our International Telecom segment increased $10.9 million, or 3.5%, to $324.5 million from $313.6 million for the year ended December 31, 2019 and 2018, respectively, as a result of an increase in broadband revenues in many of our international telecom markets. In addition, the year ended December 31, 2018 includes $15.5 million of non-recurring funding from the USF to help our US Virgin Islands operations recover from the impact of the Hurricanes.

Operating expenses within our International Telecom segment increased by $9.0 million, or 3.4%, to $277.6 million from $268.6 million for the year ended December 31, 2019 and 2018, respectively. The increase was primarily the result of increased expenses in the US Virgin Islands as their operations became more normalized following the impact of the Hurricanes.

As a result, our International Telecom segment's operating income increased $1.9 million, or 4.2%, to $46.9 million from $45.0 million for the year ended December 31, 2019 and 2018, respectively.

US Telecom. Revenue within our US Telecom segment decreased by $6.9 million, or 6.0%, to $108.6 million from $115.5 million for the year ended December 31, 2019 and 2018, respectively.

Carrier Services revenue decreased by $12.0 million, or 12.5%, to $83.9 million from $95.9 million for the year ended December 31, 2019 and 2018, respectively. This decrease was primarily the result of the July 2018 sale of approximately 100 cell sites, which generated $4.3 million in revenue during the year ended December 31, 2018, and a reduction in wholesale traffic.

Fixed communications revenue increased $6.3 million, or 79.7%, to $14.2 million from $7.9 million for the year ended December 31, 2019 and 2018, respectively, as a result of increased revenue from the Connect America Fund Phase II program and an increase in subscribers.

Operating expenses within our US Telecom segment increased $21.9 million, or 27.8%, to $100.6 million from $78.7 million for the year ended December 31, 2019 and 2018, respectively. This increase in operating expenses was primarily related to the $15.2 million gain on the July 2018 sale of approximately 100 cell sites, the completion of the

Phase I Mobility Fund support in 2018 which was recorded as a $3.5 million offset to expenses during the year ended December 31, 2018 and an increase within our early-stage private network business which began operations in mid-2018.

As a result of the above, our US Telecom segment's operating income decreased $28.7 million, or 78.0%, to $8.1 million from $36.8 million for the year ended December 31, 2019 and 2018, respectively.

Renewable Energy. Revenue within our Renewable Energy segment decreased $16.7 million, or 75.2%, to $5.5 million from $22.2 million for the year ended December 31, 2019 and 2018, respectively, primarily as a result the US Solar Transaction.

Operating expenses within our Renewable Energy segment increased by $4.0 million, or 45.2%, to $12.8 million from $8.8 million for the year ended December 31, 2019 and 2018. For the year ended December 31, 2019, operating expenses within our renewable energy segment includes a $3.3 million impairment of intangibles and a $2.6 million loss on the settlement of certain partner settlement agreements. During the year ended December 31, 2018, operating expenses within our renewable energy segment included a $4.0 million loss on the settlement of certain agreements and transaction-related charges associated with the US Solar Transaction of $2.1 million. Those charges were offset by the gain on the US Solar Transaction of $12.4 million. The remaining decrease of $8.4 million was related to the US operations which were sold with the US Solar Transaction.

As a result of the above, our Renewable Energy segment's operating income decreased by $20.6 million to a loss of $7.2 million compared to income of $13.4 million for the year ended December 31, 2019 and 2018, respectively.

The following represents a year over year discussion and analysis of our results of operations for the years ended December 31, 2019 and 2018 (in thousands):

	Year Ended December 31, 2019	Year Ended December 31, 2018	Amount of Increase (Decrease)	Percent Increase (Decrease)
REVENUE:				
Communication services	$ 428,108	$ 425,323	$ 2,785	0.7 %
Other	10,614	25,884	(15,270)	(59.0)
Total revenue	438,722	451,207	(12,485)	(2.8)
OPERATING EXPENSES (*excluding depreciation and amortization unless otherwise indicated*):				
Termination and access fees	112,943	114,478	(1,535)	(1.3)
Engineering and operations	77,649	73,031	4,618	6.3
Sales and marketing	38,730	35,207	3,523	10.0
General and administrative	100,534	104,267	(3,733)	(3.6)
Transaction-related charges	244	2,642	(2,398)	(90.8)
Restructuring charges	—	515	(515)	(100.0)
Depreciation and amortization	89,125	85,719	3,406	4.0
Goodwill impairment	3,279	—	3,279	100.0
(Gain) loss on disposition of long-lived assets	2,841	(26,425)	29,266	(110.8)
Loss on damaged assets and other hurricane related charges, net of insurance recovery	—	750	(750)	(100.0)
Total operating expenses	425,345	390,184	35,161	9.0
Income from operations	13,377	61,023	(47,646)	(78.1)
OTHER INCOME (EXPENSE):				
Interest income	2,263	1,811	452	25.0
Interest expense	(5,010)	(7,973)	2,963	(37.2)
Other expense, net	(4,558)	(1,119)	(3,439)	307.3
Other income and expense, net	(7,305)	(7,281)	(24)	0.3
INCOME FROM CONTINUING OPERATIONS BEFORE INCOME TAXES	6,072	53,742	(47,670)	(88.7)
Income tax provisions (benefit)	4,105	18,870	(14,765)	(78.2)
NET INCOME	1,967	34,872	(32,905)	(94.4)
Net income attributable to non-controlling interests, net of tax:	(12,773)	(15,057)	2,284	(15.2)
NET INCOME ATTRIBUTABLE TO ATN INTERNATIONAL, INC. STOCKHOLDERS	$ (10,806)	$ 19,815	$ (30,621)	(154.5)%

Communications services

Mobility revenue. Mobility revenue decreased by $1.8 million, or 1.9%, to $95.1 million for the year ended December 31, 2019 from $96.9 million for the year ended December 31, 2018. The decrease in Mobility revenue, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, Mobility revenue decreased by $0.6 million, or 0.7%, to $84.6 million for the year ended December 31, 2019 from $85.2 million for the year ended December 31, 2018. The decrease was the result of a decrease in subscribers within some of our international markets partially offset by an increase in subscribers within other markets.

- *US Telecom*. Mobility revenue within our US Telecom segment decreased by $1.3 million, or 11.0%, to $10.5 million from $11.8 million for the year ended December 31, 2019 and 2018, respectively. This decrease was primarily related to a decrease in enterprise revenue and a reduction in subscribers within some of our US retail markets.

Fixed communications revenue. Fixed revenue within our US Telecom segment also includes revenue from the Connect America Fund Phase II program award. Fixed communications revenue increased by $17.1 million, or 7.7%, to $238.7 million from $221.6 million for the year ended December 31, 2019 and 2018, respectively. The net increase in Fixed communications revenue, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, Fixed communications revenue increased by $10.7 million, or 5.0%, to $224.5 million from $213.8 million, for the year ended December 31, 2019 and 2018, respectively, primarily as a result of an increase in broadband revenues in many of our international telecom markets partially offset by $15.5 million of additional non-recurring funding from the USF, received during the year ended December 31, 2018, to help our US Virgin Islands operations recover from the impact of the Hurricanes.

- *US Telecom*. Fixed communications revenue within our US Telecom segment increased by $6.3 million, or 79.7%, to $14.2 million from $7.9 million for the year ended December 31, 2019 and 2018, respectively. This increase was related to an increase related to the Connect America Fund Phase II program award which began during mid-2019 and an increase in subscribers.

Carrier Services revenue. Within our US Telecom segment, Carrier Services revenue includes services provided under the FirstNet Transaction, wholesale roaming revenues, the provision of network switching services, tower lease revenue and other services provided to carriers. Carrier Services revenue decreased by $11.7 million, or 11.2%, to $93.0 million from $104.7 million for the year ended December 31, 2019 and 2018, respectively. The decrease, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, Carrier Services revenue increased by $0.3 million, or 3.4%, to $9.1 million from $8.8 million for the year ended December 31, 2019 and 2018, respectively, primarily as a result of a decrease in roaming rates and traffic as a result of fewer customers from other carriers roaming on our network in 2019 as compared to 2018.

- *US Telecom*. Carrier Services revenue within our US Telecom segment decreased by $12.0 million, or 12.5%, to $83.9 million from $95.9 million, for the year ended December 31, 2019 and 2018, respectively, primarily as a result of a decrease in wholesale traffic and the July 2018 sale of 100 cell sites.

Other communications services revenue. Other communications services revenue includes miscellaneous services that our operations within our International Telecom segment provide to retail subscribers. Other communications services revenue increased to $1.3 million from $2.1 million for the year ended December 31, 2019 and 2018, respectively.

Other revenue

Renewable energy revenue. Renewable energy revenue decreased by $16.7 million, or 75.0%, to $5.5 million from $22.2 million for the year ended December 31, 2019 and 2018, respectively, primarily as a result of the impact of the US Solar Transaction.

Managed Services revenue. Managed Services revenue increased by $1.4 million, or 37.8%, to $5.1 million from $3.7 million for the year ended December 31, 2019 and 2018, respectively, primarily as a result of an increase in consulting services and equipment sales.

Operating expenses

Termination and access fee expenses. Termination and access fees decreased by $1.6 million, or 1.3%, to $112.9 million from $114.5 million for the year ended December 31, 2019 and 2018, respectively. The net decrease in termination and access fees, within our segments, consisted of the following:

- *International Telecom.* Within our International Telecom segment, termination and access fees decreased by $0.3 million, or 0.4%, to $73.7 million from $74.0 million, for the year ended December 31, 2019 and 2018, respectively. Our US Virgin Islands operations incurred an increase in programming and other variable costs of $2.6 million that were not incurred during 2018 as a result of the impact of the Hurricanes. This increase was offset by an expense decrease in other markets as a result of a decline in subscribers.

- *US Telecom*. Termination and access fees within our US Telecom segment remained consistent at $38.9 million for the year ended December 31, 2019 and 2018. This consistency was primarily a result of increased circuit costs in 2019 offset by the $2.1 million impact of the sale of approximately 100 cell sites during July 2018, the $3.5 million impact of the completion of the Phase I Mobility Fund support in 2018 which recorded such amounts as an offset to termination and access fees as well as a decrease in termination costs within our wholesale long-distance service as a result of a decline in traffic volume.

- *Renewable Energy*. Termination and access fees within our Renewable Energy segment decreased $1.4 million, or 77.8%, to $0.4 million from $1.8 million for the year ended December 31, 2019 and 2018, respectively, as a result of the US Solar Transaction.

Engineering and operations expenses. Engineering and operations expenses increased by $4.6 million, or 6.3%, to $77.6 million from $73.0 million for the year ended December 31, 2019 and 2018, respectively. The net increase in engineering and operations expenses, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, engineering and operations expenses increased by $2.5 million, or 4.2%, to $62.0 million from $59.5 million, for the year ended December 31, 2019 and 2018, respectively. This increase was primarily related to an increase in expenses within most of our international markets, primarily related to the expansion and upgrades of our networks.

- *US Telecom*. Engineering and operations expenses increased within our US Telecom segment by $2.3 million, or 18.1%, to $15.0 million from $12.7 million, for the year ended December 31, 2019 and 2018, respectively, primarily as a result of a $2.1 million increase in these expenses in order to support our upgraded networks.

- *Renewable Energy*. During 2018, our Renewable Energy segment recorded $0.1 million of engineering and operations expenses. This segment did not incur any engineering and operations expenses during 2019.

- *Corporate Overhead*. Engineering and operations expenses within our corporate overhead remained consistent at $0.7 million for the year ended December 31, 2019 and 2018.

Sales and marketing expenses. Sales and marketing expenses increased by $3.5 million, or 10.0%, to $38.7 million from $35.2 million for the year ended December 31, 2019 and 2018, respectively. The net increase in sales and marketing expenses, within our segments, consisted of the following:

- *International Telecom*. Within our International Telecom segment, our sales and marketing expenses increased by $1.0 million, or 3.1%, to $33.1 million from $32.1 million for the year ended December 31, 2019 and 2018, respectively. The increase was incurred within most of our international markets.

- *US Telecom*. Sales and marketing expenses increased within our US Telecom segment by $2.6 million, or 83.9%, to $5.7 million from $3.1 million, for the year ended December 31, 2019 and 2018, respectively, primarily as a result of our early-stage private network business, which began operations in mid-2018.

General and administrative expenses. General and administrative expenses decreased by $3.7 million, or 3.6%, to $100.5 million from $104.3 million for the year ended December 31, 2019 and 2018, respectively. The net decrease in general and administrative expenses, within our segments, consisted of the following:

- *International Telecom*. General and administrative expenses decreased within our International Telecom segment by $0.9 million, or 1.7%, to $52.6 million from $53.5 million, for the year ended December 31, 2019 and 2018, respectively. The decrease was primarily related to cost reduction measures within both our Managed Services and technology platform businesses as well as certain markets within this segment.

- *US Telecom*. General and administrative expenses increased by $1.7 million, or 10.6%, to $17.7 million from $16.0 million for the year ended December 31, 2019 and 2018, respectively, primarily due to our early-stage private network business and to support our operations.

- *Renewable Energy*. General and administrative expenses within our Renewable Energy segment decreased by $3.3 million, or 50.0%, to $3.3 million from $6.6 million for the year ended December 31, 2019 and 2018, respectively. This decrease was primarily related to the US Solar Transaction partially offset by an increase in such expenses within our international operations.

- *Corporate Overhead*. General and administrative expenses within our corporate overhead decreased by $1.2 million, or 4.3%, to $26.9 million from $28.1 million, for the year ended December 31, 2019 and 2018, respectively, primarily related to certain cost reduction measures, partially offset by an increase in information technology expenditures to further enhance our network security.

Transaction-related charges. We incurred $0.2 million of transaction-related costs during the year ended December 31, 2019. During the year ended December 31, 2018, we incurred $2.6 million of transaction-related charges relating to our early-stage private network and large-scale fiber network businesses.

Restructuring charges. Restructuring charges are costs incurred as a result of reorganizing our operations from acquisition or disposition activities. During the year ended December 31, 2018, we incurred $0.5 million of restructuring charges which were primarily related to the US Solar Transaction. There were no restructuring charges incurred during 2019.

Depreciation and amortization expenses. Depreciation and amortization expenses increased by $3.4 million, or 4.0%, to $89.1 million from $85.7 million for the year ended December 31, 2019 and 2018, respectively. The net increase in depreciation and amortization expenses, within our segments, consisted primarily of the following:

- *International Telecom*. Depreciation and amortization expenses increased within our International Telecom segment by $7.1 million, or 14.5%, to $56.0 million from $48.9 million, for the year ended December 31, 2019 and 2018, respectively. This increase was recognized throughout all of our international markets as a result of upgrades and expansions to this segment's network assets including the network repairs and resiliency enhancements in the US Virgin Islands which were impacted by the Hurricanes.

- *US Telecom*. Depreciation and amortization expenses decreased within our US Telecom segment by $1.5 million, or 6.1%, to $23.1 million from $24.6 million, for the year ended December 31, 2019 and 2018, respectively, primarily as a result of the completion of the July 2018 sale of approximately 100 cell sites within our US wireless operations. We recorded approximately $1.9 million of depreciation expense in 2018 related to the 100 disposed cell sites. This decrease was partially offset by the effects of additional capital expenditures within this segment during 2018 and 2019.

- *Renewable Energy*. Depreciation and amortization expenses within our Renewable Energy segment decreased by $3.3 million, or 50.0%, to $3.3 million from $6.6 million for the year ended December 31, 2019 and 2018, respectively. Of this decrease, $4.3 million was the result of the impact of the US Solar Transaction. This decrease was partially offset by an increase, as a result of capital expenditures, in our international operations of $1.0 million.

- *Corporate Overhead*. Depreciation and amortization expenses increased by $1.1 million, or 19.6%, to $6.7 million from $5.6 million for the year ended December 31, 2019 and 2018, respectively, as a result of certain shared services assets being placed into service.

Goodwill impairment. During the year ended December 31, 2019, we recorded a $3.3 million goodwill impairment charge within our Renewable Energy segment. See Note 8 to the Consolidated Financial Statements in this Report.

(Gain) loss on disposition of long-lived assets. During the year ended December 31, 2019, we recorded a $2.8 million loss on the disposition of long-lived assets primarily in connection with certain asset disposals and partner settlement agreements within our Renewable Energy segment.

During the year ended December 31, 2018, we recorded a gain on the disposition of long-lived assets of $26.4 million. Within our US Telecom segment, we recorded a gain of $17.2 million primarily as the result of a $15.2 million gain on the sale of approximately 100 cell sites and a $2.9 million gain on the sale of certain telecommunication licenses. Within our Renewable Energy segment, we recorded a gain on the US Solar Transaction of $12.4 million. These gains were partially offset by a $3.2 million loss recorded in connection with certain asset disposals and partner settlement agreements within our Renewable Energy segment and a $1.1 million loss on the disposal of miscellaneous assets within our US wireless operations.

Loss on damaged assets and other Hurricane-related charges. During the year ended December 31, 2018, we incurred $0.8 million in expenses associated with the procurement of continued building maintenance, security services, the supply of alternative power and related professional fees.

Interest income. Interest income increased $0.5 million, or 25.0%, to $2.3 million from $1.8 million for the year ended December 31, 2019 and 2018, respectively, as the higher rate of return on our cash, cash equivalents and short-term investments was partially offset by a decrease in those balances.

Interest expense. Interest expense decreased by $3.0 million, or 37.2%, to $5.0 million from $8.0 million for the year ended December 31, 2019 and December 31, 2018, respectively, primarily as a result of the US Solar Transaction and the effects of the April 2019 amendment to our primary credit facility.

During the year ended December 31, 2019, we incurred interest expense on the Viya Debt and the One Communications Debt as well as commitment fees, letter of credit fees and the amortization of debt issuance costs on our outstanding credit facilities. During the year ended December 31, 2018, we also incurred $2.9 million of interest expense on the Ahana Debt which was assumed by the acquirer in November 2018 as a part of the US Solar Transaction.

Other expenses. For the year ended December 31, 2019, other expenses were $4.6 million which was primarily related to a $4.7 million write down of previously acquired non-controlling equity investments and $1.6 million relating to a net loss on foreign currency transactions. These expenses were partially offset by $1.0 million of income recognized on certain employee benefit plans.

For the year ended December 31, 2018, we recorded $1.1 million of other expenses which were primarily related to $2.4 million in losses on foreign currency transactions partially offset by $1.3 million in income related to certain employee benefit plans.

Income taxes. Our effective tax rate for the years ended December 31, 2019 and 2018 was 67.6% and 35.1%, respectively. The effective tax rate for the year ended December 31, 2019 was primarily impacted by the following items: (i) a $3.9 million net increase of unrecognized tax positions, (ii) a $3.8 million net increase for permanently non-deductible expenses, (iii) a $1.2 million deferred tax benefit related to an investment tax credit, and (iv) the mix of income generated among the jurisdictions in which we operate along with the exclusion of losses in jurisdictions where we cannot benefit from those losses as required by ASC 740-270-30-36(a), primarily in the US Virgin Islands and India.

The effective tax rate for the year ended December 31, 2018 was primarily impacted by the following items: (i) a $10.6 million net increase of unrecognized tax positions, (ii) a $4.7 million net benefit to record a return to accrual adjustment, (iii) a $1.2 million benefit to recognize a capital loss carryover due to capital gains on sale of wireless licenses, (iv) a $1.4 million net benefit to record a valuation allowance release on an indefinite lived intangible asset, (v) a $1.7 million provision associated with the intercompany sale of assets from the US to the US Virgin Islands, and (vi) the mix of income generated among the jurisdictions in which we operate along with the exclusion of losses in jurisdictions where we cannot benefit from those losses as required by ASC 740-270-30-36(a), primarily in the US Virgin Islands and India.

Our effective tax rate is based upon income before provision for income taxes for the year, composition of the income in different countries, and adjustments, if any, in the applicable quarterly periods for potential tax consequences, benefits and/or resolutions of tax contingencies. Our consolidated tax rate will continue to be impacted by any transactional or one-time items in the future and the mix of income in any given year generated among the jurisdictions in which we operate. While we believe we have adequately provided for all tax positions, amounts asserted by taxing authorities could materially differ from our accrued positions as a result of uncertain and complex applications of tax laws and regulations. Additionally, the recognition and measurement of certain tax benefits include estimates and judgments by management. Accordingly, we could record additional provisions or benefits for US federal, state, and foreign tax matters in future periods as new information becomes available.

Net income attributable to non-controlling interests, net of tax. Net income attributable to non-controlling interests, net of tax reflected an allocation of $12.8 million and $15.1 million of income generated by our less than wholly owned subsidiaries for the year ended December 31, 2019 and 2018, respectively, a decrease of $2.3 million, or 15.2%. Changes in net income attributable to non-controlling interests, net of tax, within our segments, consisted of the following:

- *International Telecom*. Net income attributable to non-controlling interests, net of tax decreased by $0.1 million, or 1.0%, to $9.7 million from $9.8 million for the year ended December 31, 2019 and 2018, respectively, primarily as a result of a decrease in non-controlling ownership interests partially offset by an increase in profitability at certain less than wholly owned subsidiaries.

- *US Telecom*. Net income attributable to non-controlling interests, net of tax decreased by $0.1 million, or 3.1%, to $3.1 million from $3.2 million for the year ended December 31, 2019 and 2018, respectively, primarily as a result of decreased profitability at certain less than wholly owned subsidiaries within our US wireless retail operations.

- *Renewable Energy*. As a result of the US Solar Transaction, no allocation of income or losses was recorded to non-controlling interests during the year ended December 31, 2019. Net income attributable to non-controlling interests, net of tax, was $2.1 million during the year ended December 31, 2018.

Net income (loss) attributable to ATN International, Inc. stockholders. Net income (loss) attributable to ATN International, Inc. stockholders was a loss of $10.8 million and income of $19.8 million for the years ended December 31, 2019 and 2018, respectively.

On a per diluted share basis, net income (loss) per diluted share was a loss of $0.68 and income of $1.24 per diluted share for the year ended December 31, 2019 and 2018, respectively.

Regulatory and Tax Issues

We are involved in a number of regulatory and tax proceedings. A material and adverse outcome in one or more of these proceedings could have a material adverse impact on our financial condition and future operations. For a discussion of ongoing proceedings, see Note 14 to the Consolidated Financial Statements in this Report.

CARES Act

On March 27, 2020, the CARES Act was enacted in response to the COVID-19 pandemic. The CARES Act, among other things, permits NOL carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. In addition, the CARES Act allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. Certain provisions of the CARES Act impact our income tax provision computations.

Liquidity and Capital Resources

Historically, we have met our operational liquidity needs through a combination of cash-on-hand and internally generated funds and have funded capital expenditures and acquisitions with a combination of internally generated funds, cash-on-hand, proceeds from dispositions, borrowings under our credit facilities and seller financings. We believe our current cash, cash equivalents, short term investments and availability under our current credit facility will be sufficient to meet our cash needs for at least the next twelve months for working capital needs and capital expenditures.

Total liquidity. As of December 31, 2020, we had approximately $105.0 million in cash, cash equivalents and restricted cash. Of this amount, $39.7 million was held by our foreign subsidiaries and is indefinitely invested outside the United States. In addition, we had approximately $72.8 million of debt, net of unamortized deferred financing costs, as of December 31, 2020. How and when we deploy our balance sheet capacity will figure prominently in our longer-term growth prospects and stockholder returns.

Uses of Cash

Acquisitions and investments. We funded our acquisitions with a combination of cash-on-hand, borrowings under our credit facilities as well as equity investor and seller financings.

Alaska Transaction. We have secured a commitment for certain debt financing in connection with the Alaska Transaction. See *Pending Acquisition of Alaska Communications System Group, Inc.*

We continue to explore opportunities to expand our telecommunications business or acquire new businesses and telecommunications licenses in the United States, the Caribbean and elsewhere. Such acquisitions may require external financing. While there can be no assurance as to whether, when or on what terms we will be able to acquire any such businesses or licenses or make such investments, such acquisitions may be accomplished through the issuance of shares of our capital stock, payment of cash or incurrence of additional debt. From time to time, we may raise capital ahead of any definitive use of proceeds to allow us to move more quickly and opportunistically if an attractive investment materializes.

Cash used in investing activities. Cash used in investing activities was $70.2 million and $88.3 million for the year ended December 31, 2020 and 2019, respectively. The net decrease in cash used for investing activities of $18.1 million was primarily related to a $34.6 million reduction in the net cash used for strategic investments offset by the increase in the usage of cash for the acquisition of telecommunications licenses of $20.4 million and capital expenditures of $2.6 million. During the year ended December 31, 2020, we also received an additional $13.2 million in government grants as compared to 2019 and cash from investing activities for the year ended December 31, 2019 includes $6.4 million received as part of the US Solar Transaction.

Cash used in financing activities. Cash used in financing activities was $73.4 million and $29.9 million during the year ended December 31, 2020 and 2019, respectively. The increase in cash used for financing activities of $43.5 million was primarily related to a $24.4 million increase in cash used to acquire non-controlling interests in One Communications (our subsidiary in Bermuda and the Cayman Islands), a $9.1 million increase in the repayments of long-term debt, a $6.4 million increase in cash used for the repurchase of our Common Stock under the 2016 Repurchase Plan (as defined below) and a $3.2 million increase in the distributions made to minority shareholders.

Working Capital. Historically, we have internally funded our working capital needs. Pursuant to the FirstNet Agreement AT&T has the option to repay construction costs, with interest, over an eight year period. To fund the working capital needs created by AT&T's option to extend its payment terms, we completed the Receivables Credit Facility, as discussed below, on March 26, 2020.

Capital expenditures. Historically, a significant use of our cash has been for capital expenditures to expand and upgrade our telecommunications networks and to expand our renewable energy operations.

For the year ended December 31, 2020 and 2019, we spent approximately $75.3 million and $72.7 million, respectively, on capital expenditures. The following notes our capital expenditures, by operating segment, for these periods (in thousands):

	Capital Expenditures				
Year ended December 31,	**International Telecom**	**US Telecom**	**Renewable Energy**	**Corporate and Other (1)**	**Consolidated**
2020	$ 38,895	$ 29,883	$ 2,932	$ 3,613	$ 75,323
2019	42,029	17,490	6,448	6,758	72,725

(1) Corporate and other items refer to corporate overhead costs and consolidating adjustments.

We are continuing to invest in our telecommunication networks along with our operating and business support systems in many of our markets. Such investments include the upgrade and expansion of both our Mobility and Fixed telecommunications networks as well as our service delivery platforms. For 2021, we expect International Telecom capital expenditures to be approximately $45 million to $55 million. In the US Telecom segment, we expect capital expenditures to be approximately $40 million to $50 million for 2021 including $20 million to $30 million related to towers and backhaul in conjunction with the FirstNet Agreement.

We expect to fund our current capital expenditures primarily from our current cash balances, cash generated from operations and our existing credit facilities including the FirstNet Receivables Credit Facility.

Income taxes. We have historically used cash-on-hand to make payments for income taxes. Our policy is to allocate capital where we believe we will get the best returns and to date has been to indefinitely reinvest the undistributed earnings of our foreign subsidiaries. As we continue to reinvest our remaining foreign earnings, outside of dividends from Guyana made in 2020, no additional provision for income taxes has been made on accumulated earnings of foreign subsidiaries.

Dividends. We use cash-on-hand to make dividend payments to our stockholders when declared by our Board of Directors. For the three months ended December 31, 2020, our Board of Directors declared $2.7 million of dividends to our stockholders which includes a $0.17 per share dividend declared on December 14, 2020 and paid on January 8, 2021. We have declared quarterly dividends for the last 88 fiscal quarters.

Stock Repurchase Plan. On September 19, 2016, our Board of Directors authorized the repurchase of up to $50.0 million of our Common Stock from time to time on the open market or in privately negotiated transactions (the "2016 Repurchase Plan"). We repurchased $6.6 million and $0.2 million of our Common Stock under the 2016 Repurchase Plan during the year ended December 31, 2020 and 2019, respectively. As of December 31, 2020, we have $30.9 million authorized and available for share repurchases under the 2016 Repurchase Plan.

Debt Service and Other Contractual Commitments Table. The following table discloses aggregate information about our debt, lease and other obligations as of December 31, 2020 and the periods in which payments are due:

Contractual Obligations	Total	Less Than 1 Year	1 – 3 Years	4 – 5 Years	More Than 5 Years
			(In thousands)		
Debt	$ 72,823	$ 3,750	$ 9,590	$ —	$ 59,483
Pension and postretirement benefit obligations	57,311	20,077	8,068	8,429	20,737
Operating lease obligations	73,632	15,211	26,667	18,660	13,094
Total	$ 203,766	$ 39,038	$ 44,325	$ 27,089	$ 93,314

We have omitted uncertain income tax liabilities from this table due to the inherent uncertainty regarding the timing of potential issue resolution. Specifically, either the underlying positions have not been fully developed enough under audit to quantify at this time or the years relating to the issues for certain jurisdictions are not currently under audit. At December 31, 2020, we had $40.8 million of gross unrecognized uncertain tax benefits of which $35.8 million is included in “Other Liabilities” and $5.0 million is included in “Accrued Taxes” in the consolidated balance sheet.

Sources of Cash

Cash provided by operations. Cash provided by operating activities was $86.3 million for the year ended December 31, 2020 as compared to $87.9 million for the year ended December 31, 2019. The decrease of $1.6 million was primarily related to an increase in working capital investments made as a part of the FirstNet construction project partially offset by lower tax payments and improved operating income, net of the impact of the Vibrant Transaction.

Credit facility. On April 10, 2019, we entered into the 2019 Credit Facility, with CoBank, ACB and a syndicate of other lenders (the “2019 Credit Facility”). The 2019 Credit Facility provides for a $200 million revolving credit facility that includes (i) up to $75 million for standby or trade letters of credit and (ii) up to $10 million under a swingline sub-facility. Approximately $16.0 million of performance letters of credit have been issued and remain outstanding and undrawn as of December 31, 2020. The 2019 Credit Facility matures on April 10, 2024.

Amounts borrowed under the 2019 Credit Facility bear interest at a rate equal to, at our option, either (i) the London Interbank Offered Rate (“LIBOR”) plus an applicable margin ranging between 1.25% to 2.25% or (ii) a base rate plus an applicable margin ranging from 0.25% to 1.25%. Swingline loans bear interest at the base rate plus the applicable margin for base rate loans. The base rate is equal to the higher of (i) 1.00% plus the higher of (x) LIBOR for an interest period of one month and (y) LIBOR for an interest period of one week; (ii) the Federal Funds Effective Rate (as defined in the 2019 Credit Facility) plus 0.50% per annum; and (iii) the Prime Rate (as defined in the 2019 Credit Facility). The applicable margin is determined based on the Total Net Leverage Ratio (as defined in the 2019 Credit Facility). Under the terms of the 2019 Credit Facility, we must also pay a fee ranging from 0.150% to 0.375% of the average daily unused portion of the 2019 Credit Facility over each calendar quarter.

The 2019 Credit Facility contains customary representations, warranties and covenants, including a financial covenant that imposes a maximum ratio of indebtedness to EBITDA as well as covenants limiting additional indebtedness, liens, guaranties, mergers and consolidations, substantial asset sales, investments and loans, sale and leasebacks, transactions with affiliates and fundamental changes. Our investments in “unrestricted” subsidiaries and certain dividend payments to our stockholders are not limited unless the Total Net Leverage Ratio is equal to or greater than 1.75 to 1.0. The Total Net Leverage Ratio is measured each fiscal quarter and is required to be less than or equal to 2.75 to 1.0. In the event of a Qualifying Acquisition (as defined in the 2019 Credit Facility), the Total Net Leverage Ratio increases to 3.25 to 1.0 for the subsequent three fiscal quarters.

The 2019 Credit Facility also provides for the incurrence by us of incremental term loan facilities, when combined with increases to revolving loan commitments, in an aggregate amount not to exceed $200 million (the “Accordion”). Amounts borrowed under the Accordion are also subject to proforma compliance with a net leverage ratio financial covenant.

As of December 31, 2020, we were in compliance with all of the financial covenants, had no outstanding borrowings and, net of the $16.0 million of outstanding performance letters of credit, had $184.0 million of availability under the 2019 Credit Facility.

FirstNet Receivables Credit Facility

On March 26, 2020, Commnet Finance, a wholly owned subsidiary of Commnet Wireless, entered into receivables credit facility with the Company, Commnet Wireless, and CoBank, ACB (the "Receivables Credit Facility").

The Receivables Credit Facility provides for a senior secured delayed draw term loan in an aggregate principal amount of up to $75 million and the proceeds may be used to acquire certain receivables from Commnet Wireless. The receivables to be financed and sold under the Receivables Credit Facility, which provide the loan security, relate to the obligations of AT&T under the FirstNet Agreement. The delayed draw period will expire on December 31, 2021.

The maturity date for each loan will be set by CoBank and will match the weighted average maturity of the certain receivables financed.

Interest on the loans accrues at a rate based on (i) LIBOR plus 2.50%, (ii) a base rate plus 1.50% or (iii) a fixed annual interest rate to be quoted by CoBank

The Receivables Credit Facility contains customary events of termination, representations and warranties, affirmative and negative covenants and events of default customary for facilities of this type.

As of December 31, 2020, we had no outstanding borrowings under the Receivables Credit Facility.

Viya Debt

We, and certain of our subsidiaries, have entered into a $60.0 million loan agreement (the "Viya Debt") with Rural Telephone Finance Cooperative ("RTFC"). The Viya Debt agreement contains customary representations, warranties and affirmative and negative covenants (including limitations on additional debt, guaranties, sale of assets and liens) and a financial covenant that limits the maximum ratio of indebtedness to annual operating cash flow to 3.5 to 1.0 (the "Net Leverage Ratio"). This covenant is tested on an annual basis at the end of each fiscal year. Interest is paid quarterly at a fixed rate of 4.0% and principal repayment is not required until maturity on July 1, 2026. Prepayment of the Viya Debt may be subject to a fee under certain circumstances. The debt is secured by certain assets of our Viya subsidiaries and is guaranteed by us. With RTFC's consent, we funded the restoration of Viya's network, following the Hurricanes in 2017, through an intercompany loan arrangement with a $75.0 million limit. We were not in compliance with the Net Leverage Ratio covenant of the Viya Debt agreement for the year ending December 31, 2020 and received a waiver from the RTFC on February 25, 2021.

We paid a fee of $0.9 million in 2016 to lock the interest rate at 4% per annum over the term of the Viya Debt. The fee was recorded as a reduction to the Viya Debt carrying amount and is being amortized over the life of the loan.

As of December 31, 2020, $60.0 million of the Viya Debt remained outstanding and $0.5 million of the rate lock fee was unamortized.

One Communications Debt

We have an outstanding loan from HSBC Bank Bermuda Limited (the "One Communications Debt") which is scheduled to mature on May 22, 2022 and bears interest at the one-month LIBOR plus a margin ranging between 2.5% to 2.75%, paid quarterly.

The One Communications Debt contains customary representations, warranties and affirmative and negative covenants (including limitations on additional debt, guaranties, sale of assets and liens) and financial covenants, tested annually as of and for the twelve months ended December 31st, that limit the ratio of tangible net worth to long term debt and total net debt to EBITDA and require a minimum debt service coverage ratio (as defined in the One Communications Debt agreement). We were in compliance with our covenants as of December 31, 2020.

As a condition of the One Communications Debt, we were required to enter into a hedging arrangement with a notional amount equal to at least 30% of the outstanding loan balance and a term corresponding to the term of the One Communications Debt. As such, we entered into an amortizing interest rate swap that has been designated as a cash flow hedge, which had an original notional amount of $11.0 million, has an interest rate of 1.874%, and expires in March 2022. As of December 31, 2020, the swap had an unamortized notional amount of $7.3 million.

We capitalized $0.3 million of fees associated with the One Communications Debt which are being amortized over the life of the debt and are recorded as a reduction to the debt carrying amount.

As of December 31, 2020, $13.4 million of the One Communications Debt was outstanding and $0.1 million of the capitalized fees remained unamortized.

Ahana Debt

On November 6, 2018, we consummated the US Solar Transaction which included the transfer of the Ahana Debt (as defined below) to the purchaser.

Prior to our US Solar Transaction, our US solar operations issued $20.6 million in aggregate principal amount of 4.427% senior notes due in 2029 (the “Series A Notes”) and $45.2 million in aggregate principal amount of 5.327% senior notes due in 2031 (the “Series B Notes”). These operations also issued a note to Public Service Electricity and Gas which bore interest at a rate of 11.3% due in 2027 (the “PSE&G Loan” and collectively with the Series A Notes and Series B Notes, the “Ahana Debt”).

For the Series A Notes and Series B Notes, interest and principal were payable semi-annually, until their respective maturity dates, and were secured by certain US solar assets and guaranteed by certain subsidiaries.

Repayment of the PSE&G Loan could have been made in either cash or Solar Renewable Energy Credits (“SRECs”) at our discretion, with the value of the SRECs being fixed at the time of the loan’s closing. Historically, we had made all repayments of the PSE&G Loan using SRECs.

We capitalized $2.8 million of fees associated with the Ahana Debt which were recorded as a reduction to the debt carrying amount and amortized over the life of the notes.

Factors Affecting Sources of Liquidity

Internally generated funds. The key factors affecting our internally generated funds are demand for our services, competition, regulatory developments, economic conditions in the markets where we operate our businesses and industry trends within the telecommunications and renewable energy industries.

Restrictions under Credit Facility. Our 2019 Credit Facility contains customary representations, warranties and covenants, including covenants limiting additional indebtedness, liens, guaranties, mergers and consolidations, substantial asset sales, investments and loans, sale and leasebacks, transactions with affiliates and fundamental changes.

In addition, the 2019 Credit Facility contains a financial covenant that imposes a maximum ratio of indebtedness to EBITDA. As of December 31, 2020, we were in compliance with all of the financial covenants of the 2019 Credit Facility.

Capital markets. Our ability to raise funds in the capital markets depends on, among other things, general economic conditions, the conditions of the telecommunications and renewable energy industries, our financial performance, the state of the capital markets and our compliance with SEC requirements for the offering of securities. On May 12, 2020, we filed a “universal” shelf registration statement with the SEC, which automatically became effective upon filing. This filing registered potential future offerings of our securities.

Foreign Currency

We translate the assets and liabilities of our foreign subsidiaries from their respective functional currencies, primarily the Indian Rupee and the Guyana Dollar, to US Dollars at the appropriate rates as of the balance sheet date. Changes in the carrying value of these assets and liabilities attributable to fluctuations in rates are recognized in foreign currency translation adjustment, a component of accumulated other comprehensive income on our balance sheet. Income statement accounts are translated using the monthly average exchange rates during the year. Monetary assets and liabilities denominated in a currency that is different from a reporting entity's functional currency must first be remeasured from the applicable currency to the legal entity's functional currency. The effect of this remeasurement process is reported in other income within our income statement. During the year ended December 31, 2020 and 2019, we recorded $1.4 million and $1.6 million, respectively, in losses on foreign currency transactions. With the completion of the Vibrant Transaction, we will no longer have exposure to the Indian Rupee. We will continue to assess the impact of our exposure to the Guyana Dollar.

Inflation

We do not believe that inflation has had a significant impact on our consolidated operations in any of the periods presented in this Report.

Critical Accounting Estimates

We have based our discussion and analysis of our financial condition and results of operations on our Consolidated Financial Statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"). We base our estimates on our operating experience and on various conditions existing in the market and we believe them to be reasonable under the circumstances. Our estimates form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ materially from these estimates under different assumptions or conditions.

We have identified the critical accounting estimates that we believe require significant judgment in the preparation of our Consolidated Financial Statements. We consider these accounting estimates to be critical because changes in the assumptions or estimates we have selected have the potential of materially impacting our financial statements.

Revenue Recognition. In determining the appropriate amount of revenue to recognize for a particular transaction, we apply the criteria established by the authoritative guidance for revenue recognition and defer those items that do not meet the recognition criteria. As a result of the cutoff times of our billing cycles, we are often required to estimate the amount of revenues earned but not billed from the end of each billing cycle to the end of each reporting period. These estimates are based primarily on rate plans in effect and historical evidence with each customer or carrier. Adjustments affecting revenue can and occasionally do occur in periods subsequent to the period when the services were provided, billed and recorded as revenue, however, historically, these adjustments have not been material.

We apply our judgment when assessing the ultimate realization of receivables, including assessing the probability of collection and the current credit- worthiness of customers. We establish an allowance for credit losses on trade receivables sufficient to cover probable and reasonably estimable losses. Our estimate of the allowance for credit losses on trade receivables considers collection experience, aging of the accounts receivable, the credit quality of the customer and, where necessary, other macro-economic factors.

Goodwill and Long-Lived Intangible Assets. In accordance with the authoritative guidance regarding the accounting for impairments or disposals of long-lived assets and the authoritative guidance for the accounting for goodwill and other intangible assets, we evaluate the carrying value of our long-lived assets, including property and equipment, whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. An impairment loss exists when estimated *undiscounted* cash flows attributable to non-current assets subject to depreciation and amortization and *discounted* cash flows for intangible assets not subject to amortization are less than their carrying amount. For long lived assets other than goodwill, if an asset is deemed to be impaired, the amount of the impairment loss recognized represents the excess of the asset's carrying value as compared to its estimated fair value, based on management's assumptions and projections.

Our estimates of the future cash flows attributable to our long-lived assets and the fair value of our businesses involve significant uncertainty. Those estimates are based on management's assumptions of future results, growth trends and industry conditions. If those estimates are not met, we could have additional impairment charges in the future, and the amounts may be material.

We also assess the carrying value of goodwill and indefinite-lived intangible assets on an annual basis or more frequently if events or changes in circumstances indicate that the carrying value of goodwill may not be recoverable. The carrying value of each reporting unit, including goodwill assigned to that reporting unit, is compared to its fair value. If the carrying value of the reporting unit, including goodwill, exceeds the fair value of the reporting unit, an impairment charge is recorded equal to the excess, but not more than the total amount of goodwill allocated to the reporting unit.

We assess the recoverability of the value of our telecommunications licenses using either a market or income approach. We believe that our telecommunications licenses generally have an indefinite life based on historical ability to renew such licenses, that such renewals may be obtained indefinitely and at little cost, and that the related technology used is not expected to be replaced in the foreseeable future. If the value of these assets was impaired by some factor, such as an adverse change in the subsidiary's operating market, we may be required to record an impairment charge. We test the impairment of our telecommunications licenses annually or more frequently if events or changes in circumstances indicate that such assets might be impaired. The impairment test consists of a comparison of the fair value of telecommunications licenses with their carrying amount on a license by license basis.

We performed our annual impairment assessment of our goodwill and telecommunications licenses as of October 1, 2020 for all of our reporting units and determined that no impairment relating to our goodwill or telecommunications licenses existed during the year ended December 31, 2020.

During the year ended December 31, 2019, we recorded a $3.3 million goodwill impairment charge within our Renewable Energy segment. See Note 8 to the Consolidated Financial Statements in this Report.

Contingencies. We are subject to proceedings, lawsuits, tax audits and other claims related to lawsuits and other legal and regulatory proceedings that arise in the ordinary course of business as further described in Note 14 to the Consolidated Financial Statements included in this Report. We are required to assess the likelihood of any adverse judgments or outcomes to these matters as well as the potential ranges of probable losses. A determination of the amount of loss accruals required, if any, for these contingencies is made after careful analysis of each individual issue. We consult with legal counsel and other experts where necessary in connection with our assessment of any contingencies. The required accrual for any such contingency may change materially in the future due to new developments or changes in each matter. We estimate these contingencies amounted to approximately $44.1 million at December 31, 2020. We believe that some adverse outcome is probable and have accordingly accrued $5.0 million as of December 31, 2020 for these matters.

Recent Accounting Pronouncements

See Note 2 to the Consolidated Financial Statements included in this Report.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Translation and Remeasurement. We translate the assets and liabilities of our foreign subsidiaries from their respective functional currencies, primarily the Indian Rupee and the Guyana Dollar, to US Dollars at the appropriate rates as of the balance sheet date. Changes in the carrying value of these assets and liabilities attributable to fluctuations in rates are recognized in foreign currency translation adjustment, a component of accumulated other comprehensive income on our balance sheet. Income statement accounts are translated using the monthly average exchange rates during the year.

Monetary assets and liabilities denominated in a currency that is different from a reporting entity's functional currency must first be remeasured from the applicable currency to the legal entity's functional currency. The effect of this remeasurement process is reported in other income on our income statement.

Employee Benefit Plans. We sponsor pension and other postretirement benefit plans for employees of certain subsidiaries. Net periodic pension expense is recognized in our income statement. We recognize a pension or other postretirement plan's funded status as either an asset or liability in our consolidated balance sheet. Actuarial gains and losses are reported as a component of other comprehensive income and amortized through other income in subsequent periods.

Interest Rate Sensitivity. As of December 31, 2020, we had $6.1 million of variable rate debt outstanding, which is subject to fluctuations in interest rates. Our interest expense may be affected by changes in interest rates. We believe that a 10% increase in the interest rates on our variable rate debt would have an immaterial impact on our Financial Statements. We may have additional exposure to fluctuations in interest rates if we again borrow amounts under our revolver loan within our 2019 Credit Facility.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The response to this item is submitted as a separate section to this Report. See "Item 15. Exhibits, Financial Statement Schedules."

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

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2020. Disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), mean controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified by the Securities and Exchange Commission's ("SEC") rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Exchange Act is accumulated and communicated to the issuer's management, including its principal executive and principal financial officers, or persons performing similar functions as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of December 31, 2020, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act, as a process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer or persons performing similar functions, and effected by our Board of Directors, management and other personnel, 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 and 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 our assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2020. In making this assessment, our 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 its assessment, management concluded that, as of December 31, 2020, our internal control over financial reporting was effective based on those criteria.

Our internal control over financial reporting as of December 31, 2020 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears on page F-2

Changes in Internal Control Over Financial Reporting.

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

On July 1, 2016, we and certain of our subsidiaries entered into a $60.0 million loan agreement (the "Viya Debt") with Rural Telephone Finance Cooperative ("RTFC"). The Viya Debt agreement contains customary representations, warranties and affirmative and negative covenants (including limitations on additional debt, guaranties, sale of assets and liens) and a financial covenant that limits the maximum ratio of indebtedness to annual operating cash flow to 3.5 to 1.0 (the "Net Leverage Ratio"). This covenant is tested on an annual basis at the end of each fiscal year. Interest is paid quarterly at a fixed rate of 4.0% and principal repayment is not required until maturity on July 1, 2026. Prepayment of the Viya Debt may be subject to a fee under certain circumstances. The debt is secured by certain assets of our Viya subsidiaries and is guaranteed by us. In 2018, we began funding the restoration of Viya's network following the Hurricanes through an intercompany loan arrangement which exceeded certain limitations on Viya incurring additional debt. RTFC consented to these intercompany advances and increased the intercompany debt limit to $50.0 million. Subsequently, the RTFC increased the limit to $75.0 million at our request due to an increase in the on-going restoration and resiliency costs. We were not in compliance with the Net Leverage Ratio covenant for the year ending December 31, 2020 and received a waiver from the RTFC on February 25, 2021.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information regarding our executive officers is contained in Part I of this Form 10-K under the caption "Information About Our Executive Officers".

The following table sets forth information regarding our directors as of March 1, 2021:

Name	Age	Position
Michael T. Prior	56	Chairman, President, Chief Executive Officer, and Director
Bernard Bulkin	78	Director
James S. Eisenstein	62	Director
Richard J. Ganong	57	Director
John C. Kennedy	56	Director
Pamela F. Lenehan	68	Director
Liane J. Pelletier	63	Director
Charles J. Roesslein	72	Director

Employee Directors

Michael T. Prior is the chairman of the Board of Directors and has been our President and Chief Executive Officer since December 2005 and an officer of the Company since June 2003. He was elected to the Board in May 2008. Previous to joining the Company, Mr. Prior was a partner with Q Advisors LLC, a Denver based investment banking and financial advisory firm focused on the technology and telecommunications sectors. Mr. Prior began his career as a corporate attorney with Cleary Gottlieb Steen & Hamilton LLP in London and New York. He received a B.A. degree from Vassar College and a J.D. degree summa cum laude from Brooklyn Law School. Mr. Prior currently serves on the Board of Directors of the Competitive Carriers Association. In 2008, Mr. Prior was named Entrepreneur of the Year for the New England Region by Ernst & Young LLP and One of America's Best CEOs by DeMarche Associates, Inc.

Non-Employee Directors

Dr. Bernard Bulkin was elected in March 2016 as a director of ATN International, Inc. (the "Company") and is the Chair of our Nominating and Corporate Governance Committee and a member of our Audit Committee. Dr. Bulkin brings particular expertise in the field of renewable energy, and is shareholder director for the ATN renewable energy joint venture, Aragorn Holding Company Two. He held several senior management roles throughout his approximately twenty-year career at British Petroleum, including Director of the refining business, Vice President Environmental Affairs, and Chief Scientist, and left BP in 2003. He is currently a Director of K3Solar Ltd., VH-Global Sustainable Energy Opportunities plc (Chairman), and ARQ, Ltd. Dr. Bulkin has served on the boards of Severn Trent plc, Ludgate Investments Limited, HMN Colmworth Ltd., Chemrec AB and REAC Fuel AB, each a Swedish biofuel technology developer, and Ze-gen Corporation, a renewable energy company, and chaired the boards of two UK public companies: AEA Technology plc (from 2005 until 2009), and Pursuit Dynamics Plc (from 2011 until 2013). Dr. Bulkin served as Chair of the UK Office of Renewable Energy from 2010 until 2013, was a member of the FTSE Environmental Markets Advisory Committee (2010-2017) and has held several other UK government roles in sustainable energy and transport. He earned a B.S. in Chemistry from the Polytechnic Institute of Brooklyn and a Ph.D. in Physical Chemistry from Purdue University. Dr. Bulkin is Emeritus Professorial Fellow at the University of Cambridge and is the author of *Crash Course* (2015) and *Solving Chemistry* (2019). He was awarded the Honour of Officer of the Order of the British Empire (OBE) in the 2017 New Year Honours List.

James S. Eisenstein has been a director of ours since October 2019 and is a member of our Compensation Committee and our Nominating and Corporate Governance Committee. He is currently Chairman and Chief Executive Officer of Grupo TorreSur, a Latin American focused wireless tower company. Prior to co-founding Grupo TorreSur, Mr. Eisenstein was Chairman and Chief Executive Officer of Optasite Holding Company, Inc. from 2003 to 2008; Chief Executive Officer of Concourse Communications Group LLC in 2003 and Chief Operating Officer and, later, Chief

Development Officer of American Tower Corporation, which he co-founded, from 1995 to 2003. Before co-founding American Tower, Mr. Eisenstein was a Partner and Chief Operating Officer of Amaturo Group, Ltd., the owner and operator of radio stations, from 1990 to 1995; was Deputy General Counsel of Home Shopping Network from 1988 to 1990; and an associate at Skadden, Arps, Slate, Meagher and Flom from 1986 to 1988 and at Vinson & Elkins from 1984 to 1986. He was Chairman of the Board of Directors of Eaton Towers, Ltd. until the end of 2019, at which time the Company was sold, and was a member of the Board of Directors of CTI Towers, Inc. until the end of 2020, at which time that Company was sold. He also served as a director of Nexamp, Inc. from 2011-2016. Mr. Eisenstein is a graduate of Georgetown University and holds an M.B.A. from The Wharton School and a J.D. from the University of Pennsylvania Law School.

Richard J. Ganong has been a director of ours since June 2018 and is the Chair of our Compensation Committee. Mr. Ganong has more than 25 years of experience in the financial services industry with a focus on venture capital and hedge fund investing. He was a Partner at the Tudor Investment Corporation from 1993 to 2009, an internationally recognized diversified investment management firm, and was a founding General Partner of the Tudor Venture Group which managed a series of funds providing growth capital to private companies in various information technology industries. Mr. Ganong was the Senior Vice President of Development and Alumni Relations at Bowdoin College from 2014 to 2016 and most recently founded Five Pine Partners, an investment and advisory boutique. Mr. Ganong also is an emeritus member of the Board of Overseers at The Tuck School at Dartmouth. He is currently a member of the Board of Directors for The Maine Technology Institute, The Gulf of Maine Research Institute, and a Director at Ethic Bank. Mr. Ganong holds a Bachelor of Arts from Bowdoin College and an M.B.A. from the Tuck School at Dartmouth.

John C. Kennedy has been a director of ours since June 2018 and is a member of our Nominating and Corporate Governance Committee. Mr. Kennedy is the founder and CEO of Platform Science, Inc., an emerging company in the connected vehicle and transportation technology space. Previously, he was the President of Qualcomm Enterprise Services and the President of Qualcomm's Omnitracs business unit. Mr. Kennedy is a veteran of News Corp., where he served as Executive Vice President of Operations—Digital Media, and as a Senior Vice President of Corporate Development at Fox Networks Group, where he was part of the joint Fox/NBC Universal team that created the joint venture now known as “Hulu”. Mr. Kennedy retired as a Commander in the U.S. Navy Reserves in 2016, after serving as a founding team member of DiUX, the Department of Defense's Silicon Valley presence. Previously, he served on the staff of U.S. Senator John McCain, was the Aide de Camp to the Vice Chairman of the Joint Chiefs of Staff and deployed as a Naval Flight Officer during the first Gulf War. Mr. Kennedy holds a B.S. in Economics from the United States Naval Academy and an M.B.A. from the Harvard Business School, and was a Legis Fellow of the Brookings Institution.

Pamela F. Lenehan has been a director of ours since June 2020 and is a member of our Audit Committee. Ms. Lenehan spent more than 20 years in financial services. In June 2002, Ms. Lenehan founded Ridge Hill Consulting, LLC and has served as President since that time. Previously, she served as Chief Financial Officer of Convergent Networks, a high technology start-up and was Senior Vice President, Corporate Development and Treasurer of Oak Industries, a NYSE-listed manufacturer of telecommunications components. She also previously served as a Managing Director in Investment Banking for 14 years at Credit Suisse First Boston and started her career in corporate banking at Chase Manhattan Bank. Ms. Lenehan is also currently a director of New Residential Investment Corp., the Center for Women & Enterprise, the National Association of Corporate Directors New England Chapter, and is co-chair of the Boston Chapter of Women Corporate Directors. Ms. Lenehan previously served on the boards of Monotype Imaging, Civitas Solutions, American Superconductor, Spartech Corporation and Avid Technology. Ms. Lenehan has a B.A. in Mathematical Economics, Cum Laude and with Honors, and a M.A. in Economics from Brown University. She holds an Executive Masters Professional Director Certification, Platinum Level, from the American College of Corporate Directors, a national director education organization, and in 2017 received their Distinguished Director Award.

Liane J. Pelletier has been a director of ours since June 2012, is the Independent Lead Director of our Board of Directors and a member of our Compensation Committee. Ms. Pelletier has over twenty-five years of experience in the telecommunications industry. From October 2003 through April 2011, she served as the Chief Executive Officer and Chairman of Alaska Communications Systems, and prior to that time served as the former Senior Vice President of Corporate Strategy and Business Development for Sprint Corporation. Ms. Pelletier earned her M.S. in Management at the Sloan School of Business at the Massachusetts Institute of Technology and a B.A. in Economics, *magna cum laude*, from Wellesley College. Ms. Pelletier currently serves as Chairman of the Nominating and Corporate Governance Committee and as a member of the Audit Committee of the Board of Expeditors International; is a board member and committee member of both the Audit and Compensation Committees of Frontdoor, Inc.; and is a board member and committee member of the Nominating and Corporate Governance Committee of Switch Inc. Ms. Pelletier is a NACD Board Leadership Fellow and has earned the CERT Certificate in Cybersecurity Oversight from the Software Engineering Institute of Carnegie Mellon.

Charles J. Roesslein has been a director of ours since April 2002 and is the Chair of our Audit Committee. He has been a director of National Instruments Corporation since July 2000 and is the Co-Founder of Austin Tele-Services Partners, LP, a telecommunications provider, for whom he served as Chief Executive Officer from 2004 to January 2016. He is a retired officer of SBC Communications. Mr. Roesslein previously served as Chairman of the Board of Directors, President and Chief Executive Officer of Prodigy Communications Corporation from June of 2000 until December of 2000. He served as President and Chief Executive Officer of SBC-CATV from October 1999 until May 2000, and as President and Chief Executive Officer of SBC Technology Resources from August 1997 to October 1999. Mr. Roesslein holds a BS in Mechanical Engineering from the University of Missouri-Columbia and a master's degree in Finance from the University of Missouri-Kansas City.

Additional information required by this Item 10 will be set forth in our Definitive Proxy Statement for the 2021 Annual Meeting of Stockholders (the "2021 Proxy Statement") and is incorporated herein by reference.

Information regarding our Code of Ethics applicable to our principal executive officer, our principal financial officer, our controller and other senior financial officers appears in Item 1 of this Report under the caption "Business—Available Information."

ITEM 11. EXECUTIVE COMPENSATION

Information required by this Item 11 will be set forth in our 2021 Proxy Statement and is incorporated herein by reference.

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

Information required by this Item 12 will be set forth in our 2021 Proxy Statement and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information required by this Item 13 will be set forth in our 2021 Proxy Statement and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information required by this Item 14 will be set forth in our 2021 Proxy Statement and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this Report:

(1) *Financial Statements.* See Index to Consolidated Financial Statements, which appears on page F-1 hereof. The financial statements listed in the accompanying Index to Consolidated Financial Statements are filed herewith in response to this Item 15.

(2) *Schedule II.* Valuation and Qualifying Accounts for the years ended December 31, 2018, 2019, and 2020 which appears on page F-55 hereof.

(3) *Exhibits.* The exhibits listed below are filed herewith in response to this Item 15.

EXHIBIT INDEX
to Form 10-K for the Year Ended December 31, 2020

2.1	Purchase Agreement, effective as of September 30, 2015, by and among Caribbean Asset Holdings, LLC, National Rural Utilities Cooperative Finance Corporation, ATN VI Holdings, LLC and ATN International, Inc. (incorporated by reference to Exhibit 2.1 to the Company's Quarterly Report on Form 10-Q (File No. 001-12593) for the quarterly period ended September 30, 2015 filed on November 9, 2015).
2.2	Amendment No. 1 to the Purchase Agreement, dated as of July 1, 2016, by and among National Rural Utilities Cooperative Finance Corporation, Caribbean Asset Holdings, LLC, ATN VI Holdings, LLC, and ATN International, Inc. (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (file No. 001-12593) for the quarterly period ended June 30, 2016 filed on August 9, 2016).
2.3	Transaction Agreement, dated as of October 5, 2015, by and among ATN International, Inc., ATN Caribbean Holdings, Ltd., ATN Bermuda Holdings Ltd., KeyTech Limited and Chancery Holdings Limited (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on October 6, 2015).
2.4	Agreement and Plan of Merger, dated as of December 31, 2020, by and among Alaska Communications Systems Group, Inc., Project 8 Buyer, LLC and Project 8 Mergersub, Inc. (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on January 4, 2021).
3.1	Restated Certificate of Incorporation of ATN International, Inc. (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 (File No. 333-62416) filed on June 6, 2001).
3.2	Certificate of Amendment to the Restated Certificate of Incorporation of ATN International, Inc., as filed with the Delaware Secretary of State on August 14, 2006 (incorporated by reference to Exhibit 3.2 to the Company's Quarterly Report on Form 10-Q (File No. 001-12593) for the quarterly period ended June 30, 2006 filed on August 14, 2006).
3.3	Certificate of Amendment to the Company's Restated Certificate of Incorporation, filed June 10, 2016 and effective June 21, 2016 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on June 27, 2016).
3.4	Amended and Restated By-Laws, effective as of February 27, 2017 (incorporated by reference to Exhibit 3.4 to the Company's Annual Report on Form 10-K (File No. 001-12593) for the year ended December 31, 2018 filed on February 28, 2019).
10.1*	ATN International, Inc. 1998 Stock Option Plan (as amended May 24, 2007 incorporated by reference to Appendix A to the Company's Proxy Statement on Schedule 14A (File No. 001-12593) filed on April 30, 2007).
10.2*	Director's Remuneration Plan as amended as of November 2, 1999 (incorporated by reference to Exhibit 4.7 to the Company's Registration Statement on Form S-8 (File No. 333-62416) filed on June 6, 2001).

10.3*	Form of Incentive Stock Option Agreement under 1998 Stock Option Plan (incorporated by reference to Exhibit 4.8 to the Company's Registration Statement on Form S-8 (File No. 333-62416) filed on June 6, 2001).
10.4*	2005 Restricted Stock and Incentive Plan (incorporated by reference to Exhibit 4.5 to the Company's Registration Statement on Form S-8 (File No. 333-62416) filed on May 24, 2005).
10.5*	ATN International, Inc. 2008 Equity Incentive Plan, as amended and restated (incorporated by reference to Appendix C of the Definitive Proxy Statement on Schedule 14A (File No. 001-12593) filed on May 2, 2011).
10.6*	Form of Notice of Grant of Restricted Stock and Restricted Stock Agreement under 2008 Equity Incentive Plan (Non-Employee Directors) (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on May 21, 2008).
10.7*	Form of Notice of Grant of Restricted Stock and Restricted Stock Agreement under 2008 Equity Incentive Plan (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K (File No. 001- 12593) filed on May 21, 2008).
10.8*	Form of Notice of Grant of Incentive Stock Option and Option Agreement under 2008 Equity Incentive Plan (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K (File No. 001- 12593) filed on May 21, 2008).
10.9*	Form of Notice of Grant of Nonqualified Stock Option and Option Agreement under 2008 Equity Incentive Plan (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K (File No. 001- 12593) filed on May 21, 2008).
10.10*	Deferred Compensation Plan for Select Employees of ATN International, Inc. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on January 6, 2009).
10.11	Fourth Amended and Restated Credit Agreement dated as of December 19, 2014 by and among the Company, as Borrower, CoBank, ACB, as Administrative Agent, Lead Arranger, Swingline Lender, an Issuing Lender and a Lender, Fifth Third Bank, as a Joint Lead Arranger, MUFG Union Bank, N.A., as a Joint Lead Arranger and an Issuing Lender, the Guarantors named therein and the other Lenders named therein (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on December 23, 2014).
10.12	Amendment, Consent and Confirmation Agreement, dated January 11, 2016, by and among ATN International, Inc., as Borrower, CoBank, ACB, as Administrative Agent, and the Guarantors and other Lenders named therein (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on January 15, 2016).
10.13	Credit Agreement, dated as of March 26, 2020, among Commnet Finance, LLC, as Borrower, Commnet Wireless, LLC, as Originator and Servicer, ATN International, Inc., as Limited Guarantor, CoBank, ACB, as Administrative Agent, Lead Arranger, and Sole Bookrunner, and the Lenders party thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on April 1, 2020).
10.14	Consent, Release and Confirmation Agreement, entered into as of March 26, 2020, among ATN International, Inc., as Borrower, each of the subsidiaries of ATN International, Inc., identified as guarantors on the signature pages thereto, CoBank, ACB, as Administrative Agent, and each of the financial institutions identified as a Lender on the signature pages thereto (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on April 1, 2020).
10.15	Agreement between the Government of the Co-Operative Republic of Guyana and Atlantic Tele- Network, Inc., dated June 18, 1990 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (File No. 001-12593) for the quarterly period ended March 31, 2006 filed on May 15, 2006).
10.16	Amendment to the Agreement between the Government of the Co-Operative Republic of Guyana and ATN International, Inc., dated November 2, 2012 (incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K (File No. 001-12593) for the year ended December 31, 2012 filed on March 18, 2013).

10.17	Loan Agreement, dated as of July 1, 2016, by and among ATN VI Holdings, LLC, Caribbean Asset Holdings LLC, and Rural Telephone Finance Cooperative (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q (File No. 001-12593) for the quarterly period ended June 30, 2016 filed on August 9, 2016).
10.18	Limited Waiver of Net Leverage Ratio dated as of February 27, 2018, between ATN VI Holdings, LLC and the Rural Telephone Finance Cooperative (incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K (File No. 001-12593) filed on February 28, 2018).
10.19	Limited Waiver of Net Leverage Ratio dated as of February 25, 2019, between ATN VI Holdings, LLC and the Rural Telephone Finance Cooperative (incorporated by reference to Exhibit 10.19 to the Company's Annual Report on Form 10-K (File No. 001-12593) filed on February 28, 2019)
10.20	Limited Waiver of Net Leverage Ratio dated as of February 26, 2020, between ATN VI Holdings, LLC and the Rural Telephone Finance Cooperative (incorporated by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K (File No. 001-12593) for the year ended December 31, 2019 filed on March 2, 2020).
10.21**	Limited Waiver of Net Leverage Ratio dated as of February 25, 2021, between ATN VI Holdings, LLC and the Rural Telephone Finance Cooperative.
10.22	Form of Severance Agreement with Non-CEO Executive Officers (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on March 19, 2019).
10.23	Form of Severance Agreement with Chief Executive Officer (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on March 19, 2019).
10.24	Third Amendment and Confirmation Agreement dated as of April 10, 2019 by and among the Company, as Borrower, CoBank, ACB, as Administrative Agent, the Guarantors named therein and the other Lenders named therein (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on April 16, 2019).
10.25#	Network Build and Maintenance Agreement, dated as of July 31, 2019, by and between Commnet Wireless, LLC, a wholly owned subsidiary of ATN International, Inc., and AT&T Mobility LLC (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (File No. 001-12593) for the quarterly period ended September 30, 2019 filed on November 8, 2019).
10.26	First Amendment to Network Build and Maintenance Agreement dated as of 6th day of August, 2020 and effective as of the 1st day of July, 2020 by and between Commnet Wireless, LLC and AT&T Mobility LLC (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (File No. 001-12593) filed on November 4, 2020).
10.27	Offer Letter by and between ATN International, Inc. and Brad Martin, dated April 4, 2018. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on April 19, 2018).
10.28	Consent and Waiver between Rural Telephone Finance Cooperative, Caribbean Asset Holdings, LLC and DTR Holdings, LLC, dated May 7, 2018. (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (File No. 001-12593) filed on May 9, 2018).
10.29	Form of Restricted Stock Unit Agreement under the 2008 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q (File No. 001-12593) filed on May 9, 2018).
10.30	Consent and Waiver between Rural Telephone Finance Cooperative, Caribbean Asset Holdings, LLC and DTR Holdings, LLC, dated August 3, 2018. (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (File No. 001-12593) filed on August 8, 2018).
10.31	Purchase and Sale Agreement by and between Ahana Renewables, LLC and CleanCapital Holdco 4, LLC, dated as of September 9, 2018, (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on September 9, 2018).
10.32	Voting Agreement, dated as of December 31, 2020, by and between TAR Holdings, LLC and Project 8 Buyer, LLC (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-12593) filed on January 4, 2021).
21 **	Subsidiaries of ATN International, Inc.
23.1**	Consent of Independent Registered Public Accounting Firm—PricewaterhouseCoopers LLP.

31.1**	Certification of Principal Executive Officer pursuant to Rule 13a- 14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Rule 302 of the Sarbanes-Oxley Act of 2002.
31.2**	Certification of Principal Financial Officer pursuant to Rule 13a- 14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Rule 302 of the Sarbanes-Oxley Act of 2002.
32.1***	Certification of Principal Executive Officer pursuant to 18 USC. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2***	Certification of Principal Financial Officer pursuant to 18 USC. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH**	Inline XBRL Taxonomy Extension Schema Document
101.CAL**	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF**	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB**	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE**	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data file (formatted as Inline XBRL and embedded within Exhibit 101).

* Management contract or compensatory plan or arrangement.

** Filed herewith.

*** The certifications furnished in Exhibit 32.1 and Exhibit 32.2 hereto are deemed to accompany this Report and will not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, except to the extent that the company specifically incorporates it by reference.

Portions of this exhibit (indicated by asterisks) have been omitted in accordance with the rules of the Securities and Exchange Commission.

ITEM 16. FORM 10-K SUMMARY

None

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities and Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in Beverly, Massachusetts on the 1st day of March, 2021.

ATN International, Inc.
By: /s/ Michael T. Prior

Michael T. Prior
Chairman, President and Chief Executive 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 the 1st day of March, 2021.

Signature	Title
/s/ Michael T. Prior Michael T. Prior	Chairman, President and Chief Executive Officer (Principal Executive Officer)
/s/ Justin D. Benincasa Justin D. Benincasa	Chief Financial Officer (Principal Financial and Accounting Officer)
/s/ Bernard J. Bulkin Bernard J. Bulkin	Director
/s/ James S. Eisenstein James S. Eisenstein	Director
/s/ Richard J. Ganong Richard J. Ganong	Director
/s/ John C. Kennedy John C. Kennedy	Director
/s/ Pamela F. Lenehan Pamela F. Lenehan	Director
/s/ Liane J. Pelletier Liane J. Pelletier	Director
/s/ Charles J. Roesslein Charles J. Roesslein	Director

ATN INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS AND FINANCIAL STATEMENT SCHEDULE
December 31, 2020, 2019 and 2018

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of ATN International, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of ATN International, Inc. and its subsidiaries (the “Company”) as of December 31, 2020 and 2019, and the related consolidated statements of income, of comprehensive income, of equity, and of cash flows for each of the three years in the period ended December 31, 2020, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 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, 2020, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Changes in Accounting Principles

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019.

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.

Goodwill Impairment Assessment for Viya Reporting Unit

As described in Notes 2 and 8 to the consolidated financial statements, the Company's consolidated goodwill balance was $60.7 million as of December 31, 2020, and the goodwill balance associated with the Viya Reporting Unit was $20.6 million. Management tests goodwill for impairment at each of the reporting units on an annual basis, which has been determined to be as of October 1st, or more frequently if events or circumstances indicate that the carrying value of goodwill may be impaired. If the carrying value of the reporting unit, including goodwill, exceeds the fair value of the reporting unit an impairment charge is recorded equal to the excess, but not more than the total amount of goodwill allocated to the reporting unit. Management determines the fair value of the Viya Reporting Unit using the income approach. The income approach is based on a discounted cash flow model. The discounted cash flow model requires the exercise of significant judgment, including judgments and assumptions about appropriate discount rates and revenue growth.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment of the Viya Reporting Unit is a critical audit matter are (i) the significant judgment by management when developing the fair value measurement of the reporting unit; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to revenue growth and the discount rate; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

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 management's goodwill impairment assessment, including controls over the valuation of the Viya reporting unit. These procedures also included, among others, testing management's process for developing the fair value estimate of the Viya reporting unit; evaluating the appropriateness of the discounted cash flow model; testing the completeness and accuracy of underlying data used in the model; and evaluating the reasonableness of significant assumptions used by management related to revenue growth and the discount rate. Evaluating the reasonableness of management's significant assumptions related to revenue growth involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the reporting unit, (ii) the consistency with external market and industry data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the discounted cash flow model and the discount rate assumption.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts
March 1, 2021

We have served as the Company's auditor since 2002.

ATN INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

December 31, 2020 and 2019

(In Thousands, Except Share Data)

	December 31, 2020	December 31, 2019
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 103,925	$ 161,287
Restricted cash	1,072	1,071
Short-term investments	—	416
Accounts receivable, net of allowances for credit losses of $12.1 million and $12.7 million, respectively	45,379	35,904
Inventory, materials and supplies	5,504	5,253
Prepayments and other current assets	49,450	24,792
Assets held for sale	34,735	—
Total current assets	240,065	228,723
Fixed Assets:		
Property, plant and equipment	1,252,780	1,237,555
Less accumulated depreciation	(716,318)	(631,974)
Net fixed assets	536,462	605,581
Telecommunication licenses, net	114,083	93,686
Goodwill	60,691	60,691
Customer relationships, net	5,913	7,441
Operating lease right-of-use assets	63,235	68,763
Other assets	63,262	65,841
Total assets	$ 1,083,711	$ 1,130,726
LIABILITIES AND EQUITY		
Current Liabilities:		
Current portion of long-term debt	$ 3,750	$ 3,750
Accounts payable and accrued liabilities	96,205	74,093
Dividends payable	2,703	2,721
Accrued taxes	7,501	8,517
Current portion of lease liabilities	12,371	11,406
Advance payments and deposits	24,681	19,182
Liabilities held for sale	717	—
Total current liabilities	147,928	119,669
Deferred income taxes	10,675	8,680
Lease liabilities, excluding current portion	51,082	56,164
Other liabilities	50,617	57,454
Long-term debt, excluding current portion	69,073	82,676
Total liabilities	329,375	324,643
Commitments and contingencies (Note 14)		
ATN International, Inc. Stockholders' Equity:		
Preferred stock, $0.01 par value per share; 10,000,000 shares authorized, none issued and outstanding	—	—
Common stock, $0.01 par value per share; 50,000,000 shares authorized; 17,383,898 and 17,324,858 shares issued, respectively, 15,898,477 and 16,001,937 shares outstanding, respectively	172	172
Treasury stock, at cost; 1,485,421 and 1,322,921 shares, respectively	(59,456)	(51,129)
Additional paid-in capital	187,754	188,471
Retained earnings	516,901	541,890
Accumulated other comprehensive income	278	(3,282)
Total ATN International, Inc. stockholders' equity	645,649	676,122
Non-controlling interests	108,687	129,961
Total equity	754,336	806,083
Total liabilities and equity	$ 1,083,711	$ 1,130,726

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

ATN INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED INCOME STATEMENTS

For the Years Ended December 31, 2020, 2019 and 2018

(In Thousands, Except Per Share Data)

	December 31, 2020	December 31, 2019	December 31, 2018
REVENUE:			
Communication services	$ 433,509	$ 428,108	$ 425,323
Other	21,935	10,614	25,884
Total revenue	455,444	438,722	451,207
OPERATING EXPENSES *(excluding depreciation and amortization unless otherwise indicated)*:			
Termination and access fees	111,763	112,943	114,478
Construction costs	10,616	—	—
Engineering and operations	73,350	77,649	73,031
Sales, marketing and customer service	37,557	38,730	35,207
General and administrative	101,454	100,534	104,267
Transaction-related charges	1,641	244	2,642
Restructuring charges	—	—	515
Depreciation and amortization	88,311	89,125	85,719
Goodwill impairment	—	3,279	—
(Gain) Loss on disposition of long-lived assets	21,572	2,841	(26,425)
Loss on damaged assets and other hurricane related charges, net of insurance recovery	—	—	750
Total operating expenses	446,264	425,345	390,184
Income from operations	9,180	13,377	61,023
OTHER INCOME (EXPENSE)			
Interest income	421	2,263	1,811
Interest expense	(5,347)	(5,010)	(7,973)
Other income (expense)	(4,161)	(4,558)	(1,119)
Other income (expense), net	(9,087)	(7,305)	(7,281)
INCOME BEFORE INCOME TAXES	93	6,072	53,742
Income tax provisions	801	4,105	18,870
NET INCOME	(708)	1,967	34,872
Net income attributable to non-controlling interests, net of tax expense of $1.1 million, $1.3 million, and $1.5 million, respectively.	(13,414)	(12,773)	(15,057)
NET INCOME (LOSS) ATTRIBUTABLE TO ATN INTERNATIONAL, INC. STOCKHOLDERS	$ (14,122)	$ (10,806)	$ 19,815
NET INCOME (LOSS) PER WEIGHTED AVERAGE SHARE ATTRIBUTABLE TO ATN INTERNATIONAL, INC. STOCKHOLDERS:			
Basic	$ (0.89)	$ (0.68)	$ 1.24
Diluted	$ (0.89)	$ (0.68)	$ 1.24
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING:			
Basic	15,923	15,983	15,988
Diluted	15,923	15,983	16,042
DIVIDENDS PER SHARE APPLICABLE TO COMMON STOCK	$ 0.68	$ 0.68	$ 0.68

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

ATN INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

For the Years Ended December 31, 2020, 2019, and 2018

(in thousands)

	Year Ended December 31,		
	2020	**2019**	**2018**
Net income	$ (708)	$ 1,967	$ 34,872
Other comprehensive income (loss):			
Foreign currency translation adjustment	37	(1,041)	(4,390)
Unrealized gain (loss) on derivatives	(101)	(187)	78
Reclassification of foreign currency losses on assets held for sale	6,036	—	—
Projected pension and postretirement benefit obligations, net of tax expense of $0.1 million, $0.1 million and $0.6 million, respectively	(2,412)	(445)	(840)
Other comprehensive income (loss), net of tax	3,560	(1,673)	(5,152)
Comprehensive income	2,852	294	29,720
Less: Comprehensive income attributable to non-controlling interests	(13,414)	(12,773)	(15,057)
Comprehensive income (loss) attributable to ATN International, Inc.	$ (10,562)	$ (12,479)	$ 14,663

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

ATN INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF EQUITY

For the Years Ended December 31, 2020, 2019, and 2018

(In Thousands, Except Share Data)

	Common Stock	Treasury Stock, at cost	Additional Paid In Capital	Retained Earnings	Accumulated Other Comprehensive Income/(Loss)	Total ATNI Stockholders' Equity	Non-Controlling Interests	Total Equity
Balance, December 31, 2019	$ 172	$ (51,129)	$ 188,471	$ 541,890	$ (3,282)	$ 676,122	$ 129,961	$ 806,083
Purchase of 161,500 shares of common stock	—	(8,327)	—	—	—	(8,327)	—	(8,327)
Stock-based compensation	—	—	5,603	—	—	5,603	309	5,912
Dividends declared on common stock ($0.68 per common share)	—	—	—	(10,867)	—	(10,867)	—	(10,867)
Distributions to non-controlling interests	—	—	—	—	—	—	(12,378)	(12,378)
Investments made by minority shareholders	—	—	(1,300)	—	—	(1,300)	1,300	—
Repurchase of non-controlling interests	—	—	(5,020)	—	—	(5,020)	(23,919)	(28,939)
Comprehensive income:								
Net income	—	—	—	(14,122)	—	(14,122)	13,414	(708)
Other comprehensive loss	—	—	—	—	3,560	3,560	—	3,560
Total comprehensive income	—	—	—	—	—	(10,562)	13,414	2,852
Balance, December 31, 2020	$ 172	$ (59,456)	$ 187,754	$ 516,901	$ 278	$ 645,649	$ 108,687	$ 754,336
Balance, December 31, 2018	$ 172	$ (48,547)	$ 181,778	$ 563,593	$ (1,609)	$ 695,387	$ 127,937	$ 823,324
Issuance of 17,000 shares of common stock upon exercise of stock options	—	—	771	—	—	771	—	771
Purchase of 45,807 shares of common stock	—	(2,582)	—	—	—	(2,582)	—	(2,582)
Stock-based compensation	—	—	5,922	—	—	5,922	462	6,384
Dividends declared on common stock ($0.68 per common share)	—	—	—	(10,897)	—	(10,897)	—	(10,897)
Distributions to non-controlling interests	—	—	—	—	—	—	(7,195)	(7,195)
Repurchase of non-controlling interests	—	—	—	—	—	—	(4,504)	(4,504)
Investments made by minority shareholders in consolidated affiliates	—	—	—	—	—	—	488	488
Comprehensive income (loss):								
Net income (loss)	—	—	—	(10,806)	—	(10,806)	12,773	1,967
Other comprehensive income	—	—	—	—	(1,673)	(1,673)	—	(1,673)
Total comprehensive income (loss)	—	—	—	—	—	(12,479)	12,773	294
Balance, December 31, 2019	$ 172	$ (51,129)	$ 188,471	$ 541,890	$ (3,282)	$ 676,122	$ 129,961	$ 806,083
Balance, December 31, 2017	$ 170	$ (36,110)	$ 167,973	$ 552,948	$ 3,746	$ 688,727	$ 141,496	$ 830,223
Issuance of restricted shares of common stock	2	—	—	—	—	2	—	2
Issuance of 158,021 shares of common stock upon exercise of stock options	—	—	6,319	—	—	6,319	—	6,319
Purchase of 171,907 shares of common stock	—	(12,437)	—	—	—	(12,437)	—	(12,437)
Stock-based compensation	—	—	6,420	—	—	6,420	—	6,420
Dividends declared on common stock ($0.68 per common share)	—	—	—	(10,863)	—	(10,863)	—	(10,863)
Distributions to non-controlling interests	—	—	—	—	—	—	(19,033)	(19,033)
Repurchase of non-controlling interests	—	—	1,066	—	—	1,066	(10,729)	(9,663)
Cumulative effect adjustment due to adoption of new accounting pronouncements	—	—	—	1,693	(203)	1,490	1,146	2,636
Comprehensive income:								
Net income	—	—	—	19,815	—	19,815	15,057	34,872
Other comprehensive loss	—	—	—	—	(5,152)	(5,152)	—	(5,152)
Total comprehensive income	—	—	—	—	—	14,663	15,057	29,720
Balance, December 31, 2018	$ 172	$ (48,547)	$ 181,778	$ 563,593	$ (1,609)	$ 695,387	$ 127,937	$ 823,324

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

ATN INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

For the Years Ended December 31, 2020, 2019 and 2018

(In Thousands)

	Year Ended December 31, 2020	2019	2018
Cash flows from operating activities:			
Net income	$ (708)	$ 1,967	$ 34,872
Adjustments to reconcile net income to net cash flows provided by operating activities:			
Depreciation and amortization	88,311	89,125	85,719
Provision for doubtful accounts	5,010	5,816	5,134
Amortization of debt discount and debt issuance costs	530	542	763
Stock-based compensation	5,912	6,384	6,420
Deferred income taxes	(7,317)	(2,192)	(23,242)
Loss on equity investments	3,427	4,724	—
(Gain) loss on disposition of long-lived assets	21,572	2,841	(26,425)
Goodwill impairment	—	3,279	—
Unrealized loss on foreign currency	357	362	1,342
Other non-cash activity	—	(42)	308
Changes in operating assets and liabilities, excluding the effects of acquisitions and dispositions:			
Accounts receivable	(17,774)	(3,511)	(1,682)
Materials and supplies, prepayments, and other current assets	(18,624)	(1,613)	5,924
Prepaid income taxes	2,218	4,581	3,147
Accounts payable and accrued liabilities, advance payments and deposits and other current liabilities	12,597	(2,536)	(7,044)
Accrued taxes	799	(19,053)	29,089
Other assets	(8,790)	(5,711)	(238)
Other liabilities	(1,236)	2,940	1,778
Net cash provided by operating activities	86,284	87,903	115,865
Cash flows from investing activities:			
Capital expenditures	(75,323)	(72,602)	(105,769)
Hurricane rebuild capital expenditures	—	(123)	(80,152)
Hurricane insurance proceeds	—	—	34,606
Receipt of government grants	16,316	3,140	5,400
Divestiture of businesses, net of transferred cash of $0.0 million, $0.0 million, and $11.5 million, respectively	—	6,572	48,270
Purchase of spectrum; including deposits	(20,396)	—	—
Purchases of strategic investments	(2,768)	(25,362)	(3,000)
Proceeds from strategic investments	11,969	—	—
Purchase of short-term investments	(116)	(8,028)	(138)
Proceeds from disposition of long-lived assets	—	—	6,900
Proceeds from sale of short-term investments	120	8,141	6,564
Net cash used in investing activities	(70,198)	(88,262)	(87,319)
Cash flows from financing activities:			
Dividends paid on common stock	(10,891)	(10,880)	(10,866)
Distributions to non-controlling interests	(10,368)	(7,161)	(18,780)
Payment of debt issuance costs	(1,096)	(1,340)	—
Principal repayments of term loan	(13,751)	(4,700)	(9,795)
Proceeds from stock option exercises	—	—	72
Purchases of common stock – stock-based compensation	(1,733)	(1,649)	(4,622)
Purchases of common stock – share repurchase plan	(6,589)	(162)	(1,576)
Repurchases of non-controlling interests	(28,939)	(4,504)	(9,663)
Investments made by minority shareholders in consolidated affiliates	—	488	—
Net cash used in financing activities	(73,367)	(29,908)	(55,230)
Effect of foreign currency exchange rates on cash and cash equivalents	(80)	(282)	(299)
Net change in cash, cash equivalents, and restricted cash	(57,361)	(30,549)	(26,983)
Total cash, cash equivalents, and restricted cash, beginning of period	162,358	192,907	219,890
Total cash, cash equivalents, and restricted cash, end of period	$ 104,997	$ 162,358	$ 192,907
Supplemental cash flow information:			
Interest paid	$ 4,829	$ 4,554	$ 7,235
Taxes paid	$ 6,117	$ 30,411	$ 12,486
Dividends declared, not paid	$ 2,703	$ 2,721	$ 2,720
Noncash investing activity:			
Transfer (to) from operating activities to property, plant and equipment	$ (1,219)	$ —	$ 6,708
Purchases of property, plant and equipment included in accounts payable and accrued expenses	$ 21,746	$ 11,668	$ 12,877

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

1. ORGANIZATION AND BUSINESS OPERATIONS

The Company strives to be a leading platform for the operation of, and investment in, smaller and specialty market communications services and technology companies. The Company has a long track record of delivering critical infrastructure-based solutions to underserved markets. The Company's majority-owned operating subsidiaries provide facilities-based communications services, along with related information technology solutions in the United States, Bermuda, and the Caribbean. The Company also has non-controlling investments in several communications and technology companies, and it continues to consider opportunities to make controlling and minority investments in businesses that it believes have the potential for generating substantial and relatively steady cash flows over extended periods of time or have technologies or business models that might prove valuable to the Company's main operating subsidiaries or create significant longer term growth potential for the Company as a whole.

At the holding company level, the Company oversees the allocation of capital within and among its subsidiaries, affiliates, minority investments, and stockholders. The Company also has developed significant operational expertise and resources that it uses to augment the capabilities of its individual operating subsidiaries. Over the past ten years, the Company has built a platform of resources and expertise to support its operating subsidiaries and to improve their quality of service, and customer acquisition, retention, and satisfaction while maintaining optimal operating efficiencies. The Company has a number of shared service functions, including billing, network and engineering and customer service, and the parent company also employs personnel with specialized skills that provide greater economies of scale and expertise than would typically be available at the operating subsidiary level.

The Company was incorporated in Delaware in 1987, began trading publicly in 1991 and spun off more than half of its operations to stockholders in 1998. The Company actively evaluates potential acquisitions, investment opportunities and other strategic transactions, both domestic and international, that it believes has the potential for generating steady excess cash flows over extended periods of time. In addition, the Company considers non-controlling investments in earlier stage businesses that it considers strategically relevant, and which may offer long-term growth potential for us, either individually, or as research and development businesses that can support the Company's operating subsidiaries in new technology, product, and service development and offerings. The Company has used the cash generated from its established operating units, and any asset sales, to re-invest in its existing businesses, to make strategic investments in additional businesses, and to return cash to the Company's investors. The Company provides management, technical, financial, regulatory, and marketing services to its subsidiaries and typically receive a management fee equal to a percentage of their revenues, which is eliminated in consolidation. For further information about the Company's financial segments and geographical information about its operating revenues and assets, see Notes 1 and 15 to the Consolidated Financial Statements included in this Report.

Through December 31, 2020, the Company had identified three operating segments to manage and review its operations and to facilitate investor presentations of its results. Those three operating segments are as follows:

- ***International Telecom.*** Businesses contained in the Company's international telecom segment offer a mix of fixed data, internet and voice services ("Fixed") as well as retail mobility ("Mobility") services to customers in Bermuda, the Cayman Islands, Guyana and the US Virgin Islands. The Company offers fixed video services in Bermuda, the Cayman Islands, and the US Virgin Islands and managed information technology services ("Managed Services") to enterprise customers in all its markets. The Company also offers services to other telecom providers ("Carrier Services"), such as international long-distance, transport and access services, and roaming from such telecom providers' customers traveling in its network service areas.

- ***US Telecom.*** In the United States, primarily in the Southwest, the Company offers Carrier Services, including wholesale roaming services, the leasing of critical network infrastructure such as towers and transport facilities, and site maintenance. The Company also provides Fixed, Mobility, and Managed Services to its retail and enterprise customers, and private network services to enterprise customers, municipalities and other service providers.

- ***Renewable Energy***. In India, the Company provided distributed generation solar power to commercial and industrial customers through January 27, 2021. Through November 6, 2018, the Company also provided distributed generation solar power in the United States in Massachusetts, California and New Jersey. See *Sale of Renewable Energy Operations* for further details.

The following chart summarizes the operating activities of the Company's principal subsidiaries, the segments in which it reports its revenue and the markets it served as of December 31, 2020:

Segment	Services	Markets	Tradenames
International Telecom	Mobility	Bermuda, Guyana, US Virgin Islands	One, GTT+, Viya
	Fixed	Bermuda, Cayman Islands, Guyana, US Virgin Islands	One, Logic, GTT+, Viya
	Carrier Services	Bermuda, Guyana, US Virgin Islands	One, GTT+, Viya
	Managed Services	Bermuda, Cayman Islands, US Virgin Islands, Guyana	Fireminds, One, Logic, GTT+, Viya
US Telecom	Mobility	United States (rural markets)	Choice, Choice NTUA Wireless, Geoverse
	Fixed	United States	Commnet, Choice, Choice NTUA Wireless, Deployco
	Carrier Services	United States	Commnet, Essextel
	Managed Services	United States	Choice
Renewable Energy	Solar	India	Vibrant Energy

The Company actively evaluates potential acquisitions, investment opportunities and other strategic transactions, both domestic and international, that meet its return on investment and other criteria. In addition, the Company considers non-controlling investments in earlier stage businesses that it considers strategically relevant, and which may offer long-term growth potential for the Company, either individually, or as research and development businesses that can support the Company's operating subsidiaries in new product and service development and offerings. The Company provides management, technical, financial, regulatory, and marketing services to its subsidiaries and typically receives a management fee equal to a percentage of their revenues which is eliminated in consolidation. For information about the Company's financial segments and geographical information about its operating revenues and assets see Notes 1 and 15 to the Consolidated Financial Statements included in this Report.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The consolidated financial statements include the accounts of the Company, its majority-owned subsidiaries and certain entities, which are consolidated in accordance with the provisions of the Financial Accounting Standards Board's ("FASB") authoritative guidance on the consolidation of variable interest entities since it is determined that the Company is the primary beneficiary of these entities.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenue and expenses during the reporting periods. The most significant estimates relate to the allowance for credit losses on trade receivables, useful lives of the Company's fixed and finite-lived intangible assets, allocation of purchase price to assets acquired and liabilities assumed in business combinations, fair value of indefinite-lived intangible assets, goodwill and income taxes. Actual results could differ significantly from those estimates.

Cash and Cash Equivalents

The Company considers all investments with an original maturity of three months or less at date of purchase to be cash equivalents. The Company places its cash and temporary investments with banks and other institutions that it believes have a high credit quality. At December 31, 2020, the Company had deposits with banks in excess of FDIC insured limits and $32.3 million of its cash is on deposit with noninsured institutions such as corporate money market issuers and cash held in foreign banks. The Company's cash and cash equivalents are not subject to any restrictions (see Note 9). As of December 31, 2020 and 2019, the Company held $5.7 million and $6.6 million, respectively, of its cash in Guyana dollars. While there are risks associated with the conversion of Guyana dollars to US dollars due to limited liquidity in the Guyana foreign currency markets, to date it has not prevented the Company from converting Guyana dollars into US dollars within a given three month period or from converting at a price that reasonably approximates the reported exchange rate.

Short Term Investments

The Company's short-term investments consist of corporate bonds, which have remaining maturities of more than three months at the date of purchase, and equity securities classified as available for sale, which are stated at fair value. Unrealized gains and losses are recorded in other income. The estimated fair values of investments are based on quoted market prices as of the end of the reporting period.

Restricted Cash

The Company generally classifies cash that is legally restricted as to withdrawal or usage as restricted cash. Generally, the cash is restricted due to debt service obligations, acquisitions, or to support the Company's telecommunications operations. In 2018, the Company disposed of $8.4 million of restricted cash as a result of the US Solar Transaction described in Note 6.

Allowance for Credit Losses

The Company adopted ASU 2016-13 on January 1, 2020. The standard requires that certain financial assets be measured at amortized cost reflecting an allowance for estimated credit losses expected to occur over the life of the assets. The estimate of credit losses is based on all relevant information including historical information, current conditions, and reasonable and supportable forecasts that affect the collectability of the amounts. The Company adopted ASU 2016-13 using the modified retrospective approach, however, there was no impact of adoption on retained earnings.

The standard impacted the Company's calculation of credit losses from trade receivables. Historically, the Company recorded credit losses subsequent to the initial revenue transaction. After adoption of ASU 2016-13, the Company will record an estimate of future credit losses in conjunction with the revenue transactions based on the information available including historical experience, credit worthiness of customers, the Company's historical experience with customers, current market and economic conditions, and management's expectations of future conditions. Those estimates will be updated as additional information becomes available. Uncollectible amounts are charged against the allowance account. The Company's allowance for uncollectible accounts receivable is based on management's assessment of the collectability of assets pooled together with similar risk characteristics. There is no significant impact to the Company's operating results for the current period due to the adoption of this standard.

Inventory, Materials and Supplies

Inventory, materials and supplies primarily include handsets and other equipment held for sale to customers. These balances are recorded at the lower of cost or market cost being determined on the basis of specific identification and market determined using replacement.

Fixed Assets

The Company's fixed assets are recorded at cost and depreciated using the straight-line method generally between 3 and 39 years. Expenditures for major renewals and betterments that extend the useful lives of fixed assets are capitalized. Repairs and replacements of minor items of property are charged to maintenance expense as incurred. The cost of fixed assets in service and under construction includes internal and external costs necessary to bring an asset to the condition and location necessary for its intended use. Grants received for the construction of assets are recognized as a reduction of the cost of fixed assets, a reduction of depreciation expense over the useful lives of the assets and as an investing cash flow in the statements of cash flows.

The Company capitalizes certain costs of developing and purchasing new information systems in accordance with internal use software guidance. These costs are depreciated over the useful life of the information system. The Company also incurs implementation costs associated with cloud computing arrangements. If these costs do not meet internal use software capitalization guidance, the implementation costs are recorded as prepaid assets and expensed through operating expense over the life of the arrangement.

The fair value of a liability for an asset retirement obligation is recorded in the period in which it is incurred if a reasonable estimate of fair value can be made. In periods subsequent to initial measurement, period-to-period changes in the liability for an asset retirement obligation resulting from the passage of time and revisions to either the timing or the amount of the original estimate of undiscounted cash flows are recognized. The increase in the carrying value of the associated long-lived asset is depreciated over the corresponding estimated economic life. The consolidated balance sheets include accruals of $4.2 million and $4.0 million as of December 31, 2020 and 2019, respectively, for estimated costs associated with asset retirement obligations.

In accordance with the authoritative guidance for accounting for the impairment or disposal of long-lived assets, the Company evaluates the carrying value of long-lived assets, including property and equipment, in relation to the operating performance and future undiscounted cash flows of the underlying business whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. An impairment loss exists when estimated undiscounted cash flows attributable to an asset are less than its carrying amount. If an asset is deemed to be impaired, the amount of the impairment loss recognized represents the excess of the asset's carrying value as compared to its estimated fair value, based on management's assumptions and projections.

Management's estimate of the future cash flows attributable to its long-lived assets and the fair value of its businesses involve significant uncertainty. Those estimates are based on management's assumptions of future results, growth trends and industry conditions. If those estimates are not met, the Company could have additional impairment charges in the future, and the amounts may be material.

The Company did not record any fixed asset impairments for the year ended December 31, 2020, 2019 or 2018.

Goodwill and Indefinite-Lived Intangible Assets

Goodwill is recognized in business combinations equal to the amount by which the cost of acquired net assets exceeded the fair value of those net assets on the date of acquisition. The Company allocates goodwill to reporting units at the time of acquisition and bases that allocation on which reporting units will benefit from the acquired assets and liabilities. Reporting units are defined as operating segments or one level below an operating segment, referred to as a component. The Company has determined that its reporting units are components of its multiple operating segments. The Company assesses goodwill for impairment on an annual basis in the fourth quarter or more frequently when events and circumstances occur indicating that the recorded goodwill may be impaired. The assessment begins with a qualitative analysis to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount. If the reporting unit passes this analysis, the impairment assessment is complete and no impairment is recorded. If the reporting unit does not pass the analysis, the Company performs additional quantitative analysis by calculating the fair value of the reporting unit. If the fair value exceeds the carrying value, the test is complete and no impairment is recorded. If the carrying value of the reporting unit, including goodwill, exceeds the fair value of the reporting unit an impairment charge is recorded equal to the excess, but not more than the total amount of goodwill allocated to the reporting unit.

A significant majority of the Company's telecommunications licenses are not amortized and are carried at their historical costs. The Company believes that telecommunications licenses generally have an indefinite life based on the historical ability to renew such licenses, that such renewals may be obtained indefinitely and at little cost, and that the related technology used is not expected to be replaced in the foreseeable future. The Company has elected to perform its annual testing of its telecommunications licenses in the fourth quarter of each fiscal year, or more often if events or circumstances indicate that there may be impairment. The assessment begins with a qualitative analysis to determine whether it is more likely than not that the license fair value exceeds its carrying value. If the reporting unit passes this analysis, the impairment assessment is complete and no impairment is recorded. If the reporting unit does not pass the analysis, the Company performs additional quantitative analysis to calculate the fair value of the license. If the carrying value of the license exceeds the license fair value an impairment charge is recorded. As a part of the impairment test the Company assesses the appropriateness of the application of the indefinite-lived assertion. If the value of these assets were impaired by some factor, such as an adverse change in the subsidiary's operating market, the Company may be required to record an impairment charge.

The Company performed its annual impairment assessment of its goodwill and indefinite-lived intangible assets (telecommunications licenses) for the years ended December 31, 2020 and 2019. See Note 8 for a discussion of the Company's impairment of a portion of its goodwill within its Renewable Energy segment during the year ended December 31, 2019.

Other Intangible Assets

Intangible assets resulting from the acquisitions of entities accounted for using the purchase method of accounting are estimated by management based on the fair value of assets acquired. These include acquired customer relationships, tradenames, and franchise rights.

Customer relationships are amortized over their estimated lives ranging from 7-13 years, which are based on the pattern in which economic benefit of the customer relationship is estimated to be realized.

Debt

Debt is measured at amortized cost. Debt issuance costs on term loans and specified maturity borrowings are recorded as a reduction to the carrying value of the debt and are amortized as interest expense in the consolidated income statements over the period of the debt. Fees related to revolving credit facilities and lines of credit are recorded in other assets in the consolidated balance sheet and are amortized as interest expense in the consolidated income statements over the life of the facility. Except for interest costs incurred for the construction of a qualifying asset which are capitalized during the period the assets are prepared for their intended use, interest costs are expensed.

Non-Controlling Interests

The non-controlling interests in the accompanying consolidated balance sheets reflect the original investments and subsequent capital contributions made by the minority stockholders in the Company's subsidiaries which are less than wholly-owned. Non-controlling interests acquired in a business combination are initially recorded at fair value. Subsequently, all non-controlling interest is adjusted for the minority stockholder's proportional share of the earnings or losses, net of any distributions.

Changes in Accumulated Other Comprehensive Income (Loss)

Changes in accumulated other comprehensive income (loss), by component, were as follows (in thousands):

	Projected Pension and Postretirement Benefit Obligations	Translation Adjustment	Other	Total
Balance at December 31, 2017	$ 3,127	$ 355	$ 264	$ 3,746
Unrecognized actuarial gain (loss), net of tax of $0.6 million	(840)	—	—	(840)
Foreign currency translation adjustment	—	(4,390)	—	(4,390)
Adoption of ASU 2016-01	—	—	(203)	(203)
Interest rate swap	—	—	78	78
Balance at December 31, 2018	$ 2,287	$ (4,035)	$ 139	$ (1,609)
Unrecognized actuarial gain (loss), net of tax of $0.1 million	(445)	—	—	(445)
Foreign currency translation adjustment	—	(1,041)	—	(1,041)
Interest rate swap	—	—	(187)	(187)
Balance at December 31, 2019	1,842	(5,076)	(48)	(3,282)
Unrecognized actuarial gain (loss), net of tax of $0.1 million	(2,412)	—	—	(2,412)
Foreign currency translation adjustment	—	37	—	37
Interest rate swap	—	—	(101)	(101)
Reclassification of foreign currency losses on assets held for sale	—	—	6,036	6,036
Balance at December 31, 2020	$ (570)	$ (5,039)	$ 5,887	$ 278

Amounts reclassified from accumulated other comprehensive income to net income for pension and other postretirement benefits plans were $(100.0) thousand, $(64.0) thousand, and $54.0 thousand for the year ended December 31, 2020, December 31, 2019, and December 31, 2018, respectively. Additionally, $6.0 million was reclassified from accumulated other comprehensive income to net income as a result of the foreign currency losses on assets held for sale from the Vibrant Transaction for the year ended December 31, 2020.

Revenue Recognition

The Company earns revenue from its telecommunication and renewable energy operations. The Company recognizes revenue through the following steps:

- Identification of the contract with a customer
- Identification of the performance obligations in the contract
- Determination of the transaction price
- Allocation of the transaction price to the performance obligations in the contract
- Recognize revenue when, or as, the Company satisfies performance obligations

Revenue Recognition- Communications Services

Communication services consists of Mobility, Fixed, and Carrier Services revenue. Mobility revenue consists of retail revenue generated from providing mobile voice and data services to subscribers over the Company's wireless networks and the sale of related equipment such as handsets and other accessories to its subscribers. The service revenue generated is recognized over time as the service is rendered and revenues from equipment are recognized when the equipment is delivered to the customer.

Management considers transactions where customers purchase subsidized or discounted equipment and mobile voice or data services to be a single contract. For these contracts, the transaction price is allocated to the equipment and mobile service based on their standalone selling prices. The standalone selling price is based on the amount the Company charges for the equipment and service to similar customers. Equipment revenue is recognized when the equipment is delivered to customers and service revenue is recognized as service is rendered.

Fixed Communications revenue is primarily generated by internet, voice, and video service revenues provided to retail and enterprise customers over the Company's wireline networks. Revenue from these contracts is recognized over time as the service is rendered to the customer. Fixed revenue also includes revenue from government grants and is recognized in accordance with the grant terms and conditions.

In the Company's International Telecom segment, Carrier Services revenue is generated from providing international long-distance services, roaming services to other carriers' customers roaming into the Company's retail markets, transport services, and access services provided to other telecommunication carriers. In the Company's US Telecom segment, Carrier Services revenue includes services provided under the FirstNet Transaction, wholesale roaming revenues, the provision of network switching services, tower lease revenue and other services provided to carriers. Revenue is recognized over time as the service is rendered to the customer.

The Company also has certain wholesale roaming agreements that contain stand ready performance obligations and management allocates transaction value to performance obligations based on the standalone selling price. The standalone selling price is the estimated price the Company would charge for the good or service with similar customers in similar circumstances. Management determined the performance obligations were obligations to make the service continuously available and will recognize revenue evenly over the service period.

In July 2019 the Company entered into a Network Build and Maintenance Agreement (the "FirstNet Agreement") with AT&T Mobility, LLC ("AT&T") to build a portion of AT&T's network for the First Responder Network Authority ("FirstNet") as well as a commercial wireless network in or near the Company's current operating area in the Southwestern United States (the "FirstNet Transaction"). The FirstNet transaction includes construction and service performance obligations. The Company allocated the transaction price of the FirstNet Agreement to each performance obligation based on the relative standalone selling price of each performance obligation in the contract. The standalone selling price is the estimated price the Company would charge for the good or service in a separate transaction with similar customers in similar circumstances. The construction revenue is recognized when the assets are delivered and the service revenue is recognized over time as the service is rendered to the customer.

The Company's Mobility, Carrier Services, and Fixed communications contracts occasionally include promotional discounts such as free service periods or discounted products. If a contract contains a substantive termination penalty, the transaction price is allocated to the performance obligations based on a standalone selling price resulting in accelerated revenue recognition and the establishment of a contract asset that will be recognized over the life of the contract. If a contract includes a promotional discount but no substantive termination penalty the discount is recorded in the promotional period and no contract asset is established. The Company's customers also have the option to purchase additional telecommunication services. Generally, these options are not performance obligations and are excluded from the transaction price because they do not provide the customers with a material right.

The Company may charge upfront fees for activation and installation of some of its products and services. These fees are reviewed to determine if they represent a separate performance obligation. If they do not represent a separate performance obligation, the contract price associated with them is recognized over the life of the customer. If the fees represent a performance obligation they are recognized when delivered to the customer based on the standalone selling price.

Sales and use and state excise taxes collected from customers that are remitted to the governmental authorities are reported on a net basis and excluded from the revenues and sales.

The Company also enters into build and maintenance agreements with its customers. The agreements include construction and service performance obligations. The Company allocates the transaction price to each performance obligation based on the relative standalone selling price of each performance obligation in the contract. The standalone selling price is the estimated price the Company would charge for the good or service in a separate transaction with similar customers in similar circumstances.

Revenue Recognition-Other Revenue

Other revenue consists of renewable energy revenue and Managed Services revenue. Renewable energy revenue includes the generation of power through Power Purchase Agreements (“PPAs”) from the Company’s solar plants in India, and prior to its sale in 2018, the United States. The Company recognizes revenue at contractual PPA rates over time as electricity is generated and simultaneously consumed by the customer. Managed services revenue is generated from network, application, infrastructure, and hosting services delivered to customers. The revenue is recognized as the service is delivered to customers.

Contract Assets and Liabilities

The Company recognizes contract assets and liabilities on its balance sheet. Contract assets represent unbilled amounts typically resulting from retail wireless contracts with both a multiyear service period and a promotional discount. In these contracts the revenue recognized exceeds the amount billed to the customer. The current portion of the contract asset is recorded in prepayments and other current assets and the noncurrent portion is included in other assets on the Company’s balance sheet.

Contract liabilities consist of advance payments and billings in excess of revenue recognized. Retail revenue for postpaid customers is generally billed one month in advance and recognized over the period that the corresponding service is rendered to customers. To the extent the service is not provided by the reporting date the amount is recognized as a contract liability. Prepaid service, including mobile voice and data services, sold to customers is recorded as deferred revenue prior to the commencement of services. The current portion of contract liabilities are recorded in advanced payments and deposits and the noncurrent portion is included in other liabilities on the Company’s balance sheets.

Contract Acquisition Costs

The Company pays sales commissions to its employees and agents for obtaining customer contracts. These costs are incremental because they would not have been incurred if the contract was not obtained. The Company recognizes an asset for these costs and subsequently amortizes the asset on a systematic basis consistent with the pattern of the transfer of the services to the customer. The amortization period, which is between 2 and 6 years, considers both the original contract period as well as anticipated contract renewals as appropriate. The amortization period also includes renewal commissions when those commissions are not commensurate with new commissions. The Company estimates contract renewals based on its actual renewals in recent periods. When the expected amortization period is one year or less the Company utilizes the practical expedient and expenses the costs as incurred.

Leases

The Company determines if an agreement is a lease at inception. Operating leases are included in right-of-use (“ROU”) assets, current portion of operating lease liabilities, and operating lease liabilities in the Company’s consolidated balance sheets. Finance leases are included in property and equipment in the Company’s consolidated balance sheets.

ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. The present value is calculated using the Company’s incremental borrowing rate based on the information available at the commencement date, as the

Company's leases do not contain an implicit rate. The Company utilizes assumptions based on its existing borrowing facilities and other market specific data to determine its incremental borrowing rate. The operating lease ROU asset also includes any lease payments made and excludes lease incentives. The Company's lease terms may include renewal options to extend the lease. The Company includes renewal options that are reasonably certain to be exercised in the initial lease term. When determining whether a renewal option is reasonably certain to be exercised, the Company considers several factors, including the present and anticipated future needs of its customers being serviced by the asset. Lease expense is recognized on a straight-line basis over the lease term. The Company does not separate non-lease components from lease components.

Operating Expenses

Termination and access fee expenses. Termination and access fee expenses are charges that are incurred for voice and data transport circuits (in particular, the circuits between the Company's Mobility sites and its switches), internet capacity, video programming costs, other access fees the Company pays to terminate its calls, telecommunication spectrum fees and direct costs associated with the Company's Managed Services and technology business as well as within its renewable energy operations. Termination and access fees also include the allowance for credit losses and the cost of handsets and customer resale equipment incurred by the Company's retail businesses.

Construction costs. Construction costs include the expenses associated with constructing and making the FirstNet sites available for delivery to ATT.

Engineering and operations expenses. Engineering and operations expenses include the expenses associated with developing, operating, upgrading, and supporting the Company's expanding telecommunications networks and renewable energy operations, including the salaries and benefits paid to employees directly involved in the development and operation of those businesses.

Sales and marketing expenses. Sales and marketing expenses include salaries and benefits the Company pays to sales personnel, customer service expenses, sales commissions and the costs associated with the development and implementation of the Company's promotion and marketing campaigns.

General and administrative expenses. General and administrative expenses include salaries, benefits and related costs for general corporate functions including executive management, finance and administration, legal and regulatory, facilities, information technology and human resources. General and administrative expenses also include internal costs associated with the Company's performance of due-diligence in connection with acquisition activities.

Transaction-related charges. Transaction-related charges include the external costs, such as legal, tax, accounting and consulting fees directly associated with acquisition and disposition-related activities, which are expensed as incurred. Transaction-related charges do not include internal costs, such as employee salary and travel-related expenses, incurred in connection with acquisitions or dispositions or any integration-related costs.

Restructuring charges. Restructuring charges are costs incurred as a result of reorganizing the Company's operations as a result of acquisition or disposition activities.

Depreciation and amortization expenses. Depreciation and amortization expenses represent the depreciation and amortization charges the Company records on its property and equipment and on certain intangible assets.

Impairment of goodwill or intangible assets. The Company evaluates the carrying value of its long lived assets, including property and equipment, whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. An impairment loss exists when estimated undiscounted cash flows attributable to non-current assets subject to depreciation and amortization and discounted cash flows for intangible assets not subject to amortization are less than their carrying amount. For long lived assets other than goodwill, if an asset is deemed to be impaired, the amount of the impairment loss recognized represents the excess of the asset's carrying value as compared to its estimated fair value, based on management's assumptions and projections.

(Gain) loss on disposition of long-lived assets. The Company sells or disposes assets from time to time. A gain or loss is recorded by comparing the carrying amount of the assets to the proceeds received. The Company also records losses on assets held for sale if the expected sale price exceeds the carrying value of the assets.

Loss on damaged assets and other Hurricane-related charges, net of insurance recovery. During September 2017, the Company's operations and customers in the US Virgin Islands were severely impacted by Hurricanes Irma and Maria (the "Hurricanes"). Loss on damaged assets and other hurricane related charges, net of insurance recovery represents the write off of damaged assets, net of insurance recoveries and also includes additional operating expenses that were specifically incurred to address the impact of the Hurricanes.

Accounting for Grants

The Company receives funding from the US Government and its agencies under stimulus and USF and other programs. These funding programs are generally designed to fund telecommunications operations, and infrastructure expansion into rural or underserved areas. The funding programs are evaluated to determine if they represent funding related to revenue, capital expenditures, or operating activities. Funding for revenue and operating activities are recorded as revenue or contra expense in the Company's consolidated income statement as the services are provided. Funding for capital expenditures is recorded as a reduction to property, plant and equipment on the Company's consolidated balance sheets and a future reduction in depreciation expense in the consolidated income statements. Government funding related to revenue and operations are recorded as operating cash inflows and grants for capital expenditures are recorded as investing cash inflows.

The Company monitors government funding for grant requirements to ensure that conditions related to grants have been met and there is reasonable assurance that the Company will be able to retain the grant proceeds and to ensure that any contingencies that may arise from not meeting the conditions are appropriately recognized. See Note 10, *Government Grants*.

Income Taxes

The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined on the basis of the differences between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

The Company recognizes deferred tax assets to the extent that the Company believes these assets are more likely than not to be realized. In making such a determination, the Company considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, and results of recent operations. If the Company determines that it would be able to realize its deferred tax assets in the future in excess of their net recorded amount, the Company would make an adjustment to the deferred tax asset valuation allowance, which would reduce the provision for income taxes.

The Company records uncertain tax positions in accordance with ASC 740 on the basis of a two-step process whereby (1) the Company determines whether it is more likely than not that the tax positions will be sustained on the basis of the technical merits of the position and (2) for those tax positions that meet the more-likely-than-not recognition threshold, the Company recognizes the largest amount of tax benefit that is more than 50 percent likely to be realized upon ultimate settlement with the related authority. It is possible that the ultimate resolution of these uncertain matters may be greater or less than the amount that the Company estimated. If payment of these amounts proves to be unnecessary, the reversal of the liabilities would result in tax benefits being recognized in the period in which it is determined that the liabilities are no longer necessary. If the estimate of tax liabilities proves to be more than the ultimate assessment, a further charge to expense would result.

The Company recognizes interest and penalties related to unrecognized tax benefits within the income tax expense line in the accompanying consolidated statements of operations. Accrued interest and penalties are included within the related tax liability line in the consolidated balance sheets.

The Company does not provide for United States income taxes on earnings of foreign subsidiaries as such earnings are considered to be indefinitely reinvested. The Tax Cuts and Jobs Act of 2017 (the “Tax Act” also commonly referred to as US tax reform), resulted in a one-time transition tax on the deemed repatriation of foreign earnings for federal tax purposes.

Credit Concentrations and Significant Customers

Historically, the Company has been dependent on a limited amount of customers for its wholesale roaming business. For the year ended December 31, 2020 and December 31, 2019, one customer accounted for 10% and 11% of the Company’s consolidated revenue, respectively. For the year ended December 31, 2018, two customers accounted for 11% of the Company’s consolidated revenue.

As of December 31, 2020, two customers accounted for more than 10% of the Company’s consolidated accounts receivable. As of December 31, 2019, one customer accounted for more than 10% of the Company’s consolidated accounts receivable.

Foreign Currency Gains and Losses

The Company translate the assets and liabilities of its foreign subsidiaries from their respective functional currencies, primarily the Indian Rupee and the Guyana Dollar, to US dollars at the appropriate spot rates as of the balance sheet date. Changes in the carrying values of these assets and liabilities attributable to fluctuations in spot rates are recognized in foreign currency translation adjustment, a component of accumulated other comprehensive income. Income statement accounts are translated using the monthly average exchange rates during the year.

Monetary assets and liabilities denominated in a currency that is different from a reporting entity’s functional currency must first be remeasured from the applicable currency to the legal entity’s functional currency. The effect of this remeasurement process is reported in other income on the income statement.

Employee Benefit Plans

The Company sponsors pension and other postretirement benefit plans for employees of certain subsidiaries. Net periodic pension expense is recognized in the Company’s income statement. The service cost component of net periodic pension expense is presented with other employee compensation within income from operations. Other components of net periodic pension expense, such as interest cost, expected return on plan assets, and amortization of actuarial gains and losses are presented in other income. The Company recognizes a pension or other postretirement benefit plan’s funded status as either an asset or liability in its consolidated balance sheet. Actuarial gains and losses are deferred, reported as a component of other comprehensive income, and amortized through net periodic pension expense in subsequent periods.

Fair Value of Financial Instruments

In accordance with the provisions of fair value accounting, a fair value measurement assumes that a transaction to sell an asset or transfer a liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability, and defines fair value based upon an exit price model.

The fair value measurement guidance establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The guidance describes three levels of inputs that may be used to measure fair value:

Level 1 Quoted prices in active markets for identical assets or liabilities as of the reporting date. Active markets are those in which transactions for the asset and liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis. Level 1 assets and liabilities include money market funds, debt and equity securities and derivative contracts that are traded in an active exchange market.

Level 2 Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 2 assets and liabilities include debt securities with quoted prices that are traded less frequently than exchange-traded instruments and derivative contracts whose value is determined using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data. This category generally includes corporate obligations and non-exchange traded derivative contracts.

Level 3 Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments and intangible assets that have been impaired whose value is determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

Assets and liabilities of the Company measured at fair value on a recurring basis as of December 31, 2020 and 2019 are summarized as follows:

	December 31, 2020			
Description	**Quoted Prices in Active Markets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Unobservable Inputs (Level 3)**	**Total**
Certificates of deposit	$ —	$ 380	$ —	$ 380
Money market funds	2,785	—	—	2,785
Other investments	—	—	13,357	13,357
Interest rate swap	—	(157)	—	(157)
Total assets and liabilities measured at fair value	$ 2,785	$ 223	$ 13,357	$ 16,365

	December 31, 2019			
Description	**Quoted Prices in Active Markets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Unobservable Inputs (Level 3)**	**Total**
Certificates of deposit	$ —	$ 380	$ —	$ 380
Money market funds	2,329	—	—	2,329
Short term investments	416	—	—	416
Other investments	—	—	12,700	12,700
Interest rate swap	—	(56)	—	(56)
Total assets and liabilities measured at fair value	$ 2,745	$ 324	$ 12,700	$ 15,769

Certificates of Deposit

As of December 31, 2020 and December 31, 2019 this asset class consisted of a time deposit at a financial institution denominated in US dollars. The asset class is classified within Level 2 of the fair value hierarchy because the fair value was based on observable market data.

Money Market Funds

As of December 31, 2020 and December 31, 2019, this asset class consisted of a money market portfolio that comprises Federal government and US Treasury securities. The asset class is classified within Level 1 of the fair value hierarchy because its underlying investments are valued using quoted market prices in active markets for identical assets.

Short Term Investments and Commercial Paper

As of December 31, 2020 and December 31, 2019, these asset classes consisted of short term foreign and US corporate bonds, equity securities, and commercial paper. Corporate bonds and commercial paper are classified within Level 2 of the fair value hierarchy because the fair value is based on observable market data. Equity securities are classified within Level 1 because fair value is based on quoted market prices in active markets for identical assets. The Company held equity securities with a fair value of $0.2 million as of December 31, 2019. Net income for the year ended December 31, 2020 and 2019 includes $0.2. million and $0.1 million of losses, respectively, on these securities.

Other Investments

In the first quarter of 2019, the Company made an investment in an early-stage venture through the acquisition of a convertible debt instrument. The Company elected to fair value the investment upon acquisition. At December 31, 2020, the fair value of the investment was $11.0 million. During the years ended December 31, 2020 and 2019, the Company recorded $0.8 million and $0.2 million of income, respectively, from changes in the fair value of the investment. The asset is classified within Level 3 of the fair value hierarchy. The Company used the income approach to fair value the investment and the inputs consisted of a discount rate calculated based on the investment attributes and the probability of potential future scenarios occurring.

In the third quarter of 2019, the Company made a $14.4 million investment in a renewable energy partnership, as a tax equity investor. The Company received an investment tax credit of $12.0 million in the year ended December 31, 2020 and will receive future cash distributions from the partnership's operations. The Company elected the deferral method to account for the credit and elected the fair value option to account for the equity investment. The Company's investment had a fair value of $2.3 million at December 31, 2020, and $2.5 million at December 31, 2019. The asset is classified within Level 3 of the fair value hierarchy. The Company used the income approach to fair value the investment and the inputs consisted of a discount rate and future cash flows calculated based on the investment attributes.

The Company also holds investments in equity securities consisting of non-controlling investments in privately held companies. These investments, over which the Company does not have the ability to exercise significant influence, are without readily determinable fair values. The investments are measured at cost, less any impairment, adjusted for observable price changes of similar investments of the same issuer. Fair value is not estimated for these investments if there are no identified events or changes in circumstances that may have an effect on the fair value of the investment. The carrying value of the investments was $1.3 million at December 31, 2020 and $2.1 million at December 31, 2019. During the year ended December 31, 2020 the Company recorded a loss of $0.8 million as the result of an observable price change in the investments. These investments are included with other assets on the consolidated balance sheets.

Equity Method Investments

In the first quarter of 2020, the Company increased its ownership in one investment of a privately held company to approximately 24% of the outstanding voting equity through an additional $2.8 million investment. With this investment, the Company obtained the ability to exercise significant influence over the investee and began accounting for the investment under the equity method of accounting including the recording of its share of the investee's earnings or losses. The carrying value of the investment was $17.9 million and $15.5 million at December 31, 2020 and December 31, 2019, respectively. The value increased $2.4 million from the December 31, 2019 balance due to an additional investment of $2.8 million, and currency gains of $1.6 million offset partially by $2.0 million of the Company's share of investee losses. The investment is included with other assets on the consolidated balance sheets.

Other Fair Value Disclosures

The carrying amounts of cash and cash equivalents, accounts receivable, and accounts payable and accrued expenses approximate their fair values because of the relatively short-term maturities of these financial instruments. The fair value of the interest rate swap is measured using Level 2 inputs.

The fair value of long-term debt is estimated using Level 2 inputs. At December 31, 2020, the fair value of long-term debt, including the current portion, was $73.3 million and its book value was $72.8 million. At December 31, 2019, the fair value of long-term debt, including the current portion, was $86.9 million and its book value was $86.4 million.

Net Income (Loss) Per Share

Basic net income per share is computed by dividing net income attributable to the Company's stockholders by the weighted-average number of common shares outstanding during the period and does not include any other potentially dilutive securities. Diluted net income per share gives effect to all potentially dilutive securities using the treasury stock method.

The reconciliation from basic to diluted weighted average shares of Common Stock outstanding is as follows (in thousands):

	Year ended December 31,		
	2020	2019	2018
Basic weighted-average shares of common stock outstanding	15,923	15,983	15,988
Stock options	—	—	54
Diluted weighted-average shares of common stock outstanding	15,923	15,983	16,042

For the year ended December 31, 2020, 2019, and 2018 the calculation of basic and diluted weighted average shares of Common Stock outstanding does not include 5,000 shares, 8,800 shares and 5,000 shares, respectively, relating to stock options as the effects of those options were anti-dilutive.

Stock-Based Compensation

The Company applies the fair value recognition provisions of the authoritative guidance for the accounting for stock-based compensation and is expensing the fair value of the grants of options to purchase Common Stock over their vesting period of four years. Relating to grants of options, the Company recognized $0.1 million of non-cash, share-based compensation expense during 2018. See Note 11 for assumptions used to calculate the fair value of the options granted.

The Company also issued 116,404 restricted shares of Common Stock in 2020; 108,278 restricted shares of Common Stock in 2019; and 111,474 restricted shares of Common Stock in 2018. These shares issued to employees are being charged to income based upon their fair values over their vesting period of four years. Shares issued to Directors are being charged to income based upon their fair values upon their grant. The Company accounts for forfeitures as they occur. Non-cash equity-based compensation expense, related to the vesting of restricted shares issued was $5.6 million, $6.4 million and $6.1 million in 2020, 2019, and 2018, respectively.

In connection with certain acquisitions, the Company issued shares of the acquired company to its local management and recorded $0.3 million, $0.5 million and $0.2 million of stock based compensation during 2020, 2019, and 2018, respectively.

Stock-based compensation expense is recognized within general and administrative expenses within the consolidated income statements.

Business Combinations

The Company accounts for business combinations using the acquisition method of accounting, under which the purchase price of the acquisition is allocated to the assets acquired and liabilities assumed using the fair values determined by management as of the acquisition date. Contingent consideration obligations that are elements of the consideration transferred are recognized as of the acquisition date as part of the fair value transferred in exchange for the acquired business. Acquisition-related costs incurred in connection with a business combination are expensed as incurred.

Recent Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update ("ASU") 2014-09, "Revenue from Contracts with Customers" ("ASU 2014-09"), and subsequently issued related updates, (collectively known as ASC 606), which provides a single, comprehensive revenue recognition model for all contracts with customers. The revenue standard is based on the principle that revenue should be recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The Company adopted this standard on January 1, 2018. Refer to Note 3 to the Consolidated Financial Statements in this Report.

In January 2016, the FASB issued ASU 2016-01, "Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities," which addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. The Company adopted this standard on January 1, 2018. Upon adoption the Company held $20.1 million of equity investments that did not have readily determinable fair values. As a result these investments are measured at cost less impairments, adjusted for observable price changes of similar investments of the same issuer. Upon adoption, the Company held $0.6 million of equity investments with readily determinable fair values and reclassified $0.2 million of unrealized gains on this investment to retained earnings.

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)" and subsequently issued related updates," ("ASU 2016-02") which provide comprehensive lease accounting guidance. The standard requires entities to recognize lease assets and liabilities on the balance sheet as well as disclosure of key information about leasing arrangements. ASU 2016-02 became effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, with early adoption permitted. The Company adopted ASC 2016-02 on January 1, 2019 utilizing the optional transition method with a cumulative adjustment on the date of adoption and not adjusting prior periods. Refer to Note 4 of the Condensed Consolidated Financial Statements.

In August 2016, the FASB issued ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments," ("ASU 2016-15") which provides further clarification on eight cash flow classification issues. The Company adopted this standard on January 1, 2018. In November 2016, the FASB issued ASU 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash," ("ASU 2016-18"). The amendments in ASU 2016-18 are intended to reduce diversity in practice related to the classification and presentation of changes in restricted cash or restricted cash equivalents on the statement of cash flows. The amendments in ASU 2016-18 require that amounts generally described as restricted cash and restricted cash equivalents be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The Company adopted this standard on January 1, 2018.

In October 2016 the FASB issued ASU 2016-16, “Accounting for Income Taxes: Intra-Entity Asset Transfers of Assets Other than Inventory.” The new standard eliminates all intra-entity sales of assets other than inventory, the exception under current standards that permits the tax effects of intra-entity asset transfers to be deferred until the transferred asset is sold to a third party or otherwise recovered through use. As a result, a reporting entity would recognize the tax expense from the sale of the asset in the seller’s tax jurisdiction when the transfer occurs. Any deferred tax asset that arises in the buyer’s jurisdiction would also be recognized at the time of the transfer. The new standard was effective for the Company on January 1, 2018. There was not a material impact to the Company’s Consolidated Financial Statements upon adoption.

In March 2017, the FASB issued ASU 2017-07, “Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.” The new guidance requires the service cost component to be presented separately from the other components of net benefit costs. Service cost will be presented with other employee compensation cost within income from operations. The other components of net benefit cost, such as interest cost, expected return on plan assets, amortization of prior service cost and gains or losses are required to be presented in other income. The Company elected the practical expedient allowing the use of the amounts disclosed for the various components of net benefit cost in the pension and other postretirement benefit plans footnote as the basis for the retrospective application. The Company adopted this standard on January 1, 2018.

In August 2017, the FASB issued ASU 2017-12, “Derivatives and Hedging (Topic 815) – Targeted Improvements to Accounting for Hedging Activities,” (“ASU 2017-12”). The standard: (a) expands and refines hedge accounting for both financial and non-financial risk components, (b) aligns the recognition and presentation of the effects of hedging instruments and hedge items in the financial statements, and (c) includes certain targeted improvements to ease the application of current guidance related to the assessment of hedge effectiveness. The guidance is effective for public business entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. The Company adopted ASU 2017-12 on January 1, 2019. There was not a material impact to the Company’s Consolidated Financial Statements upon adoption.

In February 2018, the FASB issued ASU 2018-02 “Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income.” The standard gives entities the option to reclassify to retained earnings tax effects related to items in accumulated other comprehensive income that were impacted by the Tax Act. The guidance is effective for all entities for fiscal years beginning after December 31, 2018 and interim periods within those fiscal years. Early adoption is permitted. The guidance may be applied in the period of adoption or retrospectively to each impacted period. The Company adopted this standard on January 1, 2018 and applied it to the period of adoption. The impact of the adoption results in a $0.8 million reclassification from accumulated other comprehensive income to retained earnings, which is offset by an equivalent valuation allowance, resulting in a net impact of zero.

In August 2018, the FASB issued ASU No. 2018-15, “Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract,” (“ASU 2018-15”). This standard requires entities that are customers in cloud computing arrangements to defer implementation costs if they would be capitalized by the entity in software licensing arrangements under the internal-use software guidance. The guidance may be applied retrospectively or prospectively to implementation costs incurred after the date of adoption. ASU 2018-15 is effective for annual and interim reporting periods beginning after December 15, 2019, with early adoption permitted. The Company prospectively adopted this standard in the fourth quarter of 2018.

In June 2016, the FASB issued ASU 2016-13, “Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments,” (“ASU 2016-13”). ASU 2016-13 requires entities to use a new forward-looking, expected loss model to estimate credit losses. It also requires additional disclosure relating to the credit quality of trade and other receivables, including information relating to management’s estimate of credit allowances. The Company adopted ASU 2016-13 using the modified retrospective approach on its January 1, 2020 effective date.

3. REVENUE RECOGNITION AND RECEIVABLES

Impact of adoption

The Company adopted ASC 606 on January 1, 2018 using the modified retrospective method. The Company elected the practical expedient to apply the new guidance only to contracts that were not substantially complete at the adoption date. The cumulative effect of adopting ASC 606 resulted in a contract asset of $1.6 million, of which $1.2 million was recorded in prepayments and other current assets and $0.4 million was recorded in other assets, a contract liability of $0.2 million recorded in advance payments and deposits, contract acquisition costs of $1.5 million of which $0.9 million was recorded in prepayments and other current assets and $0.6 million was recorded in other assets, and a deferred tax liability of $0.3 million with the offset of $1.5 million recorded to retained earnings and $1.1 million recorded to minority interest.

Contract Assets and Liabilities

The Company recognizes contract assets and liabilities on its balance sheet. Contract assets represent unbilled amounts typically resulting from retail wireless contracts with both a multiyear service period and a promotional discount. In these contracts the revenue recognized exceeds the amount billed to the customer. The current portion of the contract asset is recorded in prepayments and other current assets and the noncurrent portion is included in other assets on the Company's balance sheets.

Contract liabilities consist of advance payments and billings in excess of revenue recognized. Retail revenue for postpaid customers is generally billed one month in advance and recognized over the period that the corresponding service is rendered to customers. To the extent the service is not provided by the reporting date the amount is recognized as a contract liability. Prepaid service, including mobile voice and data services, sold to customers is recorded as deferred revenue prior to the commencement of services. Contract liabilities are recorded in advanced payments and deposits on the Company's balance sheets.

In July 2019 and August 2020, the Company entered into the FirstNet Agreement and a First Amendment to the FirstNet Agreement , respectively, in connection with the FirstNet Transaction. The FirstNet Transaction includes construction and service performance obligations. The Company allocated the transaction price of the FirstNet Agreement to each performance obligation based on the relative standalone selling price of each performance obligation in the contract. The standalone selling price is the estimated price the Company would charge for the good or service in a separate transaction with similar customers in similar circumstances.

The Company has certain wholesale roaming agreements that contain stand ready performance obligations and management allocates transaction value to performance obligations based on the standalone selling price. The standalone selling price is the estimated price the Company would charge for the good or service with similar customers in similar circumstances. Management determined the performance obligations were obligations to make the service continuously available and will recognize revenue evenly over the service period.

Contract assets and liabilities consisted of the following (amounts in thousands):

	December 31, 2020	December 31, 2019	$ Change	% Change
Contract asset – current	$ 2,478	$ 2,413	$ 65	3 %
Contract asset – noncurrent	910	905	5	1 %
Contract liability – current	(18,544)	(15,044)	(3,500)	(23)%
Contract liability – noncurrent	(2,193)	(5,450)	3,257	60 %
Net contract liability	$ (17,349)	$ (17,176)	$ (173)	(1)%

The contract asset-current is included in prepayments and other current assets, the contract asset-noncurrent is included in other assets, the contract liability-current is included in advance payments and deposits, and the contract liability-noncurrent is included in other liabilities on the Company's balance sheet. The increase in the Company's net contract liability was due to the timing of customer prepayments and contract billings, and the FirstNet Transaction. During the year ended December 31, 2020, the Company recognized revenue of $16.9 million related to its December 31, 2019 contract liability and amortized $2.3 million of the December 31, 2019 contract asset into revenue. The Company did not recognize any revenue in the years ended December 31, 2020 and 2019 related to performance obligations that were satisfied or partially satisfied in previous periods.

Contract Acquisition Costs

The December 31, 2020 balance sheet includes current contract acquisition costs of $1.9 million in prepayments and other current assets and long term contract acquisition costs of $1.2 million in other assets. The December 31, 2019 balance sheet includes current contract acquisition costs of $1.7 million in prepayments and other current assets and long term contract acquisition costs of $1.1 million in other assets. During the years ended December 31, 2020 and 2019 the Company amortized $2.1 million and $1.8 million, respectively, of contract acquisition cost.

Remaining Performance Obligations

Remaining performance obligations represent the transaction price allocated to unsatisfied performance obligations of certain multiyear retail wireless contracts, which include a promotional discount, and the Company's construction and service contracts. The transaction price allocated to unsatisfied performance obligations was $299 million and $241 million at December 31, 2020 and December 31, 2019, respectively. The Company expects to satisfy the majority of the remaining performance obligations and recognize the transaction price within 24 months and the remainder thereafter.

The Company has certain retail, wholesale, and renewable energy contracts where transaction price is allocated to remaining performance obligations. However, the Company omits these contracts from the disclosure by applying the right to invoice, one year or less, and wholly unsatisfied performance obligation practical expedients.

Disaggregation

The Company's revenue is presented on a disaggregated basis in Note 15 based on an evaluation of disclosures outside the financial statements, information regularly reviewed by the chief operating decision maker for evaluating the financial performance of operating segments and other information that is used for performance evaluation and resource allocations. This includes revenue from Communication Services and Other revenues. Communication Services is further disaggregated into Mobility, Fixed, Carrier Services, and Other revenue. Other revenue is further disaggregated into Renewable Energy, Managed Services, and Construction revenue. Each of the revenue streams is presented for the Company's International Telecom and US Telecom segments. This disaggregation of revenue depicts how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors.

Receivables

At December 31, 2020, the Company had gross accounts receivable of $67.1 million of which $57.5 million was recorded in accounts receivable and $9.6 million was long-term recorded in other assets on the Company's balance sheet. The Company recorded an allowance for credit loss of $12.1 million. At January 1, 2020, the Company had gross accounts receivable of $48.6 million and an allowance for credit losses of $12.7 million. The Company monitors receivables through the use of historical operating data adjusted for expectation of future performance as appropriate. Activity in the allowance for credit losses is below:

	Year ended December 31, 2020	
Balance at January 1, 2020	$	12,724
Current period provision for expected losses		5,010
Write-offs charged against the allowance		(6,351)
Recoveries collected		738
Balance at December 31, 2020	$	12,121

	2020		2019	
Retail	$	22,178	$	13,659
Wholesale - current		35,322		34,969
Wholesale - long- term		9,614		—
Accounts receivable		67,114		48,628
Less: allowance for doubtful accounts		(12,121)		(12,724)
Total accounts receivable, net	$	54,993	$	35,904

4. LEASES

Impact of Adoption

The Company adopted ASC 842 on January 1, 2019, utilizing the optional transition method with a cumulative adjustment on the date of adoption. Under this approach, the guidance was applied to leases that had commenced as of January 1, 2019 with a cumulative effect adjustment as of that date and prior periods were not adjusted. Upon adoption, the Company recognized an operating lease ROU asset of $70.8 million, a short-term lease liability of $8.2 million, and a long-term lease liability of $61.2 million. The adoption had no impact on retained earnings or other components of equity.

The Company elected the package of practical expedients. Under the package of practical expedients, for existing leases, the Company does not reassess: i) whether the arrangement contains a lease; ii) lease classification and; iii) initial direct costs.

The Company has operating and financing leases for towers, land, corporate offices, retail facilities, and data transport capacity. The lease terms are generally between 3 and 10 years, some of which include additional renewal options.

Supplemental lease information

The components of lease expense were as follows (in thousands):

	December 31, 2020		December 31, 2019	
Operating lease cost:				
Operating lease cost	$	16,409	$	15,194
Short-term lease cost		2,712		3,426
Variable lease cost		4,059		2,803
Total operating lease cost	$	23,180	$	21,423
Finance lease cost:				
Amortization of right-of-use asset	$	2,181	$	2,318
Variable costs		852		964
Total finance lease cost	$	3,033	$	3,282

During the year ended December 31, 2020 and December 31, 2019, the Company paid $16.1 million and $15.1 million, respectively, related to operating lease liabilities. Also during the year ended December 31, 2020 and December 31, 2019, the Company recorded $7.8 million and $9.7 million, respectively, of lease liabilities arising from ROU assets.

At December 31, 2020, finance leases with a cost of $25.4 million and accumulated amortization of $9.5 million were included in property, plant and equipment. During the year ended December 31, 2020, the Company paid $0.4 million for finance lease liabilities and recorded $1.6 million of additional finance lease liabilities. At December 31, 2020, finance leases had a lease liability of $1.2 million, of which $0.3 million was current. At December 31, 2019, finance leases with a cost of $25.9 million and accumulated amortization of $9.4 million were included in property, plant and equipment.

The weighted average remaining lease terms and discount rates as of December 31, 2020 and December 31, 2019 are noted in the table below:

	December 31, 2020	December 31, 2019
Weighted-average remaining lease term		
Operating leases	5.9 years	6.5 years
Financing leases	10.9 years	11.7 years
Weighted-average discount rate		
Operating leases	5.0%	5.0%
Financing leases	3.3%	n/a

Maturities of lease liabilities as of December 31, 2020 were as follows (in thousands):

	Operating Leases
2021	$ 15,211
2022	14,535
2023	12,132
2024	10,844
2025	7,816
Thereafter	13,094
Total lease payments	73,632
Less imputed interest	(10,179)
Total	$ 63,453

Maturities of lease liabilities as of December 31, 2019 were as follows (in thousands):

	Operating Leases
2020	$ 14,526
2021	13,714
2022	12,787
2023	10,713
2024	9,671
Thereafter	18,355
Total lease payments	79,766
Less imputed interest	(12,195)
Total	$ 67,571

As of December 31, 2020, the Company did not have any material operating or finance leases that have not yet commenced.

5. IMPACT OF HURRICANES IRMA AND MARIA

During September 2017, the US Virgin Islands economy, the Company's customer base and its operations were severely impacted by the Hurricanes. The Company's wireless and wireline networks and commercial operations were all severely damaged by these storms and as a result of the significant damage to the wireline network and the lack of consistent commercial power in the territory, the Company was unable to provide most of its wireline services, which comprise the majority of its revenue in this business, from mid-September 2017 and through most of 2018.

During the year ended December 31, 2018, the Company received $15.5 million in one-time additional funding from the Federal Communications Commission's ("FCC") Universal Service Fund ("USF") to further subsidize its operations in the US Virgin Islands. This amount was recorded as revenue during the year ended December 31, 2018.

During the years ended December 31, 2019 and 2018, the Company spent $0.1 million and $80.2 million, respectively, for network restoration and resiliency enhancements that allowed the reconnection of a significant majority of affected US Virgin Islands households and businesses.

6. DISPOSITIONS AND PLATFORM INVESTMENTS

Renewable Energy

Disposition of US Solar Business

On November 6, 2018, the Company completed the sale of its US solar business that owned and managed distributed generation solar power projects operated under the Ahana name in Massachusetts, California and New Jersey (the "US Solar Operations") to CleanCapital Holdco 4, LLC. The transaction had a total value of approximately $122.6 million, which includes a cash purchase price of $65.3 million and the assumption of approximately $57.3 million in debt (the "US Solar Transaction"). Approximately $6.5 million of the purchase price was held in escrow for a period of twelve months after the closing to secure certain indemnification obligations. The Company received the escrow in November 2019. The table below identifies the assets and liabilities transferred (amounts in thousands):

Consideration Received	$ 65,286
Assets and liabilities disposed	
Cash	3,049
Accounts receivable	1,248
Prepayments and other current assets	801
Property, plant and equipment	94,678
Restricted cash	8,407
Other assets	38
Current portion of long-term debt	(6,992)
Accounts payable and accrued liabilities	(938)
Accrued taxes	586
Long-term debt, excluding current portion	(48,038)
Net assets disposed	52,839
Consideration less net assets disposed	12,447
Transaction costs	(2,133)
Gain	$ 10,314

The Company allocated $1.1 million of the gain to non-controlling interests within the consolidated income statement. During the year ended December 31, 2018, the Company incurred $2.1 million of transaction related charges pertaining to legal, accounting and consulting services associated with the transaction. The US Solar Operations did not qualify as a discontinued operation because the disposition did not represent a strategic shift that had a major effect on the Company's operations and financial results. As a result, the historical results are included in continuing operations.

Disposition of International Solar Business

On November 19, 2020, the Company entered into a Sale and Purchase Agreement (the "Vibrant Sale Agreement") pursuant to which the Company, through its subsidiaries, has agreed to sell 67% of the outstanding equity interests of Vibrant Energy Holdings Pte. Ltd. ("Vibrant") for consideration of approximately $21 million at closing and the potential for up to $6.3 million of additional "earn out" consideration upon the satisfaction of certain conditions (the "Vibrant Transaction"). The Company will retain a 33% ownership interest in Vibrant. The Vibrant Sale Agreement contains representations, warranties and covenants of the parties that are customary for transactions of this type. The Company reported Vibrant's $34.7 million of assets and $0.7 million of liabilities as held for sale in its December 31, 2020 balance sheet. The assets held for sale include $30.2 million of property, plant and equipment, $3.8 million of current assets, and $0.7 million of other assets. The liabilities held for sale includes $0.7 million of current liabilities. The Company reported a loss of $21.5 million on the held for sale transaction during the year ended December 31, 2020.

In January 2021, the Company completed the sale of 67% of the outstanding equity in its business that owns and operates distributed generation solar power projects operated under the Vibrant name in India. The post-sale results of the Company's ownership interest in Vibrant will be recorded through the equity method of accounting within the Corporate and Other operating segment. As such, the Company's consolidated financial statements will not include revenue and operating expenses from Vibrant, but instead, "other income (expense)" within the Corporate and Other operating segment will include its 33% share of Vibrant's profits or losses. The Company will continue to present the historical results of its Renewable Energy segment for comparative purposes.

The Vibrant Transaction does not qualify as discontinued operations because the dispositions was not a strategic shift which will have a major effect on the Company's operations, the historical results and financial position of the operations are presented within continuing operations.

US Telecom

Platform Investments

During the second quarter of 2018, the Company invested in a new platform, based in the United States, to develop private network technology to service enterprise customers, municipalities, and other service providers. Also during the second quarter of 2018, the Company provided funding for another new platform, based in the United States, seeking to "build to suit" large scale fiber networks to serve the telecommunications and content provider industries in need of lower latency long haul fiber transit services.

On December 31, 2020, the Company announced that it entered into an Agreement and Plan of Merger (the "Alaska Merger Agreement") with Freedom 3 Capital, LLC ("Freedom3") to acquire all of the shares of Alaska Communications Systems Group, Inc. ("Alaska Communications"), a publicly listed company (Nasdaq:ALSK) for approximately $340 million, including the assumption of debt (the "Alaska Transaction"). Following the closing of the Alaska Transaction, the Company will, through its subsidiaries, own and control approximately 51% of Alaska Communications and Freedom3, through its affiliates, will own the remaining 49%. In February 2021, the required waiting period under the Hart Scott Rodino Antitrust Improvements Act of 1976 expired, however the Alaska Transaction remains subject to customary closing terms and conditions including (i) the approval of Alaska Communications' stockholders, (ii) the absence of certain legal impediments, and (iii) obtaining the necessary consents from the Federal Communications Commissions and the Regulatory Commission of Alaska.

7. FIXED ASSETS:

As of December 31, 2020 and 2019, property, plant and equipment consisted of the following (in thousands):

	Useful Life (in Years)	2020	2019
Telecommunications equipment and towers	5 -15	$ 1,012,457	$ 979,028
Solar assets	20-23	-	40,043
Office and computer equipment	3 -10	87,427	82,630
Buildings	15-39	52,048	48,565
Transportation vehicles	3 -10	13,730	13,424
Leasehold improvements	Shorter of useful life or lease term	16,709	2,316
Land	—	8,180	15,503
Furniture and fixtures	5 -10	11,320	8,866
Total property, plant and equipment		1,201,871	1,190,375
Construction in progress		50,909	47,180
Total property, plant and equipment		1,252,780	1,237,555
Less: Accumulated depreciation		(716,318)	(631,974)
Net fixed assets		$ 536,462	$ 605,581

Depreciation and amortization of fixed assets, using the straight-line method over the assets' estimated useful life, for the years ended December 31, 2020, 2019 and 2018 was $86.5 million, $86.9 million and $83.0 million, respectively. Included within telecommunication equipment and towers are certain right to use assets under capital lease with a cost of $25.4 million and $25.9 million and net book value of and $15.9 million and $16.5 million, as of December 31, 2020 and 2019, respectively.

For the years ended December 31, 2020 and 2019, the Company received capital expenditure grants of $16.3 million and $3.1 million, respectively.

The Company had $5.6 million and $3.6 million of capitalized implementation costs at December 31, 2020 and 2019, respectively. The Company amortized $0.7 and $0.2 million of implementation costs during the year ended December 31, 2020 and 2019, respectively.

8. GOODWILL AND INTANGIBLE ASSETS

Goodwill

The Company tests goodwill for impairment at each of its reporting units on an annual basis, which has been determined to be as of October 1st. The Company's reporting units are one level below its operating segments. The Company also tests goodwill between annual tests if an event occurs or circumstances change that indicate that the fair value of a reporting unit may be below its carrying value.

The Company's qualitative goodwill impairment test includes, but is not limited to, assessing macroeconomic conditions, industry and market considerations, technological changes and trends, and overall financial performance of the reporting unit. The Company's quantitative test for goodwill impairment involves a comparison of the estimated fair value of a reporting unit to its carrying amount, including goodwill. The Company determines the fair value of a reporting unit using either a market or income approach. The market approach uses prices generated by market transactions involving comparable businesses. The income approach is based on a discounted cash flow ("DCF") model. The DCF model requires the exercise of significant judgment, including judgments and assumptions about appropriate discount rates and revenue growth. Discount rates are based on a weighted-average cost of capital ("WACC"), which represents the average rate a business must pay its providers of debt and equity. The revenue growth and cash flows employed in the DCF model were derived from internal earnings and forecasts and external market forecasts.

For its annual impairment analysis, as of October 1, 2020, the Company performed a qualitative analysis for all reporting units other than its Viya reporting unit. The qualitative analysis was completed after the 2019 quantitative analysis using a DCF model determined that the fair value of each reporting unit significantly exceeded its carrying value, including goodwill. The qualitative analysis concluded that no impairment was necessary in 2020. For the Company's Viya reporting unit, its 2019 impairment analysis determined that its fair value exceeded its carrying value, including goodwill, by 12%. As a result the Company performed a quantitative analysis using a DCF model for this reporting unit during 2020. Based on the results of this test for Viya, the fair value of this reporting unit exceeded its carrying value by approximately 9%, and accordingly a relatively small change in the underlying assumptions, including the revenue growth and the discount rate, would likely cause a change in the results of the impairment assessment and, as such, could result in an impairment of the goodwill related to Viya, for which the carrying amount is $20.6 million.

During 2019, the Company recorded a goodwill impairment of $3.3 million in the Renewable Energy segment. The impairment assessment was based on a market approach. The Company concluded that the fair value of the reporting unit exceeded its carrying amount by an amount in excess of the reporting unit's goodwill. As a result, a goodwill impairment was recorded to reduce the value of the goodwill to zero. The assets in this reporting unit were reported as held for sale at December 31, 2020. Refer to Note 6.

The Company's impairment testing for 2018 concluded that no impairments were necessary for any reporting units.

The table below discloses goodwill recorded in each of the Company's segments and accumulated impairment changes (in thousands):

	International Telecom	US Telecom	Renewable Energy	Consolidated
Balance at December 31, 2018	$ 24,326	$ 35,268	$ 3,279	$ 63,970
Impairment	—	—	(3,279)	(3,279)
Balance at December 31, 2019	24,326	35,268	—	60,691
Impairment	—	—	—	—
Balance at December 31, 2020	$ 24,326	$ 35,268	$ —	$ 60,691

	International Telecom	US Telecom	Renewable Energy	Consolidated
Balance at December 31, 2019				
Gross	$ 24,326	$ 35,268	$ 3,279	$ 63,970
Accumulated Impairment	—	—	(3,279)	(3,279)
Net	24,326	35,268	—	60,691
Balance at December 31, 2020				
Gross	24,326	35,268	—	60,691
Accumulated Impairment	—	—	—	—
Net	$ 24,326	$ 35,268	$ —	$ 60,691

Telecommunications Licenses

The Company tests those telecommunications licenses that are indefinite lived for impairment on an annual basis, which has been determined to be as of October 1st. The Company also tests telecommunication licenses that are indefinite lived between annual tests if an event occurs or circumstances change that indicate that the fair value of a reporting unit may be below its carrying value.

The Company's qualitative impairment test includes, but is not limited to, assessing macroeconomic conditions, industry and market considerations, technological changes and trends, overall financial performance, and legal and regulatory changes. The Company's quantitative test for impairment involves a comparison of the estimated fair value of an asset to its carrying amount. The Company determines the fair value using either a market or income approach. The market approach uses prices generated by market transactions involving comparable assets. The income approach uses a DCF model. The DCF requires the exercise of significant judgement including Level 3 valuation inputs.

The Company performed qualitative assessments for its annual impairment assessment of its indefinite lived telecommunications licenses for 2020 and determined that there were no indications of potential impairments. The Company's impairment testing for 2019 and 2018 also determined that no impairments were required for any telecommunication licenses.

The changes in the carrying amount of the Company's telecommunications licenses, by operating segment, were as follows (in thousands):

	International Telecom	US Telecom	Consolidated
Balance at December 31, 2018	$ 23,347	$ 70,339	$ 93,686
Acquired licenses	—	—	—
Dispositions	—	—	—
Balance at December 31, 2019	$ 23,347	$ 70,339	$ 93,686
Acquired licenses	200	20,197	20,397
Dispositions	—	—	—
Transfers	11,251	(11,251)	—
Balance at December 31, 2020	$ 34,798	$ 79,285	$ 114,083

The licenses acquired during 2020 and 2019 are expected to be available for use into perpetuity.

Customer Relationships

The customer relationships, all of which are included in the International Telecom segment, are being amortized on an accelerated basis, over the expected period during which their economic benefits are to be realized. The Company recorded $1.5 million, $1.8 million, and $2.4 million of amortization related to customer relationships during year ended December 31, 2020, 2019, and 2018, respectively.

Future amortization of customer relationships, in its International Telecom segment, is as follows (in thousands):

	Future Amortization
2021	$ 1,300
2022	1,143
2023	827
2024	576
2025	576
Thereafter	1,491
Total	$ 5,913

Other Intangible Assets

The Company has other intangible assets of $3.0 million consisting of franchise rights and $1.1 million of tradenames in its International Telecom segment. These assets are recorded in other assets on the Company's balance sheet as of December 31, 2020 and 2019, respectively.

9. LONG-TERM DEBT

On April 10, 2019, the Company entered into the 2019 Credit Facility, with CoBank, ACB and a syndicate of other lenders. The 2019 Credit Facility provides for a $200 million revolving credit facility that includes (i) up to $75 million for standby or trade letters of credit and (ii) up to $10 million under a swingline sub-facility. Approximately $16.0 million of performance letters of credit have been issued and remain outstanding and undrawn as of December 31, 2020. The 2019 Credit Facility matures on April 10, 2024.

Amounts borrowed under the 2019 Credit Facility bear interest at a rate equal to, at the Company's option, either (i) the London Interbank Offered Rate ("LIBOR") plus an applicable margin ranging between 1.25% to 2.25% or (ii) a base rate plus an applicable margin ranging from 0.25% to 1.25%. Swingline loans bear interest at the base rate plus the applicable margin for base rate loans. The base rate is equal to the higher of (i) 1.00% plus the higher of (x) LIBOR for an interest period of one month and (y) LIBOR for an interest period of one week; (ii) the Federal Funds Effective Rate (as defined in the 2019 Credit Facility) plus 0.50% per annum; and (iii) the Prime Rate (as defined in the 2019 Credit Facility). The applicable margin is determined based on the Total Net Leverage Ratio (as defined in the 2019 Credit Facility). Under the terms of the 2019 Credit Facility, the Company must also pay a fee ranging from 0.150% to 0.375% of the average daily unused portion of the 2019 Credit Facility over each calendar quarter.

The 2019 Credit Facility contains customary representations, warranties and covenants, including a financial covenant that imposes a maximum ratio of indebtedness to EBITDA as well as covenants limiting additional indebtedness, liens, guaranties, mergers and consolidations, substantial asset sales, investments and loans, sale and leasebacks, transactions with affiliates and fundamental changes. The Company's investments in "unrestricted" subsidiaries and certain dividend payments to the Company's stockholders are not limited unless the Total Net Leverage Ratio is equal to or greater than 1.75 to 1.0. The Total Net Leverage Ratio is measured each fiscal quarter and is required to be less than or equal to 2.75 to 1.0. In the event of a Qualifying Acquisition (as defined in the 2019 Credit Facility), the Total Net Leverage Ratio increases to 3.25 to 1.0 for the subsequent three fiscal quarters.

The 2019 Credit Facility also provides for the incurrence by the Company of incremental term loan facilities, when combined with increases to revolving loan commitments, in an aggregate amount not to exceed $200 million (the "Accordion"). Amounts borrowed under the Accordion are also subject to proforma compliance with a net leverage ratio financial covenant.

As of December 31, 2020, the Company was in compliance with all of the financial covenants, had no outstanding borrowings and, net of the $16.0 million of outstanding performance letters of credit, had $184.0 million of availability under the 2019 Credit Facility.

FirstNet Receivables Credit Facility

On March 26, 2020, Commnet Finance, a wholly owned subsidiary of Commnet Wireless, entered into receivables credit facility with the Company, Commnet Wireless, and CoBank, ACB (the "Receivables Credit Facility").

The Receivables Credit Facility provides for a senior secured delayed draw term loan in an aggregate principal amount of up to $75 million and the proceeds may be used to acquire certain receivables from Commnet Wireless. The receivables to be financed and sold under the Receivables Credit Facility, which provide the loan security, relate to the obligations of AT&T under the FirstNet Agreement. The delayed draw period will expire on December 31, 2021.

The maturity date for each loan will be set by CoBank and will match the weighted average maturity of the certain receivables financed.

Interest on the loans accrues at a rate based on (i) LIBOR plus 2.50%, (ii) a base rate plus 1.50% or (iii) a fixed annual interest rate to be quoted by CoBank

The Receivables Credit Facility contains customary events of termination, representations and warranties, affirmative and negative covenants and events of default customary for facilities of this type.

As of December 31, 2020, the Company had no outstanding borrowings under the Receivables Credit Facility.

Viya Debt

The Company, and certain of its subsidiaries, have entered into a $60.0 million loan agreement (the "Viya Debt") with Rural Telephone Finance Cooperative ("RTFC"). The Viya Debt agreement contains customary representations, warranties and affirmative and negative covenants (including limitations on additional debt, guaranties, sale of assets and liens) and a financial covenant that limits the maximum ratio of indebtedness to annual operating cash flow to 3.5 to 1.0 (the "Net Leverage Ratio"). This covenant is tested on an annual basis at the end of each fiscal year. Interest is paid quarterly at a fixed rate of 4.0% and principal repayment is not required until maturity on July 1, 2026. Prepayment of the Viya Debt may be subject to a fee under certain circumstances. The debt is secured by certain assets of the Company's Viya subsidiaries and is guaranteed by the Company. With RTFC's consent, the Company funded the restoration of Viya's network, following the Hurricanes in 2017, through an intercompany loan arrangement with a $75.0 million limit. The Company was not in compliance with the Net Leverage Ratio covenant of the Viya Debt agreement for the year ending December 31, 2020 and received a waiver from the RTFC on February 25, 2021.

The Company paid a fee of $0.9 million in 2016 to lock the interest rate at 4% per annum over the term of the Viya Debt. The fee was recorded as a reduction to the Viya Debt carrying amount and is being amortized over the life of the loan.

As of December 31, 2020, $60.0 million of the Viya Debt remained outstanding and $0.5 million of the rate lock fee was unamortized.

One Communications Debt

The Company has an outstanding loan from HSBC Bank Bermuda Limited (the "One Communications Debt") which is scheduled to mature on May 22, 2022 and bears interest at the one-month LIBOR plus a margin ranging between 2.5% to 2.75%, paid quarterly.

The One Communications Debt contains customary representations, warranties and affirmative and negative covenants (including limitations on additional debt, guaranties, sale of assets and liens) and financial covenants, tested annually as of and for the twelve months ended December 31st, that limit the ratio of tangible net worth to long term debt and total net debt to EBITDA and require a minimum debt service coverage ratio (as defined in the One Communications Debt agreement). The Company was in compliance with its covenants as of December 31, 2020.

As a condition of the One Communications Debt, the Company was required to enter into a hedging arrangement with a notional amount equal to at least 30% of the outstanding loan balance and a term corresponding to the term of the One Communications Debt. As such, the Company entered into an amortizing interest rate swap that has been designated as a cash flow hedge, which had an original notional amount of $11.0 million, has an interest rate of 1.874%, and expires in March 2022. As of December 31, 2020, the swap had an unamortized notional amount of $7.3 million.

The Company capitalized $0.3 million of fees associated with the One Communications Debt which are being amortized over the life of the debt and are recorded as a reduction to the debt carrying amount.

As of December 31, 2020, $13.4 million of the One Communications Debt was outstanding and $0.1 million of the capitalized fees remained unamortized.

10. GOVERNMENT GRANTS

Universal Service Fund

The USF is a subsidy program managed by the FCC. USF funds are disbursed to telecommunication providers through four programs: the High Cost Program; Low Income Program ("Lifeline Program"); Schools and Libraries

Program ("E-Rate Program"); and Rural Health Care Support Program. The Company participates in the High Cost Program, Lifeline Program, E-Rate Program, and Rural Health Care Support Program as further described below. All of these funding programs are subject to certain operational and reporting compliance requirements. The Company believes it is in compliance with all applicable requirements.

During the years ended December 31, 2020, 2019 and 2018, the Company recorded $16.4 million, $16.4 million, and $16.5 million, respectively, of revenue from High Cost Support in its International Telecom segment for its US Virgin Islands operations under the "Viya" name. In addition, the Company recorded revenue of $15.5 million during the year ended December 31, 2018, from additional funding authorized by the FCC following the Hurricanes. In 2018, the FCC initiated a proceeding to reform the High Cost Program in the US Virgin Islands and Puerto Rico in which it proposed to allocate USF funding of up to $18.7 million per year (inclusive of the $16.4 million per year currently allocated to Viya) for 10 years to supplant the $16.4 million that Viya currently receives per year. While Viya applied for Connect USVI Fund support allocated for the US Virgin Islands, on November 16, 2020, the FCC announced that Viya was not the recipient of the provisional award and that the FCC had provisionally accepted a bid of approximately $8.6 million per year for a term of 10 years. Viya has challenged this decision and its challenge remains pending before the FCC. If Viya's challenge is not granted, pursuant to the terms of the program, Viya's USF support will be reduced, to two-thirds of the legacy total amount, or $10.9 million, during the first year following the finalization of the award and to one-third of the legacy total amount, or $5.5 million, during the second year. Thereafter, Viya will not receive high-cost USF support.

Also, during each year ended December 31, 2020, 2019 and 2018, the Company recorded $1.2 million of High Cost Support revenue in its US Telecom segment. The Company is subject to certain operational, reporting and construction requirements as a result of this funding and the Company believes that it is in compliance with all of these requirements.

In August 2018, the Company was awarded $79.9 million over 10 years under the Connect America Fund Phase II Auction. The Company is required to provide fixed broadband and voice services to certain eligible areas in the United States. The Company is subject to operational and reporting requirements under the program and the Company expects to incur additional capital expenditures to comply with these requirements. The Company determined the award is a revenue grant, and as a result the Company will record the funding as revenue upon receipt. The Company recorded $7.6 million and $5.3 million of revenue in the years ended December 31, 2020 and December 31, 2019, respectively, from the Connect America Fund Phase II program.

The Company also receives construction grants to build network connectivity for eligible communities. The funding is used to reimburse construction costs and is distributed upon completion of a project. As of December 31, 2019, the Company was awarded approximately $15.8 million of grants. The Company was awarded $1.0 million of construction grants in 2020. As of December 31, 2020, the Company has completed its construction obligations on $10.2 million of these projects and $6.6 million of such construction obligations remain with completion deadlines beginning in September 2021. Once these projects are constructed, the Company is obligated to provide service to the participants. The Company receives funds upon construction completion. During 2020, the Company received $2.9 million, which was used to offset operating activities. During 2019, the Company received $5.4 million, of which $3.1 million was a reimbursement of capital expenditures and $2.3 million offset operating activities. The Company expects to meet all requirements associated with these grants.

The Company also receives funding to provide discounted telecommunication services to eligible customers under the E-Rate, Lifeline, and Rural Health Care Support Programs. During the years ended December 31, 2020, 2019, and 2018 the Company recorded revenue of $10.0 million, $6.1 million, and $8.2 million, respectively, in the aggregate from these programs. The Company is subject to certain operational and reporting requirements under the above mentioned programs and it believes that it is in compliance with all of these requirements.

CARES Act

During the fourth quarter of 2020, the Company received $16.3 million of funding under the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"). The funding was utilized to construct network infrastructure in the

Company's US Telecom segment. The construction was complete in the fourth quarter of 2020 and the funding was recorded as a reduction to property, plant and equipment and subsequent reduction to depreciation expense.

Tribal Bidding Credit

As part of the broadcast television spectrum incentive auction, the FCC implemented a tribal lands bidding credit to encourage deployment of wireless services utilizing 600 MHz spectrum on the lands of federally recognized tribes. The Company received a bidding credit of $7.4 million under this program in 2018. A portion of these funds will be used to offset network capital costs and a portion will be used to offset the costs of supporting the networks. The Company's current estimate is that it will use $5.8 million to offset capital costs, consequently reducing future depreciation expense and $1.6 million to offset the cost of supporting the network which will reduce future operating expense. Through December 31, 2020, the Company has spent $5.8 million on capital expenditures and has recorded $0.2 million in offsets to the cost of supporting the network. The credits are subject to certain requirements, including deploying service by January 2021 and meeting minimum coverage metrics. If the requirements are not met the funds may be subject to claw back provisions. The Company currently expects to comply with all applicable requirements related to these funds.

CBRS Auction

During the third quarter of 2020, the Company participated in the FCC's Citizens Broadband Radio Service (CBRS) auction for Priority Access Licenses (PALs) in the 3.5 GHz spectrum band. These PALs are licensed on a county-by-county basis and are awarded for a 10-year renewable term. The Company was a winning bidder for PALs located strategically throughout the United States at a total cost of approximately $20.4 million. In connection with the awarded licenses, the Company will have to achieve certain CBRS spectrum build out obligations. The Company currently expects to comply with all applicable requirements related to these licenses.

RDOF

In the 2020 Rural Digital Opportunity Fund Phase I Auction ("RDOF"), pending the FCC's conclusion of the award process, the Company expects to receive approximately $20.1 million over 10 years to provide broadband coverage to over 10,000 households. Once confirmed, the Company will be obligated to provide broadband and voice services to certain eligible areas in the United States.

11. EQUITY

Common Stock

The Company has paid quarterly dividends on its Common Stock since January 1999.

Treasury Stock

On September 19, 2016, the Company's Board of Directors authorized the repurchase of up to $50.0 million of its Common Stock, from time to time, on the open market or in privately negotiated transactions (the "2016 Repurchase Plan"). As of December 31, 2020, the Company has $30.9 million available to be repurchased under the 2016 Repurchase Plan.

During the years ended December 31, 2020, 2019 and 2018, the Company repurchased the following shares under the 2016 Repurchase Plan:

Year ended December 31,	Shares Repurchased	Aggregate Cost (in thousands)	Average Repurchase Price
2020	129,273	$ 6,589	$ 50.97
2019	3,104	162	52.37
2018	30,427	1,576	51.82

During the years ended December 31, 2020, 2019 and 2018, the Company repurchased the following shares from employees to satisfy tax withholding and stock options exercise obligations incurred in connection with the vesting of restricted stock awards and the exercise of stock options:

Year ended December 31,	Shares Repurchased	Aggregate Cost (in thousands)	Average Repurchase Price
2020	32,227	$ 1,733	$ 53.78
2019	42,703	2,419	56.65
2018	141,180	10,859	76.76

Stock-Based Compensation

The Company reserved 2,000,000 shares for the grant of stock options, restricted stock awards, restricted stock units, stock equivalents and awards of shares of Common Stock that are not subject to restrictions or forfeiture. As of December 31, 2020, the Company has approximately 610,000 shares available for grants.

Stock Options

Stock options have a term of 10 years and vest annually and ratably over a period of four years.

The following table summarizes stock option activity for the years ended December 31, 2020 and 2019:

	Year Ended December 31, 2020			
	Number of Options	Weighted Avg. Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at January 1, 2019	15,000	$ 49.34		
Granted	—	—		
Forfeited	—	—		
Expired	—	—		
Exercised	—	—		
Outstanding at December 31, 2020	15,000	49.34	2.2	$ 34,600
Vested and expected to vest at December 31, 2020	15,000	49.34	2.2	$ 34,600
Exercisable at December 31, 2020	15,000	49.34	2.2	$ 34,600

	Year Ended December 31, 2019			
	Number of Options	Weighted Avg. Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at January 1, 2018	42,000	$ 48.61		
Granted	—	—		
Forfeited	(7,500)	52.97		
Expired	(2,500)	52.97		
Exercised	(17,000)	45.39		
Outstanding at December 31, 2019	15,000	49.34	3.2	$ 170,900
Vested and expected to vest at December 31, 2019	15,000	49.34	3.2	$ 170,900

The following table summarizes information relating to options granted and exercised during the years ended December 31, 2020, 2019 and 2018 (in thousands, except fair value of options granted data):

	2020	2019	2018
Aggregate intrinsic value of options exercised	$ —	$ 229	$ 5,927
Cash proceeds received upon exercise of options	—	—	72

The aggregate intrinsic value represents the total pre-tax intrinsic value (the difference between the Company's closing Common Stock price on December 31st and the exercise price, multiplied by the number of the in-the-money stock options) that would have been received by the stock option holders had all stock options holders exercised their stock options on December 31st. The amount of aggregate intrinsic value will change based on the fair market value of the Company's Common Stock.

The Company has not granted any options since 2017. The Company did not recognize any compensation expense in 2020 or 2019 related to granted options and recognized $0.1 of stock compensation expense during 2018.

Restricted Stock

Restricted stock issued under the 2008 Equity Investment Plan vests over four years.

The following table summarizes restricted stock activity during the year ended December 31, 2020:

	Shares	Weighted Avg. Fair Value
Unvested as of January 1, 2020	204,146	$ 60.13
Granted	116,404	50.45
Forfeited	(3,323)	59.99
Vested and issued	(93,604)	61.75
Unvested as of December 31, 2020	223,623	$ 54.42

The following table summarizes restricted stock activity during the year ended December 31, 2019:

	Shares	Weighted Avg. Fair Value
Unvested as of January 1, 2019	200,653	$ 65.21
Granted	108,278	54.68
Forfeited	(18,579)	57.04
Vested and issued	(86,206)	65.77
Unvested as of December 31, 2019	204,146	$ 60.13

In connection with the grant of restricted shares, the Company recognized $5.6 million, $6.4 million and $6.1 million of compensation expense within its income statements for the years ended December 31, 2020, 2019, and 2018, respectively. The Company recognized $0.3 million, $0.5 million, and $0.2 million of compensation expense within its income statement for the year ended December 31, 2020, 2019, and 2018, respectively, for shares of the Company's subsidiaries granted to the management team of those subsidiaries.

The unvested shares as of December 31, 2020 represent $8.3 million in unamortized stock based compensation which will be recognized over a weighted average period of 2.4 years.

12. INCOME TAXES

The components of income before income taxes for the years ended December 31, 2020, 2019 and 2018 are as follows (in thousands):

	2020	2019	2018
Domestic	$ (17,689)	$ (15,661)	$ 28,917
Foreign	17,782	21,733	24,825
Total	$ 93	$ 6,072	$ 53,742

The following is a reconciliation from the tax computed at statutory income tax rates to the Company's income tax expense for the years ended December 31, 2020, 2019, and 2018 (in thousands):

	2020	2019	2018
Tax computed at statutory US federal income tax rates	$ 20	$ 1,275	$ 11,286
Non-controlling interest	(851)	(648)	(1,114)
Foreign tax rate differential	1,866	(1,769)	(2,662)
Over (under) provided in prior periods	(520)	(244)	(4,683)
Nondeductible expenses	1,504	3,781	1,610
Benefit Attributable CARES Act	(3,064)	—	—
Capitalized transactions costs	—	19	62
Change in tax reserves	2,148	3,883	10,657
State Taxes, net of federal benefit	(409)	(429)	1,674
Change in valuation allowance	33	(35)	1,539
Investment Tax Credit	84	(1,215)	—
Refund Claim for Domestic Production Deduction	—	—	235
Tax Cuts and Jobs Act of 2017	—	—	(148)
Capital loss	—	—	15
Deferred income tax revaluation	(10)	(513)	—
Other, net	—	—	399
Total Income Tax Expense	$ 801	$ 4,105	$ 18,870

The components of income tax expense (benefit) for the years ended December 31, 2020, 2019 and 2018 are as follows (in thousands):

	2020	2019	2018
Current:			
United States—Federal	$ 504	$ (1,559)	$ 24,546
United States—State	3	(336)	4,506
Foreign	7,611	8,192	13,060
Total current income tax expense	$ 8,118	$ 6,297	$ 42,112
Deferred:			
United States—Federal	$ (6,527)	$ (1,805)	$ (17,947)
United States—State	(413)	(93)	(2,832)
Foreign	(377)	(294)	(2,463)
Total deferred income tax expense (benefit)	$ (7,317)	$ (2,192)	$ (23,242)
Consolidated:			
United States—Federal	$ (6,023)	$ (3,364)	$ 6,599
United States—State	(410)	(429)	1,674
Foreign	7,234	7,898	10,597
Total income tax expense (benefit)	$ 801	$ 4,105	$ 18,870

The significant components of deferred tax assets and liabilities are as follows as of December 31, 2020 and 2019 (in thousands):

	2020	2019
Deferred tax assets:		
Accounts receivable and inventory allowances	$ 1,972	$ 1,603
Basis in investments	7,512	6,937
Accrued expenses	4,701	5,923
Deferred revenue	3,141	2,864
Employee benefits	4,363	3,559
Other, net	744	—
Net operating losses	26,582	40,491
Tax Credits	1,997	2,726
Operating lease liability	14,648	15,869
Total deferred tax asset	65,660	79,972
Deferred tax liabilities:		
Acquired intangible assets, property and equipment	26,736	30,419
Right-of-use asset	14,594	15,869
Prepaid expense	209	181
Other, net	—	195
Total deferred tax liabilities	41,539	46,664
Valuation allowance	(31,014)	(39,406)
Net deferred tax liabilities	$ (6,893)	$ (6,098)

Deferred tax assets and liabilities are reflected in the accompanying consolidated balance sheets as follows (in thousands):

	2020	2019
Deferred tax assets:		
Long term	$ 3,782	$ 2,582
Total deferred tax asset	$ 3,782	$ 2,582
Deferred tax liabilities:		
Long term	$ (10,675)	$ (8,680)
Total deferred tax liabilities	$ (10,675)	$ (8,680)
Net deferred tax liabilities	$ (6,893)	$ (6,098)

The Company's effective tax rate for the years ended December 31, 2020 and 2019 was 858.3% and 67.6%, respectively. On March 27, 2020, the U.S. federal government enacted the CARES Act. The CARES Act, among other things, allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. The effective tax rate for the year ended December 31, 2020 was primarily impacted by the following items: (i) a $3.1 million net benefit attributable to the remeasurement of domestic losses at a higher tax rate due to carryback provisions as provided by the CARES Act, (ii) a $2.1 million net increase of unrecognized tax positions, (iii) a $1.5 million net increase for permanently non-deductible expenses, (iv) a $21.5 million loss on the sale of Vibrant with no tax benefit, and (v) the mix of income generated among the jurisdictions in which the Company operates along with the exclusion of losses in jurisdictions where the Company cannot benefit from those losses as required by ASC 740-270-30-36(a), primarily in the US Virgin Islands.

The effective tax rate for the year ended December 31, 2019 was primarily impacted by the following items: (i) a $3.9 million net increase of unrecognized tax positions, (ii) a $3.8 million net increase for permanently non-deductible expenses, (iii) a $1.2 million deferred tax benefit related to an investment tax credit, and (iv) the mix of income generated among the jurisdictions in which we operate along with the exclusion of losses in jurisdictions where we cannot benefit from those losses as required by ASC 740-270-30-36(a), primarily in the US Virgin Islands and India.

As of December 31, 2020, the Company estimated that it had gross federal, state and foreign net operating loss (“NOL”) carryforwards of $1.1 million, $18.9 million and $110.9 million respectively. Of these, $57.3 million will expire between 2031 and 2041 and $73.6 million may be carried forward indefinitely.

The Company assesses available positive and negative evidence to estimate if sufficient future taxable income will be generated to realize the existing deferred tax assets. A significant piece of negative evidence evaluated is cumulative losses incurred in certain reporting jurisdictions over the three-year period ended December 31, 2020. Other negative evidence examined includes, but is not limited to, losses expected in early future years, a history of tax benefits expiring unused, uncertainties whose unfavorable resolution would adversely affect future results, and brief carryback, carry forward periods. On the basis of this evaluation, the Company believed it was more likely than not that the benefit from some of these federal, state, and foreign deferred taxes would not be realized.

In recognition of this risk at December 31, 2020 the Company has provided a valuation allowance against certain domestic and foreign deferred tax assets of $31.0 million. The valuation allowance primarily relates to foreign net operating losses, with the remaining amount applicable to other net deferred tax assets which the Company does not expect to be able to realize.

As of December 31, 2020, the Company had an estimated $145.1 million of undistributed earnings attributable to foreign subsidiaries for which no provision for state income taxes or foreign withholding taxes have been made because it is expected that such earnings will be reinvested outside the U.S. indefinitely unless repatriation can be done substantially tax-free. The Company will generally be free of additional U.S. federal tax consequences on distributed foreign subsidiary earnings due to a dividends received deduction implemented as part of the Tax Act for earnings distributed after January 1, 2018. Additionally, due to the one-time transition tax on the deemed repatriation of post-1986 undistributed foreign subsidiary earnings, the majority of previously unremitted earnings have already been subjected to U.S. federal income tax. The Company continues to assert indefinite reinvestment on outside basis differences in its non-U.S. subsidiaries, with the exception of the Vibrant entities, which are held for sale as of December 31, 2020. Additionally any determination of the amount of the unrecognized deferred tax liability on outside basis differences is not practicable because of the complexity of laws and regulations, the varying tax treatment of alternative repatriation scenarios and the variation due to multiple potential assumptions relating to the timing of any future repatriation.

The Company had unrecognized tax benefits (including interest and penalty) of $40.8 million as of December 31, 2020, $38.6 million as of December 31, 2019 and $34.7 million as of December 31, 2018. The net increase of the reserve during the year ended December 31, 2020 was attributable to an increase in tax positions for prior periods of $2.1 million, a net increase in tax positions for the current period of $3.0 million and partially offset by a lapse in statute of a prior year position of $2.9 million.

The following shows the activity related to unrecognized tax benefits (not including interest and penalty) during the three years ended December 31, 2020 (in thousands):

Gross unrecognized uncertain tax benefits at December 31, 2017	20,961
Increase in unrecognized tax benefits taken during a prior period	7,293
Increase in unrecognized tax benefits taken during the current period	3,408
Lapse in statute of limitations	(1,430)
Settlements	—
Gross unrecognized uncertain tax benefits at December 31, 2018	30,232
Increase in unrecognized tax benefits taken during a prior period	—
Increase in unrecognized tax benefits taken during the current period	3,383
Lapse in statute of limitations	(933)
Settlements	—
Gross unrecognized uncertain tax benefits at December 31, 2019	$ 32,682
Increase in unrecognized tax benefits taken during a prior period	—
Increase in unrecognized tax benefits taken during the current period	2,964
Lapse in statute of limitations	(1,768)
Settlements	—
Gross unrecognized uncertain tax benefits at December 31, 2020	$ 33,878

The Company's accounting policy is to classify interest and penalties related to income tax matters as part of income tax expense. The accrued amounts for interest and penalties are $6.9 million as of December 31, 2020, $5.9 million as of December 31, 2019, and $4.5 million as of December 31, 2018.

All $40.7 million of gross unrecognized uncertain tax benefits (including interest and penalty) would impact the effective tax rate if recognized.

The Company and its subsidiaries file income tax returns in the US and in various, state and local and foreign jurisdictions. The statute of limitations related to the consolidated US federal income tax return is closed for all tax years up to and including 2013. The expiration of the statute of limitations related to the various state and foreign income tax returns that the Company and subsidiaries file varies by jurisdiction.

13. RETIREMENT PLANS

The Company has noncontributory defined benefit pension plans as well as noncontributory postretirement benefit plans offering defined medical, dental, vision, and life benefits for certain employees of its International Telecom segment. The Company's pension and other postretirement benefit plans are closed to new participants and only grandfathered participants continue to accrue additional benefits. Also, in 2020 the Company began the process of winding up one of its benefit plans. The Company reviews the funded status of its pension plans and makes contributions based on that analysis. The benefits are based on the participants' compensation during their employment and the credited service years earned by participants. The Company funds the other postretirement benefit plans as benefits are paid.

The weighted-average rates assumed in the actuarial calculations for the pension and other postretirement benefit plans are as follows as of December 31, 2020, 2019 and 2018:

	2020	2019	2018
Discount Rate – Pension Benefit Obligation	2.6 %	4.2 %	4.7 %
Discount Rate – Pension Benefit Cost	3.5 %	4.5 %	4.3 %
Discount Rate – Postretirement Benefit Obligation	2.5 %	3.5 %	4.5 %
Discount Rate – Postretirement Benefit Cost	3.5 %	4.5 %	3.9 %
Annual salary increase	n/a	6.5 %	6.5 %
Expected long-term return on plan assets	5.1 %	6.1 %	6.1 %

The expected long-term rate of return on plan assets was determined based on several factors including input from pension investment consultants, projected long-term returns of equity and bond indices, and historical returns over the life of the related obligations of the fund. The Company, in conjunction with its pension investment consultants, reviews its asset allocation periodically and rebalances its investments when appropriate in an effort to earn the expected long-term returns. The Company will continue to evaluate its long-term rate of return assumptions at least annually and will adjust them as necessary.

The annual salary increase assumption is no longer applicable as the plan participants no longer accrue additional service.

The discount rate was determined based on a review of market data including yields on high quality corporate bonds with maturities approximating the remaining life of the project benefit obligations.

The other postretirement benefit plans healthcare cost trend assumptions is based on health care trend rates. The 2020 assumed medical health care cost trend rate is 6% trending to an ultimate rate of 4% in 2074. The 2020 and ultimate assumed dental care cost trend rate is 4%.

Changes during the year in the projected benefit obligations and in the fair value of plan assets are as follows for 2020 and 2019 (in thousands):

	2020		2019	
	Pension Benefits	Postretirement Benefits	Pension Benefits	Postretirement Benefits
Projected benefit obligations:				
Balance at beginning of year:	$ 81,977	$ 4,899	$ 76,900	$ 4,012
Service cost	439	139	1,709	126
Interest cost	2,585	163	3,472	182
Benefits and settlements paid	(4,791)	(450)	(5,738)	(354)
Actuarial (gain) loss	8,651	759	5,739	933
Settlement	(89)	—	(105)	—
Balance at end of year	$ 88,772	$ 5,510	$ 81,977	$ 4,899
Plan net assets:				
Balance at beginning of year:	$ 83,350	$ —	$ 77,530	$ —
Actual return on plan assets	10,398	—	10,678	—
Company contributions	958	450	838	354
Benefits and settlements paid	(5,354)	(450)	(5,696)	(354)
Balance at end of year	$ 89,352	$ —	$ 83,350	$ —
Over/ (Under) funded status of plan	$ 580	$ (5,510)	$ 1,373	$ (4,899)

The Company reports an asset or liability on its balance sheet equal to the funded status of its pension and other postretirement benefit plans. Plans in an overfunded status are aggregated and recorded as a net pension benefit asset in other assets. Plans in an underfunded status are aggregated and recorded as a net postretirement benefit liability in other liabilities. The funded status of the Company's pension and other retirement benefit plans is below (in thousands):

	2020			2019		
	GTT Pension Benefit	Viya Pension Benefit	Postretirement Benefits	GTT Pension Benefit	Viya Pension Benefit	Postretirement Benefits
Projected benefit obligation	$ 15,609	$ 73,163	$ 5,510	$ 15,594	$ 66,383	$ 4,899
Plan Net Assets	15,609	73,743	—	15,054	68,296	—
Over/ (Under) funded status of plan	$ —	$ 580	$ (5,510)	$ (540)	$ 1,913	$ (4,899)

The Company's investment policy for its pension assets is to have a reasonably balanced investment approach, with a long-term bias toward debt investments. The Company's strategy allocates plan assets among equity, debt and other assets to achieve long-term returns without significant risk to principal. The pension fund has limitations from investing in the equity, debt or other securities of the employer, its subsidiaries or associates of the employer or any company of which the employer is a subsidiary or an associate.

The fair values for the pension plan's net assets, by asset category, at December 31, 2020 are as follows (in thousands):

Asset Category	Total	Level 1	Level 2	Level 3
Cash, cash equivalents, money markets and other	$ 5,037	$ 5,037	$ —	$ —
Common stock	27,785	24,781	3,004	—
Mutual funds - fixed income	9,494	9,494	—	—
Mutual funds - equities	8,278	8,278	—	—
Fixed income securities	37,225	—	37,225	—
Other	1,533	1,533	—	—
Total	$ 89,352	$ 49,123	$ 40,229	$ —

The fair values for the pension plan's net assets, by asset category, at December 31, 2019 are as follows (in thousands):

Asset Category	Total	Level 1	Level 2	Level 3
Cash, cash equivalents, money markets and other	$ 4,982	$ 4,982	$ —	$ —
Common stock	26,702	22,451	4,251	—
Mutual funds - fixed income	12,970	12,970	—	—
Mutual funds - equities	10,921	10,921	—	—
Fixed income securities	26,307	1,178	25,129	—
Other	1,468	1,031	—	437
Total	$ 83,350	$ 53,533	$ 29,380	$ 437

The plan’s weighted-average asset allocations at December 31, 2020 and 2019, by asset category are as follows:

	2020	2019
Cash, cash equivalents, money markets and other	6 %	6 %
Common stock	31	32
Mutual funds - fixed income	11	16
Mutual funds - equities	9	13
Fixed income securities	41	32
Other	2	1
Total	100 %	100 %

Amounts recognized on the Company’s consolidated balance sheets consist of (in thousands):

	As of December 31,			
	2020		2019	
	Pension benefits	Postretirement benefits	Pension benefits	Postretirement benefits
Accrued and current liabilities	$ —	$ 381	$ —	$ 340
Other Liabilities	—	5,129	540	4,559
Other Assets	580	—	1,913	—
Accumulated other comprehensive income, net of tax	(158)	(411)	1,484	359

Amounts recognized in accumulated other comprehensive income consist of (in thousands):

	As of December 31,			
	2020		2019	
	Pension benefits	Postretirement benefits	Pension benefits	Postretirement benefits
Unrecognized net actuarial gain (loss)	$ (1,159)	$ (411)	$ 540	$ 359
Accumulated other comprehensive income, pre-tax	(1,159)	(411)	540	359
Accumulated other comprehensive income (loss), net of tax	(158)	(411)	1,484	359

Components of the plan's net periodic pension cost are as follows for the years ended December 31, 2020, 2019 and 2018 (in thousands):

	2020		2019		2018	
	Pension benefits	Postretirement benefits	Pension benefits	Postretirement benefits	Pension benefits	Postretirement benefits
Operating expense						
Service cost	$ 439	$ 139	$ 1,709	$ 126	$ 1,794	$ 147
Non-operating expense						
Interest cost	2,585	163	3,472	182	3,279	161
Expected return on plan assets	(3,060)	—	(4,571)	—	(4,835)	—
Amortization of actuarial (gain) loss	—	(11)	29	(58)	121	(67)
Settlement	89	—	(35)	—	—	—
Net periodic pension cost	$ 53	$ 291	$ 604	$ 250	$ 359	$ 241

The Company is currently evaluating whether it will make any contributions to its pension and postretirement benefit plans during the year ending December 31, 2021.

The following estimated benefits, which reflect expected future service, as appropriate, are expected to be paid over the next 10 years as indicated below (in thousands):

Fiscal Year	Pension Benefits	Postretirement Benefits
2021	$ 19,691	$ 386
2022	3,730	359
2023	3,703	276
2024	4,048	319
2025	3,706	356
2026-2030	19,058	1,679
Total	$ 53,936	$ 3,375

14. COMMITMENTS AND CONTINGENCIES

Regulatory and Litigation Matters

The Company and its subsidiaries are subject to certain regulatory and legal proceedings and other claims arising in the ordinary course of business, some of which involve claims for damages and taxes that are substantial in amount. The Company believes that, except for the items discussed below, for which the Company is currently unable to predict the final outcome, the disposition of proceedings currently pending will not have a material adverse effect on the Company's financial position or results of operations.

In 1990, the Company's Guyana subsidiary, GTT, was awarded a license to provide domestic and international voice and data services in Guyana on an exclusive basis until December 2030. Since 2001, the Government of Guyana has stated its intention to introduce additional competition into Guyana's telecommunications sector. In connection therewith, the Company and GTT met on several occasions with officials of the Government of Guyana to discuss potential modifications of GTT's exclusivity and other rights under the existing agreement and license. On October 5, 2020, the Prime Minister of Guyana formally implemented telecommunications legislation previously passed by the Guyana Parliament in 2016 that introduces material changes to many features of Guyana's existing telecommunications regulatory regime with the intention of creating a more competitive market. At that time, the Company was issued a new license to provide domestic and international voice as well as data services and mobile services in Guyana. Two of the Company's competitors were issued service licenses as well. While the Company has requested details of its competitors' licenses, such information has not been made public by the Guyana Telecommunications Agency, and the Company is not yet able to ascertain whether the licenses issued to its competitors permit any competitors to provide services that have been subject to GTT's exclusive rights contained in its 1990 license.

On October 23, 2020, the Government of Guyana also brought into effect new telecommunications regulations called for by the telecommunications legislation. The regulations include new requirements for the market as a whole, which impact the Company's operations, administrative reporting and services. There can be no assurance that these regulations will be effectively implemented, or that they will be administered in a fair and transparent manner.

Historically, GTT has been subject to other long-standing litigation proceedings and disputes in Guyana that have not yet been resolved. The Company believes that none of these additional proceedings would, in the event of an adverse outcome, have a material impact on the Company's consolidated financial position, results of operations or liquidity.

In a letter dated September 8, 2006, the National Frequency Management Unit ("NFMU") agreed that total spectrum fees in Guyana should not increase for the years 2006 and 2007. However, that letter implied that spectrum fees in 2008 and onward may be increased beyond the amount GTT agreed to with the Government of Guyana. GTT has objected to the NFMU's proposed action and reiterated its position that an increase in fees prior to development of an acceptable methodology would violate the Government's prior agreement. In 2011, GTT paid the NFMU $2.6 million representing payments in full for 2008, 2009 and 2010. However, by letter dated November 23, 2011, the NFMU stated that it did not concur with GTT's inference that the amount was payment in full for the specified years as it was NFMU's continued opinion that the final calculation for spectrum fees was not agreed upon and was still an outstanding issue. By further letter dated November 24, 2011, the NFMU further rejected a proposal that was previously submitted jointly by GTT and another communications provider that outlined a recommended methodology for the calculation of these fees. The NFMU stated that it would prepare its own recommendation for consideration by the Minister of Telecommunications, who would decide the matter. GTT has paid undisputed spectrum fees according to the methodology used for its 2011 payments, and has reserved amounts payable according to this methodology. There have been limited further discussions on this subject and GTT has not had the opportunity to review any recommendation made by the NFMU to the Minister.

On May 8, 2009, a GTT competitor, Digicel, filed a lawsuit in Guyana challenging the legality of GTT's exclusive license rights under Guyana's constitution and GTT intervened in the suit in order to oppose Digicel's claims. The case remains pending. The Company believes that any legal challenge to GTT's exclusive license rights granted in 1990 is without merit and the Company intends to defend vigorously against such legal challenge.

GTT has filed several lawsuits in the High Court of Guyana asserting that, despite its denials, Digicel is engaged in international bypass in violation of GTT's exclusive license rights, the interconnection agreement between the parties, and the laws of Guyana. GTT is seeking injunctive relief to stop the illegal bypass activity and monetary damages. Digicel filed counterclaims alleging that GTT has violated the terms of the interconnection agreement and Guyana laws. These suits, filed in 2010 and 2012, have been consolidated with Digicel's constitutional challenge described above. Prior to the declaration of COVID-19 related travel and business restrictions in Guyana, the consolidated cases were scheduled to proceed to trial in 2020. GTT expects to resume the litigation following the lifting of COVID-19 related restrictions and intends to prosecute these matters vigorously; however, the Company cannot accurately predict at this time when the consolidated suit will go to trial.

GTT is also involved in several legal claims regarding its tax filings with the Guyana Revenue Authority dating back to 1991 regarding the deductibility of intercompany advisory fees as well as other tax assessments. The Company maintains that any liability GTT might be found to have with respect to the disputed tax assessments, totaling $44.1 million, would be offset in part by the amounts necessary to ensure that GTT's return on investment was no less than 15% per annum for the relevant periods. The Company believes that some adverse outcome is probable and has accordingly accrued $5.0 million as of December 31, 2020 for these matters.

Other Obligations

The Company has obligations under non-cancellable contracts for network facilities and transport services, agreements for software licensing, as well as certain agreements to purchase goods or services. Future minimum payments required under these commitments are as follows at December 31, 2020 (in thousands):

2021	$ 22,771
2022	16,065
2023	11,463
2024	10,416
2025	1,143
Thereafter	1,838
Total obligations	$ 63,696

15. SEGMENT REPORTING

Through December 31, 2020, the Company has the following three reportable and operating segments: i) US Telecom, ii) International Telecom, and iii) Renewable Energy.

The following tables provide information for each operating segment (in thousands):

For the Year Ended December 31, 2020	International Telecom	US Telecom	Renewable Energy	Corporate and Other (1)	Consolidated
Revenue					
Communication Services					
Mobility	$ 83,136	$ 9,626	$ —	$ —	$ 92,762
Fixed	230,375	22,269	—	—	252,644
Carrier Services	7,120	79,448	—	—	86,568
Other	1,535	—	—	—	1,535
Total Communication Services Revenue	322,166	111,343	—	—	433,509
Other					
Renewable Energy	—	—	4,555	—	4,555
Managed Services	6,467	—	—	—	6,467
Construction	—	10,913	—	—	10,913
Total Other Revenue	6,467	10,913	4,555	—	21,935
Total Revenue	328,633	122,256	4,555	—	455,444
Depreciation and amortization	56,284	23,325	2,216	6,486	88,311
Non-cash stock-based compensation	49	15	262	5,586	5,912
Operating income (loss)	58,064	7,388	(23,749)	(32,523)	9,180

For the Year Ended December 31, 2019	International Telecom	US Telecom	Renewable Energy	Corporate and Other (1)	Consolidated
Revenue					
Communication Services					
Mobility	$ 84,560	$ 10,532	$ —	$ —	$ 95,092
Fixed	224,534	14,211	—	—	238,745
Carrier Services	9,070	83,906	—	—	92,976
Other	1,295	—	—	—	1,295
Total Communication Services Revenue	319,459	108,649	—	—	428,108
Other					
Renewable Energy	—	—	5,534	—	5,534
Managed Services	5,080	—	—		5,080
Total Other Revenue	5,080	—	5,534	—	10,614
Total Revenue	324,539	108,649	5,534	—	438,722
Depreciation and amortization	55,993	23,119	3,305	6,708	89,125
Non-cash stock-based compensation	405	—	87	5,892	6,384
Operating income (loss)	46,921	8,064	(7,243)	(34,365)	13,377

For the Year Ended December 31, 2018					
	International Telecom	US Telecom	Renewable Energy	Corporate and Other (1)	Consolidated
Revenue					
Communication Services					
Mobility	$ 85,152	$ 11,759	$ —	$ —	$ 96,911
Fixed	213,765	7,860	—	—	221,625
Carrier Services	8,846	95,861	—	—	104,707
Other	2,080	—	—	—	2,080
Total Communication Services Revenue	309,843	115,480	—	—	425,323
Other					
Renewable Energy	—	—	22,158	—	22,158
Managed Services	3,726	—	—	—	3,726
Total Other Revenue	3,726	—	22,158	—	25,884
Total Revenue	313,569	115,480	22,158	—	451,207
Depreciation and amortization	48,889	24,615	6,589	5,626	85,719
Non-cash stock-based compensation	88	—	105	6,227	6,420
Operating income (loss)	45,022	36,813	13,440	(34,252)	61,023

	International Telecom	US Telecom	Renewable Energy	Corporate and Other (1)	Consolidated
December 31, 2020					
Cash, Cash equivalents, and Investments	$ 45,848	$ 26,921	$ 4,311	$ 26,845	$ 103,925
Total current assets	107,315	65,806	39,057	27,887	240,065
Fixed assets, net	449,888	73,717	—	12,857	536,462
Goodwill	25,421	35,270	—	—	60,691
Total assets	642,834	265,797	39,045	136,035	1,083,711
Total current liabilities	80,875	43,200	1,038	22,815	147,928
Total debt	72,823	—	—	—	72,823
December 31, 2019					
Cash, Cash equivalents, and Investments	$ 43,125	$ 38,240	$ 25,054	$ 55,284	$ 161,703
Total current assets	91,497	54,207	27,534	55,485	228,723
Fixed assets, net	466,523	69,184	48,421	21,453	605,581
Goodwill	25,421	35,270	—	—	60,691
Total assets	647,228	222,356	76,723	184,419	1,130,726
Total current liabilities	77,644	24,905	2,745	14,375	119,669
Total debt	86,426	—	—	—	86,426

Year ended December 31,	Capital Expenditures International Telecom	US Telecom	Renewable Energy	Corporate and Other (1)	Consolidated
2020	$ 38,895	$ 29,883	$ 2,932	$ 3,613	$ 75,323
2019	42,029	17,490	6,448	6,758	72,725

(1) Reconciling items refer to corporate overhead expenses and consolidating adjustments.

The table below identifies the Company's revenues and long-lived assets by geographic location. The Company attributes revenue to geographic location based on location of the customer (in thousands):

	2020		2019		2018	
	Revenues	Long-Lived Assets	Revenues	Long-Lived Assets	Revenues	Long-Lived Assets
US	$ 122,256	$ 308,138	$ 123,508	$ 297,084	$ 132,288	$ 234,514
Guyana	103,071	141,487	105,290	145,079	102,056	151,084
US Virgin Islands	90,368	230,630	83,795	235,384	79,785	216,173
Bermuda	103,471	116,346	104,760	128,208	103,281	137,992
Other Foreign Countries	36,278	47,045	21,369	96,247	33,797	91,775
	$ 455,444	$ 843,647	$ 438,722	$ 902,002	$ 451,207	$ 831,538

16. QUARTERLY FINANCIAL DATA (UNAUDITED)

Following is a summary of the Company's quarterly results of operations for the years ended December 31, 2020 and 2019 (in thousands):

	2020 Consolidated for the Three Months Ended			
	March 31	June 30	September 30	December 31
Total revenue	$ 110,905	$ 109,098	$ 111,739	$ 123,702
Operating expenses	103,606	102,074	102,182	138,402
Income (loss) from operations	7,299	7,024	9,557	(14,700)
Other income (expense), net	(3,814)	(918)	(3,274)	(1,081)
Income (loss) from continuing operations before income taxes	3,485	6,106	6,283	(15,781)
Income taxes	1,109	(2,258)	92	1,858
Net income (loss)	2,376	8,364	6,191	(17,639)
Net income attributable to non-controlling interests, net of tax	(3,390)	(3,618)	(3,530)	(2,876)
Net income (loss) attributable to ATN International, Inc. stockholders	$ (1,014)	$ 4,746	$ 2,661	$ (20,515)
Net income (loss) per weighted average share attributable to ATN International, Inc. stockholders				
Basic	$ (0.06)	$ 0.30	$ 0.17	$ (1.30)
Diluted	$ (0.06)	$ 0.30	$ 0.17	$ (1.30)

	2019 Consolidated for the Three Months Ended			
	March 31	June 30	September 30	December 31
Total revenue	$ 103,300	$ 107,721	$ 115,616	$ 112,085
Operating expenses	101,186	104,967	105,368	113,824
Income from operations	2,114	2,754	10,248	(1,739)
Other income (expense), net	(166)	(1,001)	(3,570)	(2,568)
Income from continuing operations before income taxes	1,948	1,753	6,678	(4,307)
Income taxes	1,213	(274)	1,834	1,332
Net income (loss)	735	2,027	4,844	(5,639)
Net income attributable to non-controlling interests, net of tax	(2,316)	(2,883)	(3,459)	(4,115)
Net income (loss) attributable to ATN International, Inc. stockholders	$ (1,581)	$ (856)	$ 1,385	$ (9,754)
Net income (loss) per weighted average share attributable to ATN International, Inc. stockholders				
Basic	$ (0.10)	$ (0.05)	$ 0.09	$ (0.62)
Diluted	$ (0.10)	$ (0.05)	$ 0.09	$ (0.62)

SCHEDULE II

ATN INTERNATIONAL, INC. AND SUBSIDIARIES

VALUATION AND QUALIFYING ACCOUNTS

(Amounts in Thousands)

	Balance at Beginning of Year	Purchase Price Accounting	Charged to Costs and Expenses	Deductions	Balance at End of Year
YEAR ENDED, December 31, 2018					
Description:					
Valuation allowance on foreign tax credit carryforwards	$ 8,226	$ —	$ (8,226)	$ —	$ —
Valuation allowance on capital loss carryforwards	1,881	—	(1,881)	—	—
Valuation allowance on foreign net operating losses and other deferred taxes	25,722	—	5,877	157	31,442
Allowance for credit losses	15,023	—	5,134	3,695	16,462
	$ 50,852	$ —	$ 904	$ 3,852	$ 47,904
YEAR ENDED, December 31, 2019					
Description:					
Valuation allowance on foreign tax credit carryforwards	$ —	$ —	$ —	$ —	$ —
Valuation allowance on capital loss carryforwards	—	—	—	—	—
Valuation allowance on foreign net operating losses and other deferred taxes	31,442	—	10,811	2,847	39,406
Allowance for credit losses	16,462	—	5,816	9,554	12,724
	$ 47,904	$ —	$ 16,627	$ 12,401	$ 52,130
YEAR ENDED, December 31, 2020					
Description:					
Valuation allowance on foreign tax credit carryforwards	$ —	$ —	$ —	$ —	$ —
Valuation allowance on capital loss carryforwards	—	—	—	—	—
Valuation allowance on foreign net operating losses and other deferred taxes	39,406	—	775	9,167	31,014
Allowance for credit losses	12,724	—	5,010	5,613	12,121
	$ 52,130	$ —	$ 5,785	$ 14,780	$ 43,135

Rural Telephone
Finance Cooperative

20701 Cooperative Way
Dulles, Virginia 20166
703-467-1800 | www.rtfc.coop

February 22, 2021

Via Email (PDF)

Ms. Michele Satrowsky
Vice President – Corporate Treasurer
ATN International, Inc.
500 Cummings Center, Suite 2450
Beverly, MA 01915

Re: Limited Waiver of Net Leverage Ratio Covenant

Dear Ms. Satrowsky:

Rural Telephone Finance Cooperative ("RTFC") has received from ATN VI Holdings, LLC (the "Borrower") a request to waive compliance with the Borrower's Net Leverage financial ratio requirements that is contained in one or more loan agreements between RTFC and the Borrower.

RTFC hereby waives the Borrower's compliance with the above-referenced financial ratio, subject to the following conditions:

(a) This is a limited waiver with respect to the financial ratio specified herein as calculated for the Borrower's fiscal year ended December 31, 2020.

(b) This limited waiver shall not be construed as a waiver of any other term, condition or provision of any loan agreement or other credit agreement with RTFC.

(c) This limited waiver shall not be construed as a waiver of any term, condition or provision of any loan agreement or other credit agreement with RTFC with respect to meeting future financial ratio requirements.

(d) Except as specifically waived by RTFC herein, each and every term, condition and provision contained in any loan agreement or other credit agreement with RTFC shall remain unchanged and in full force and effect.

If the foregoing accurately describes our mutual understanding of the effect of this limited waiver and the conditions under which it is granted, please so indicate by signing this correspondence where indicated and returning the original to RTFC.

If you have any questions, please feel free to call me at 703-467-1624.

Sincerely,

Andrew Coleman
Vice President, Portfolio Management

Acknowledged and Agreed:

ATN VI Holdings, LLC

By: /s/ Michele Satrowsky
Name: Michele Satrowsky
Title: Vice President, Assistant Treasurer
Date: February 25, 2021

Exhibit 21

SUBSIDIARIES OF ATN INTERNATIONAL, INC.

	Jurisdiction of Incorporation	Other name(s) under which entity does business
Commnet Wireless, LLC (1)	Delaware	Commnet, Geoverse, Choice Wireless
Mora Valley Wireless, LP	Delaware	Commnet
NTUA Wireless, LLC	Delaware	Choice Wireless
Atlantic Tele-Network, LLC (2)	Delaware	ATN
GTT International Service SRL	Barbados	GTT
Guyana Telephone and Telegraph Company Limited (3)	Guyana	GTT+, Blaze, MMG
Atlantic Teleconnection Operating Company Limited.	British Virgin Islands	GTT+, ATOC
One Communications, Ltd. (4)	Bermuda	One Communications
Logic Communications, Ltd.	Cayman Islands	Logic
ATN Overseas Holdings, Ltd (5)	Bermuda	ATN
Ahana Renewables, LLC (7).	Delaware	Vibrant
ATN Horizons, LLC.(8)	Delaware	Ahana Renewables, Vibrant
Aragorn Holding Company Two Pte. Ltd.	Singapore	Vibrant
Virgin Islands Telephone Corp.	US Virgin Islands	Viya
ATN VI, Inc.(9)	Delaware	Viya
Essextel, Inc.	Delaware	Essextel

(1) Includes twenty-two consolidated wholly-owned subsidiaries also providing wholesale wireless voice and data services under the “Commnet”, “Geoverse”, and “Choice Wireless” brand names in the United States.

(2) Includes three consolidated wholly owned subsidiary also providing management services under the name "ATN" in the Caribbean.

(3) Includes ten consolidated wholly owned subsidiary also providing wireline and wireless services under the “GTT+”, "Blaze" and "MMG" brand names in Guyana.

(4) Includes ten consolidated wholly owned subsidiary also providing wireline and wireless services under the “One Communications” brand name in Bermuda and the Cayman Islands.

(5) Includes one consolidated wholly owned subsidiary also providing management services in Bermuda.

(6) Includes three consolidated wholly owned subsidiary also providing managed services under the “Fireminds” brand name in Bermuda, Canada and the United States.

(7) Includes five consolidated wholly owned subsidiary also providing investment and management services under the “Ahana" and "Vibrant" brand names in the Cayman Islands, Singapore, and the United States.

(8) Includes one consolidated wholly owned subsidiary also providing investment and management services under the “Ahana" brand names in the United States.

(9) Includes twelve consolidated wholly owned subsidiary also providing wireline and wireless services under the “Viya” brand name in the U.S. Virgin Islands.

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (Nos. 333-238206) and Forms S-8 (Nos. 333-62416, 333-125179, 333-150940, and 333-174935) of ATN International, Inc. of our report dated March 1, 2021 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

Boston, Massachusetts
March 1, 2021

EXHIBIT 31.1

CERTIFICATIONS PURSUANT TO
RULE 13a-14(a) OR RULE 15d-14(a),
AS ADOPTED PURSUANT TO
RULE 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael T. Prior, certify that:

1. I have reviewed this annual report on Form 10-K of ATN International, 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(s) 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(s) 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.

Dated: March 1, 2021

By: /s/ MICHAEL T. PRIOR

Michael T. Prior
President and Chief Executive Officer

EXHIBIT 31.2

**CERTIFICATIONS PURSUANT TO
RULE 13a-14(a) OR RULE 15d-14(a),
AS ADOPTED PURSUANT TO
RULE 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Justin D. Benincasa, certify that:

1. I have reviewed this annual report on Form 10-K of ATN International, 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(s) 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(s) 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.

Dated: March 1, 2021

By: /s/ JUSTIN D. BENINCASA

Justin D. Benincasa
Chief Financial Officer

EXHIBIT 32.1

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

In connection with the annual report on Form 10-K of ATN International, Inc. (the “Company”) for the period ended December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Michael T. Prior, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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.

Dated: March 1, 2021

/s/ MICHAEL T. PRIOR

Michael T. Prior
President and Chief Executive Officer

EXHIBIT 32.2

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

In connection with the annual report on Form 10-K of ATN International, Inc. (the “Company”) for the period ended December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Justin D. Benincasa, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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.

Dated: March 1, 2021	/s/ JUSTIN D. BENINCASA
	Justin D. Benincasa *Chief Financial Officer*