



2019 ANNUAL REPORT



GLOBALSTAR

May 2020

Dear Fellow Stockholders,

As I write this letter, we are facing one of the greatest pandemics the world has ever known, one that is profoundly impacting the global economy and our everyday life. Through this crisis, our priority is supporting our employees, who have demonstrated resilience and resolve every day, and our customers, who rely on our products and services to successfully operate their businesses, track their most valuable assets and stay connected wherever life takes them. While we are navigating through many uncertainties, the leaders of Globalstar have focused on what we can control and what we do best, which is to provide reliable connectivity across the globe. Many individuals are looking for an outlet during this crisis and our SPOT products are there to provide safety. Many businesses are looking for new strategies to reduce recurring costs and our Commercial IoT products are there to provide dependable continuity and efficient data reporting. While the impact to Globalstar as of today has been manageable, the situation is highly fluid and uncertain, and we continue to monitor it carefully.

We entered this crisis in a position of strength, particularly from a liquidity perspective. During 2019, we successfully refinanced our capital structure when we executed an amendment of our senior secured credit facility and raised a new second lien term loan facility led by Thermo and Echostar. This transaction significantly improved our balance sheet and provides us with extended runway, with our next scheduled principal payment due in June 2021. We also significantly improved our leverage ratio following the conversion of Thermo's 2009 subordinated loan into common stock in early 2020. Our current capital structure positions us well to execute our plan for value creation from our spectrum and satellite assets.

The 2019 financial performance of our satellite business shows that we continue to capitalize on IoT growth opportunities, with a 26% increase in Commercial IoT service revenue over 2018 driven by expansion in our subscriber count and higher ARPU. We have focused our product development efforts around Commercial IoT devices, particularly modules that can be integrated into the products of our partners, which are expected to broaden our current reach. These modules offer enhanced functionality in a very small form factor and at a competitive price point, which are particularly attractive to those needing data reporting capabilities in remote environments. Outside of Commercial IoT, 2019 was a transitional year in many respects with Adjusted EBITDA¹ down 7% year-over-year. We believe we are back on the right track with the updates that we made to our consumer products based on the positive trajectory of subscriber additions following the release of SPOT X[®] with Bluetooth[®] technology and the Sat-Fi2[®] Remote Antenna Station (RAS) late in the year.

Turning to our terrestrial spectrum asset, we have made significant progress over the last several months by adding to our roster of ecosystem partners and advancing our international regulatory efforts. Most importantly, we also announced that the Third Generation Partnership Project ("3GPP") approved the 5G variant of Globalstar's Band 53, which is known as n53. Achieving 5G status with our band is a significant advancement in our spectrum efforts. New networks around the world will be built utilizing 5G's advanced technology, and our band will now work in those networks. We are actively working on potential private LTE deployments with partners including Nokia, Airspan and Airwavz that can serve as the proving grounds for our commercial efforts and have the potential to produce meaningful revenue. We are driving the ecosystem to have more infrastructure and industrial devices working on Band 53 for the first deployments with our partners. This effort will allow them to meet their customers' needs across industries including utilities, transportation systems, in-building wholesale networks, in-building and on-campus private LTE networks and mobile wireless services, among others.

¹ See the reconciliation to GAAP net income (loss) following this letter.

OTHER FINANCIAL AND OPERATIONAL HIGHLIGHTS

Value-Added Partnerships

- In April 2020, we announced a **new licensing partnership with the JEEP brand**. As part of an effort to expand its footprint in the overland adventure market, we are developing an exclusive new line of Jeep and SPOT co-branded products. This partnership is expected to drive consumer awareness of SPOT through cross-promotional opportunities while exploring new distribution channels. We expect to have these products available in our distribution channels starting in 2Q 2020. Jeep is one of the most recognized brands in off-roading, with enthusiasts who are often also passionate hikers and mountain climbers, all of whom would benefit by staying connected while off the grid.
- In November 2019 we announced our **partnership with Ceres Tag, a leader in livestock information systems**, to use a proprietary smart ear tag. This partnership aims to improve efficiencies within the agriculture industry with benefits including livestock theft detection, better operational management for livestock location, improved provenance along the entire supply chain, improved detection and tracking for health and bio-security systems. Ceres Tag is conducting large scale trials in Australia in multiple environmental and climatic conditions to test and validate the operational proficiency of its complete livestock information platform. With no other infrastructure necessary on a ranch, this simple attach-and-go ear tag significantly reduces installation and maintenance efforts and provides great value to livestock farmers. With a cattle population in excess of 1.2 billion in the world, we believe there is great demand for a solution that will provide better communications to more effectively manage livestock operations.
- In July 2019 we signed an **agreement with Echo Ridge** to collaborate, share data, and jointly pursue market opportunities for a new assured positioning, navigation, and timing (PNT) technology that can backup and/or complement GPS when GPS is unavailable or unreliable. This agreement includes joint assessment of commercial and government market requirements and use cases for an assured PNT service. The envisioned service responds to increasing user concerns about GPS vulnerability and the critical importance of accurate PNT information to support essential services and infrastructure.
- In May 2019 we announced a **strategic relationship with Recon Powerline** allowing the company to use Globalstar's satellite and multi-radio modems to help address the growing issue of wildfire risk management. These products could help stop catastrophic wildfires before they start by providing firefighters with advanced warning, precise location and the ability to predict fire ignition factors on utility infrastructure.

Product Evolution

- We are in the final stages of developing a miniature and inexpensive **one-way Commercial IoT module** that can be integrated into the products of our customers. The initial external feedback on this product has been very constructive, including from Howard Trott, CEO of Recon Powerline, who commented, "Globalstar's new IoT board significantly expands the strength of our operational intelligence platform, helping customers gain critical insight needed to drive productivity and efficiency regardless of geography." Use cases for this module include animal tracking and remote sensor reporting.
- We are developing **two-way Commercial IoT devices**, including a module based on existing SPOT X[®] technology intended for: a) integration by resellers to enable customers to develop their own small bit data solutions, and b) upgrade of existing Globalstar devices to two-way functionality. The second phase of this development will enable a reduced form factor and lower product cost. We also intend to finalize a two-way version of our existing SmartOne Solar[™] device in 2020. The SmartOne Solar[™] is a solar-powered IoT asset tracking device (with ATEX and intrinsically safe certifications) that provides a low power and secure monitoring solution for a variety of security applications. In July 2019, we announced that we purchased a perpetual license to use the intellectual property developed for our SmartOne Solar[™]

device. This license allows us to continue to improve and enhance this product to address specific customer use cases, whether those efforts are around adding Bluetooth® technology or enabling two-way functionality.

Customer-Focused Initiatives

- Various projects were completed or advanced during 2019 that **centered around improving our customers' experience** with Globalstar products and services. Among other initiatives, we are improving our partner websites, enhancing our SPOT My Account platform, refining our worldwide Globalstar websites, upgrading our customer service phone system, improving SPOT mapping functionality and migrating to a new billing system. If you are a current Globalstar customer, you can expect these improvements to fundamentally enhance your experience.
- We introduced **lower service pricing plans** for all new SPOT customers. We have traditionally offered the lowest service rates among our satellite industry peers, and these new pricing plans maintain our stronghold in this area.
- In response to extensive customer feedback, we now offer **flexible service pricing** for new SPOT customers. These plans allow for maximum flexibility and usage behavior based on individual needs.

Spectrum Licensing and Ecosystem Development

- **Globalstar and Nokia have developed an innovative solution** addressing the need for high capacity, low latency and secure connectivity. This solution allows enterprises to deploy intelligent network applications in a dedicated spectrum band and is based on Nokia's industrial-grade private wireless Digital Automation Cloud platform together with Globalstar's 3GPP Band 53 spectrum. Nokia is already offering Band 53 access points and User End Devices (UED's) such as modems, ruggedized handsets and tablets. As the partnership evolves, Globalstar and Nokia anticipate the expansion of their commercial relationship to create new opportunities for business. As we continue to pursue harmonization in Band 53 around the globe, customers will be able to deploy a device ecosystem that operates seamlessly across locations.
- We have received several **MSS and terrestrial authorizations across Africa**, covering a population in excess of 100 million, over 1.4 million square miles of territory, annual GDP of nearly a half a trillion USD and more than 1.7 billion MHz-POPs of licensed coverage. Africa is a rich market for our terrestrial and satellite services, and Globalstar is committed to bringing its unique mix of solutions to the continent to meet the communications needs of the next generation of African businesses and consumers. Satellite and terrestrial-based industrial IoT solutions will be critical to facilitating enhanced communications and data solutions in regions that have not previously had reliable wireless and wireline communications. We are also making substantial progress in other major countries within the Americas and expect these authorizations to dramatically expand our terrestrial footprint.

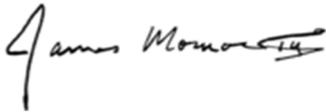
2020 OUTLOOK

Our board and management team share the same vision to grow profitability, and it generally centers around utilization of the Company's excess satellite and spectrum capacity. While we know that the impact of COVID-19 is unpredictable and may impede growth in the short term, particularly as it relates to our retail customers and those that operate in the oil and gas industry, we continue to forge ahead on our key initiatives. Our spectrum strategy has been consistent, and we will continue to work to increase the marketability of the spectrum through both international regulatory successes and ecosystem development. In 2019, we demonstrated progress through various initiatives that advance this vision and look to continue this progress towards evolving into a leading provider of IoT connectivity and executing on various private LTE opportunities. Among others, the essential

components to our overall strategy include leveraging our partnership network, growing our product offerings and cultivating our terrestrial spectrum asset. These focus areas are a clear extension of our 2019 highlights.

In summary, we faced many challenges and achieved many accomplishments during 2019. Overall, we made progress towards our long-term goals and meaningfully enhanced the value of our terrestrial spectrum asset and MSS business. The tagline on our website's corporate landing page states that Globalstar is "infinitely dedicated to connecting people worldwide." Our spectrum and satellites assets uniquely position us to provide a range of solutions to our customers in building a connected world, and I have never been more optimistic about our ability to successfully monetize these opportunities.

Sincerely,

A handwritten signature in black ink that reads "James Monroe III". The signature is written in a cursive style with a prominent initial "J" and a long, sweeping underline.

James Monroe III

Executive Chairman

Globalstar, Inc.

GLOBALSTAR, INC.
RECONCILIATION OF GAAP NET INCOME (LOSS) TO NON-GAAP ADJUSTED EBITDA
(In thousands)
(unaudited)

	Year Ended December 31,	
	2019	2018
Net income (loss)	\$ 15,324	\$ (6,516)
Interest income and expense, net	62,464	43,612
Derivative gain	(145,073)	(81,120)
Income tax expense	545	125
Depreciation, amortization and accretion	95,772	90,438
EBITDA	29,032	46,539
Reduction in the value of inventory	416	-
Reduction in the value of long-lived assets	1,124	-
Non-cash compensation	6,162	7,373
Foreign exchange and other	690	3,067
Debt refinancing third party fees	5,232	-
Non-cash adjustment to international operations	927	-
Merger and shareholder litigation costs (recovery)	(1,820)	10,831
Gain on legal settlement	(120)	(6,779)
Revision to contract termination charge	-	(20,478)
Change to estimated impact upon adoption of ASC 606	(3,885)	-
Adjusted EBITDA ⁽¹⁾	\$ 37,758	\$ 40,553

(1) EBITDA represents earnings before interest, income taxes, depreciation, amortization, accretion and derivative (gains)/losses. Adjusted EBITDA excludes non-cash compensation expense, reduction in the value of assets, foreign exchange (gains)/losses, and certain other non-recurring charges as applicable. Management uses Adjusted EBITDA in order to manage the Company's business and to compare its results more closely to the results of its peers. EBITDA and Adjusted EBITDA do not represent and should not be considered as alternatives to GAAP measurements, such as net income/(loss). These terms, as defined by us, may not be comparable to similarly titled measures used by other companies.

The Company uses Adjusted EBITDA as a supplemental measurement of its operating performance. The Company believes it best reflects changes across time in the Company's performance, including the effects of pricing, cost control and other operational decisions. The Company's management uses Adjusted EBITDA for planning purposes, including the preparation of its annual operating budget. The Company believes that Adjusted EBITDA also is useful to investors because it is frequently used by securities analysts, investors and other interested parties in their evaluation of companies in similar industries. As indicated, Adjusted EBITDA does not include interest expense on borrowed money or depreciation expense on our capital assets or the payment of income taxes, which are necessary elements of the Company's operations. Because Adjusted EBITDA does not account for these expenses, its utility as a measure of the Company's operating performance has material limitations. Because of these limitations, the Company's management does not view Adjusted EBITDA in isolation and also uses other measurements, such as revenues and operating profit, to measure operating performance.

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 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, 2019
OR

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

For the Transition Period from to
Commission File Number 001-33117
GLOBALSTAR, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

41-2116508
(I.R.S. Employer
Identification No.)

1351 Holiday Square Blvd.
Covington, Louisiana 70433
(Address of Principal Executive Offices)

Registrant's Telephone Number, Including Area Code (985) 335-1500

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

Title of each class	Trading Symbol	Name of exchange on which registered
Common Stock, par value \$0.0001 per share	GSAT	NYSE American

Securities registered pursuant to section 12(g) of the Act:

None

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

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

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

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

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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

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

The aggregate market value of the registrant's common stock held by non-affiliates at June 30, 2019, the last business day of the registrant's most recently completed second fiscal quarter, was approximately \$292.3 million.

As of February 21, 2020, 1,665,377,204 shares of voting common stock were outstanding, and no shares of nonvoting common stock were authorized or outstanding. Unless the context otherwise requires, references to common stock in this Report mean registrant's voting common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the 2020 Annual Meeting of Stockholders are incorporated by reference in Part III of this Report.

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FORM 10-K

For the Fiscal Year Ended December 31, 2019

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PART I

Forward-Looking Statements

Certain statements contained in or incorporated by reference into this Annual Report on Form 10-K (the "Report"), other than purely historical information, including, but not limited to, estimates, projections, statements relating to our business plans, objectives and expected operating results, and the assumptions upon which those statements are based, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements generally are identified by the words "believe," "project," "expect," "anticipate," "estimate," "intend," "strategy," "plan," "may," "should," "will," "would," "will be," "will continue," "will likely result," and similar expressions, although not all forward-looking statements contain these identifying words. These forward-looking statements are based on current expectations and assumptions that are subject to risks and uncertainties which may cause actual results to differ materially from the forward-looking statements. Forward-looking statements, such as the statements regarding our ability to develop and expand our business (including our ability to monetize our spectrum rights), our anticipated capital spending, our ability to manage costs, our ability to exploit and respond to technological innovation, the effects of laws and regulations (including tax laws and regulations) and legal and regulatory changes (including regulation related to the use of our spectrum), the opportunities for strategic business combinations and the effects of consolidation in our industry on us and our competitors, our anticipated future revenues, our anticipated financial resources, our expectations about the future operational performance of our satellites (including their projected operational lives), the expected strength of and growth prospects for our existing customers and the markets that we serve, commercial acceptance of new products, problems relating to the ground-based facilities operated by us or by independent gateway operators, worldwide economic, geopolitical and business conditions and risks associated with doing business on a global basis and other statements contained in this Report regarding matters that are not historical facts, involve predictions. Risks and uncertainties that could cause or contribute to such differences include, without limitation, those in Item 1A. Risk Factors of this Report. We do not intend, and undertake no obligation, to update any of our forward-looking statements after the date of this Report to reflect actual results or future events or circumstances.

Item 1. Business

Mobile Satellite Services Business

Globalstar, Inc. ("we," "us" or the "Company") provides Mobile Satellite Services ("MSS") including voice and data communications services globally via satellite. We offer these services over our network of in-orbit satellites and our active ground stations ("gateways"), which we refer to collectively as the Globalstar System. In addition to supporting Internet of Things ("IoT") data transmissions in a variety of applications, we provide reliable connectivity in areas not served or underserved by terrestrial wireless and wireline networks and in circumstances where terrestrial networks are not operational due to natural or man-made disasters. By providing wireless communications services across the globe, we meet our customers' increasing desire for connectivity.

Satellite Network

Our constellation of Low Earth Orbit ("LEO") satellites includes second-generation satellites, which were launched and placed into service during the years 2010 through 2013 after a \$1.1 billion investment, and certain first-generation satellites, which are currently being used as in-orbit spares. We designed our second-generation satellites to last twice as long in space, have 40% greater capacity and be built at a significantly lower cost compared to our first-generation satellites. We achieved this longer life by increasing the solar array and battery capacity, using a larger fuel tank, adding redundancy for key satellite equipment, and improving radiation specifications and additional lot level testing for all susceptible electronic components, in order to account for the accumulated dosage of radiation encountered during a 15-year mission at the operational altitude of the satellites. The second-generation satellites use passive S-band antennas on the body of the spacecraft providing additional shielding for the active amplifiers which are located inside the spacecraft, unlike the first-generation amplifiers that were located on the outside as part of the active antenna array. Each satellite has a high degree of on-board subsystem redundancy, an on-board fault detection system and isolation and recovery for safe and quick risk mitigation.

We believe that we provide the best voice quality amount our peer group (which is backed by customer input) due to the specific design of the Globalstar System. We define a successful level of service for our customers by their ability to make uninterrupted calls of average duration for a system-wide average number of minutes per month. Our goal is to provide service levels and call or message success rates equal to or better than our MSS competitors so our products and services are attractive to potential customers. We define voice quality as the ability to easily hear, recognize and understand callers with imperceptible delay in the transmission. By this measure, we believe that our system outperforms geostationary ("GEO") satellites used by some of our competitors. GEO satellite signals must travel approximately 42,000 additional miles on average, which introduces considerable delay and signal degradation to GEO calls. For our competitors using cross-linked satellite architectures, which require multiple inter-satellite connections to complete a call, signal degradation and delay can result in lower call quality as compared to that experienced over the Globalstar System.

We designed our second-generation ground network to provide our customers with enhanced services featuring speeds up to 72 kbps as well as increased capacity, when combined with our next-generation products. The second-generation ground network is an Internet protocol multimedia subsystem ("IMS") based solution providing such industry standard services as voice, internet, email and short message services ("SMS").

Ground Network

Our satellites communicate with a network of 22 gateways, each of which serves an area of approximately 700,000 to 1,000,000 square miles. We have designed the planes in which our satellites orbit so that usually at least one satellite is visible from any point on the Earth's surface between the latitudes 70° north and 70° south. A gateway must be within line-of-sight of a satellite and the satellite must be within line-of-sight of the subscriber to provide services. We have positioned our gateways to provide coverage for most of the Earth's land and human population. We own 14 of these gateways and the rest are owned by independent gateway operators ("IGOs"). We own and operate gateways in the United States, Canada, Venezuela, Argentina, Puerto Rico, France, Brazil, Singapore and Botswana.

Each of our gateways has multiple antennas that communicate with our satellites and pass calls seamlessly between antenna beams and satellites as the satellites traverse the gateways, thereby reflecting the signals from our users' terminals to our gateways. Once a satellite acquires a signal from an end-user, the Globalstar System authenticates the user and establishes the voice or data channel to complete the call to the public switched telephone network ("PSTN"), a cellular or another wireless network or the internet (for a data call including Commercial IoT).

We believe that our terrestrial gateways provide a number of advantages over the in-orbit switching used by our main competitor, including better call quality, reduced call latency and convenient, localized phone numbers for inbound and outbound calling. We also believe that our network's design enables faster and more cost-effective system maintenance and upgrades because the system's software and much of its hardware are located on the ground. Our multiple gateways allow us to reconfigure our system quickly to extend another gateway's coverage to make up for lost coverage from a disabled gateway or to handle increased call capacity resulting from surges in demand.

Our ground network includes both our first-generation and second-generation ground equipment. Both our first-generation and second-generation ground network use Qualcomm's patented CDMA technology to permit communication to multiple satellites. Patented receivers in our handsets track the pilot channel and signaling channel as well as three additional communications channels simultaneously. Compared to other satellite and network architectures, we offer superior call clarity with virtually no discernible delay. Our system architecture provides full frequency re-use. This maximizes satellite diversity (which maximizes quality) and network capacity as we can reuse the assigned spectrum in every satellite beam in every satellite. In addition, we have developed a non-Qualcomm proprietary technology for our SPOT and Commercial IoT services.

Our second-generation ground network was developed in partnership with Hughes Network Systems, LLC ("Hughes") and Ericsson, Inc. ("Ericsson"). Hughes designed, supplied and implemented the Radio Access Network ("RAN") network equipment and software upgrades for installation at a number of our gateways. Hughes also provided the satellite interface chips to be used in our various second-generation devices. Ericsson developed, implemented, and installed our ground interface, or core network, system at our gateways. The second-generation Ericsson core links our Hughes RANs to the PSTN, cellular networks and Internet. We have additional second-generation RANs that are not yet deployed. We will select locations for further deployment based on coverage optimization, which may include additional gateway acquisitions.

Communications Products and Services

We currently provide the following communications services, which are available only with equipment designed to work on our network:

- two-way voice communication and data transmissions using mobile or fixed devices, including our GSP-1700 phone, two generations of our Sat-Fi[®], the Sat-Fi[®] Remote Antenna Station, and other fixed and data-only devices ("Duplex");
- one-way or two-way communication and data transmissions using mobile devices, including our SPOT family of products, such as SPOT X[®], SPOT Gen3[®] and SPOT Trace[®], that transmit messages and the location of the device ("SPOT"); and
- one-way data transmissions using a mobile or fixed device that transmits its location and other information to a central monitoring station, including our commercial IoT products, such as our battery- and solar-powered SmartOne, STX-3 and STINGR ("Commercial IoT").

We compete aggressively on price. We offer a range of price-competitive products to the industrial, governmental and consumer markets. We expect to retain our position as a cost-effective, high-quality leader in the MSS industry.

As technological advancements are made, we continue to explore opportunities to develop new products and provide new services over our network to meet the needs of our existing and prospective customers. We are currently pursuing initiatives that we expect to expand our satellite communications business by effectively leveraging our network capabilities and distribution relationships. Among our current initiatives are the following: the development of a two-way reference design and board to expand our Commercial IoT offerings; various connectivity solutions for the automotive market; derivatives of our Sat-Fi2[®] device, one specifically designed for the maritime industry and another for fixed installation outside of cellular range; and a miniaturized satellite-based animal tracking device.

Customers

The specialized needs of our global customers span many industries. As of December 31, 2019, we had approximately 775,000 subscribers worldwide, principally within the following markets: recreation and personal; government; public safety and disaster relief; oil and gas; maritime and fishing; natural resources, mining and forestry; construction; utilities; and transportation. Our system is able to offer our customers cost-effective communications solutions completely independent of cellular coverage. Although traditional users of wireless telephony and broadband data services have access to these services in developed locations, our customers often operate, travel or live in remote regions or regions with under-developed telecommunications infrastructure where these services are not readily available or are not provided on a reliable basis.

Our top revenue-generating markets in the United States and Canada are government (including federal, state and local agencies), public safety and disaster relief, oil and gas, recreation and personal telecommunications. Over the past several years, the portion of our customers using Commercial IoT devices has increased significantly, and we expect this trend to continue. No one customer was responsible for more than 10% of our revenue in 2019, 2018 or 2017.

Duplex Two-Way Voice and Data Products

Mobile Voice and Data Satellite Communications Services and Equipment

We provide mobile voice and data services to a wide variety of commercial, government and individual customers for remote business continuity, recreational usage, safety, emergency preparedness and response and other applications. We offer our services for use only with equipment designed to work on our network. Subscribers typically pay an initial activation fee, a monthly usage fee for a fixed or unlimited number of minutes and fees for additional services such as voicemail, call forwarding, short messaging, email, data compression and internet access. Extra fees may also apply for non-voice services, roaming and long-distance. We regularly monitor our service offerings in accordance with customer demands and market changes and offer pricing plans such as bundled minutes, annual plans and unlimited plans.

In February 2020, we entered into an agreement (i) providing for a potential customer to pay us for non-recurring engineering (NRE) services in connection with the assessment of a potential service utilizing certain of our assets and capacity, and (ii) setting forth the primary terms for the potential development and operation of the service (the "Terms Agreement"). The Terms Agreement does not provide for material payments to us or impose material obligations on us unless, among other things, we and the potential customer have achieved certain technical milestones. The Terms Agreement includes certain binding protective provisions, including an exclusivity provision not affecting current services, access rights related to the affected assets, certain information rights and certain provisions for future financings. The Terms Agreement may be terminated by the customer at any time in its sole discretion.

We offer the GSP-1700 phone, which includes a user-friendly color LCD screen and a variety of accessories. We believe that the GSP-1700 is among the smallest, lightest and least-expensive satellite phones. We are the only MSS provider using Qualcomm Incorporated's ("Qualcomm") patented CDMA technology, which we believe provides superior voice quality when compared to competitors' handsets. We no longer manufacture the GSP-1700 phone. Instead, we sell refurbished GSP-1700 phones to new subscribers through our existing distribution channels. These phones are generally obtained through a buyback program that we have in place to purchase devices from deactivated subscribers, or subscribers that have upgraded to our Sat-Fi[®] device, in order to address demand for handsets.

We offer another voice and data solution, Sat-Fi2[®], which is the next-generation model of our original Sat-Fi[®]. Sat-Fi2[®] is the first product to operate using our second-generation ground infrastructure, resulting in higher data speeds, enhanced applications and improved performance. With Sat-Fi2[®], our customers can use their Wi-Fi-enabled smartphones and tablets to send and receive communications via the Globalstar System when traveling beyond cellular coverage, achieving a level of seamless connectivity not offered before. We believe Sat-Fi2[®] is superior to other competitors' products released to date, providing the fastest, most affordable mobile satellite data speeds and the clearest voice communications in the MSS industry. Through a convenient smartphone app that enables connectivity between Wi-Fi-enabled devices and Sat-Fi[®] satellite hot spots, subscribers in range of a Sat-Fi2[®] device can easily send and receive email and SMS messages and make voice calls from their own device at any time. We believe Sat-Fi2[®] represents a major step forward towards seamlessly integrating our mobile satellite capabilities into the communications services that people use on a daily basis.

Fixed Voice and Data Satellite Communications Services and Equipment

Among other places, we provide fixed voice and data services in rural villages, at remote industrial, commercial and residential sites and on ships at sea. In 2019, we introduced the Sat-Fi2[®] Remote Antenna Station ("RAS"), which expands the capabilities of our Sat-Fi2[®] satellite hotspot by incorporating a highly efficient remote antenna. The RAS enables hotspot use in any vehicle, vessel or distant building and is easily connected to a fixed power source for seamless connectivity via the Globalstar System.

Fixed voice and data satellite communications services are an attractive alternative to mobile satellite communications services in environments where multiple users will access the services within a defined geographic area and cellular or ground phone service is not available. Our fixed units also may be mounted on vehicles, barges and construction equipment and benefit from the ability to have higher gain antennas. Our fixed voice and data service plans are similar to our mobile voice and data plans and offer similar flexibility.

Satellite Data Modem Services and Equipment

In addition to data utilization through fixed and mobile services described above, we offer data-only services through Duplex devices with two-way transmission capabilities. Duplex asset-tracking applications enable customers to directly control their remote assets and perform complex monitoring activities. We offer asynchronous and packet data service in all of our Duplex territories. Customers can use our products to access the internet, corporate virtual private networks and other customer-specific data centers. Our satellite data modems can be activated under any of our current pricing plans. Customers can access satellite data modems in every Duplex region we serve. We provide store-and-forward capabilities to customers who do not require real-time transmission and reception of data. Additionally, we offer a data acceleration and compression service to the satellite data modem market. This service increases web-browsing, email and other data transmission speeds without any special equipment or hardware.

Product Distribution

Our sales group is responsible for conducting direct sales with key accounts and for managing indirect agent, dealer and reseller relationships in assigned territories in the countries in which we operate. Our typical dealer is a communications services business-to-business equipment retailer. We offer competitive service and equipment commissions to our network of dealers to encourage sales.

The reseller channel for Duplex equipment and service is comprised primarily of communications equipment retailers and commercial communications equipment rental companies that retain and bill clients directly, outside of our billing system. Many of our resellers specialize in niche vertical markets where high-use customers are concentrated. We have sales arrangements with major resellers to market our services, including some value-added resellers that integrate our products into their proprietary end products or applications.

In addition to buying through our distribution managers, agents, dealers and resellers, customers can place orders through our existing sales force and through our direct e-commerce website.

SPOT Consumer Retail Products

The SPOT product family has initiated approximately 7,000 rescues since its launch in 2007. Averaging nearly two rescues per day, SPOT delivers affordable and reliable satellite-based connectivity and real-time GPS tracking to hundreds of thousands of users, completely independent of cellular coverage. We are not aware of any other competitive offering that can match the life-saving record of our SPOT family of products. As we continue to innovate and grow the SPOT family of products, we are committed to providing affordable, life-saving products to an expanding target market of millions of people globally.

We differentiate ourselves from other MSS providers by offering affordable, high-utility mobile satellite products that appeal to both businesses and the mainstream consumer market. We believe that we are the only vertically-integrated mobile satellite company. Our vertical integration results in decreased pre-production costs, greater quality assurance and shorter time to market for our retail consumer products.

SPOT Satellite GPS Messenger

We began commercial sales of the first SPOT products and services when we introduced the SPOT Personal Tracker in 2007. We continue to innovate this product and have released another three generations of our SPOT Satellite GPS Messenger to the market. The most recent generations of SPOT devices which we currently sell include SPOT Gen3[®] and SPOT X[®]. Compared to earlier generations of our SPOT Satellite GPS Messenger, SPOT Gen3[®] offers enhanced functionality with more tracking features, improved battery performance and more power options, including rechargeable and USB direct-line power. The product also enables users to transmit messages to a specific preprogrammed email address, phone or data device, including requests for assistance and “SOS” messages in the event of an emergency.

SPOT X[®], which was launched in May 2018, is our first two-way SPOT Satellite GPS Messenger with keyboard functionality allowing subscribers to send and receive SMS messages and improved tracking and SOS functions. An upgraded version of SPOT X[®] was launched in September 2019 with enhanced performance and features, including the flexibility to use the SPOT X[®] device to connect to a smartphone via Bluetooth[®] wireless technology through the SPOT X[®] app to send and receive satellite messages.

We target our SPOT Satellite GPS Messenger to recreational and commercial markets that require personal tracking, emergency location and messaging solutions that operate beyond the reach of terrestrial wireless and wireline coverage. Using our network and web-based mapping software, this device provides consumers with the ability to trace a path geographically or map the location of individuals or equipment. SPOT Satellite GPS Messenger products and services are available virtually everywhere through our product distribution channels and our direct e-commerce website.

SPOT Trace[®]

SPOT Trace[®] is a cost-effective, anti-theft and asset-tracking device. SPOT Trace[®] ensures cars, motorcycles, boats, ATVs, snowmobiles and other valuable assets are where they need to be, notifying owners via email or text anytime movement is detected, using 100% satellite technology to provide location-based messaging and emergency notification for on or off the grid communications.

Product Distribution

We distribute and sell our SPOT products through a variety of distribution channels. We have distribution relationships with a number of "Big Box" retailers and other similar distribution channels, including Amazon, Bass Pro Shops, Cabela's, Fry's Electronics, REI, Sportsman's Warehouse, Academy, and West Marine. We also sell SPOT products and services directly using our existing sales force and through our direct e-commerce website, www.findmespot.com, as well as through certain of our IGOs.

Commercial IoT One-Way Transmission Products

Commercial IoT service is currently a one-way data service from an IoT device over the Globalstar System that can be used to track and monitor assets. Our subscribers use our Commercial IoT devices for a host of applications: to track assets, such as cargo containers and rail cars; to monitor utility meters; and to monitor oil and gas assets. At the heart of the Commercial IoT service is a demodulator and RF interface, called an appliqué, which is located at a gateway and an application server in our facilities. The appliqué-equipped gateways provide coverage over vast areas of the globe. The small size of the devices makes them attractive for use in tracking asset shipments, monitoring unattended remote assets, trailer tracking and mobile security. Current users include various governmental agencies, including the Federal Emergency Management Agency (“FEMA”), the U.S. Army, the U.S. Air Force, the National Oceanic and Atmospheric Administration (“NOAA”), the U.S. Forest Service and the U.K. Ministry of Defence, as well as other organizations, including BP, Shell and The Salvation Army.

We designed our Commercial IoT service to address demand in the market for a small and cost-effective solution for sending data, such as geographic coordinates, from assets or individuals in remote locations to a central monitoring station. Customers realize an efficiency advantage from tracking assets on a single global system as compared to several regional systems.

Satellite Transmitter Chipsets

We offer small satellite transmitter chipsets, such as the STX-3 and STINGR, which enable an integrator’s products to access our Commercial IoT network. We have sales arrangements with major resellers to market our IoT services, including some value-added resellers that integrate our STX-3 and STINGR into their proprietary solutions designed to meet certain specialized niche market applications. The STX3 provides additional opportunities to integrate satellite connectivity into products used for vehicle and asset tracking, remote data reporting and data logger reporting that have limited size requirements. Affordable pricing, low power consumption and its small size make the STX3 a highly efficient device ready for integration in a wide variety of applications. The STINGR, or Satellite Transmitter Integrated GPS Receiver, significantly reduces the design effort required to help customers build compact and efficient satellite communications devices. The module includes a high-performance GPS receiver as well as an on-board dual band antenna which greatly simplifies the effort of integrating satellite communications into a tracking or monitoring device.

SmartOne Asset Managers

We also offer complete products that utilize the STX-3 and STINGR transmitter chipsets. Our Commercial IoT units, including the enterprise-grade SmartOne family of asset-ready tracking units, are used worldwide by industrial, commercial and government customers. These products provide cost-effective, low-power, ultra-reliable, secure monitoring that help solve a variety of security applications and asset tracking challenges. Partnering with existing third party technology providers, we are developing IoT products to connect existing and new users and accelerate deployment of an expanded Globalstar IoT product suite.

Launched in March 2018, our SmartOne Solar™ device was the first of these products. It is solar-powered and supports similar functionality to our SmartOne suite of products without the need to recharge batteries or line power the device over an expected life of up to ten years. These features will result in a longer field life than existing devices. Solar-powered devices also take advantage of our network's ability to support multiple billions of daily transmissions. The SmartOne Solar™ also has unparalleled safety and environmental certifications including ATEX, IECEx, North America (NEC & CEC), IP68/69K, and HERO.

Product Distribution

The reseller channel for Commercial IoT equipment and service is comprised primarily of value-added resellers and commercial communications equipment companies that retain and bill clients directly, outside of our billing system. Many of our resellers specialize in niche vertical markets where high-use customers are concentrated. We expect that demand for our Commercial IoT products and services will increase as more applications are developed and deployed that utilize our technology.

We are also developing Commercial IoT products that support two-way communications allowing for both tracking and control of assets in our coverage footprint.

Independent Gateway Operators

Our wholesale operations encompass primarily bulk sales of wholesale minutes to IGOs around the globe. IGOs maintain their own subscriber bases that are mostly exclusive to us and promote their own service plans. The IGO system allows us to expand in regions that hold significant growth potential but are harder to serve without sufficient operational scale or where local regulatory requirements do not permit us to operate directly.

Currently, 8 of the 22 gateways in our network are owned and operated by unaffiliated companies, some of whom operate more than one gateway. Except for Globalstar Asia Pacific, our joint venture in South Korea in which we hold a 49% equity interest, we have no financial interest in these IGOs and conduct business with them through arms' length contracts for wholesale minutes of service.

Set forth below is a list of IGOs as of December 31, 2019:

Location	Gateway	Independent Gateway Operators
Australia	Dubbo	Pivotel Group PTY Limited
Australia	Mount Isa	Pivotel Group PTY Limited
Australia	Meekatharra	Pivotel Group PTY Limited
South Korea	Yeo Ju	Globalstar Asia Pacific
Russia	Khabarovsk	GlobalTel
Russia	Moscow	GlobalTel
Russia	Novosibirsk	GlobalTel
Turkey	Ogulbey	Globalstar Avrasya

During 2019, we purchased certain assets and related government authorizations from the owner of our IGO in Argentina. We are now currently in the process of upgrading this Globalstar-owned gateway to second-generation technology. In 2019, jointly with our IGO in Mexico, we decided to shut down the gateway and agreed that Globalstar would operate a new gateway at a more optimal location. Coverage continues through other Globalstar-owed gateway locations. Accordingly, both of these previously IGO-owned gateways were removed from the table above as of December 31, 2019.

Other Services

We also provide engineering services to assist our commercial and government customers in developing new applications related to our system and to engineer and install new gateways that use our system. These services include hardware and software designs to develop specific applications operating over our network, as well as the installation of gateways and antennas.

Spectrum and Regulatory Structure

We benefit from a world-wide allocation of radio frequency spectrum in the international radio frequency tables administered by the International Telecommunications Union ("ITU"). Access to this globally harmonized spectrum enables us to design satellites, networks and terrestrial infrastructure enhancements more cost effectively because the products and services can be deployed and sold worldwide. In addition, this broad spectrum assignment enhances our ability to capitalize on existing and emerging wireless and broadband applications.

First-Generation Constellation

In the United States, the Federal Communications Commission ("FCC") has authorized us to operate our first-generation satellites in 25.225 MHz of radio spectrum comprising two blocks of non-contiguous radio frequencies in the 1.6/2.4 GHz band commonly referred to as the "Big LEO" Spectrum Band. Specifically, the FCC has authorized us to operate between 1610-1618.725 MHz for "Uplink" communications from mobile earth terminals to our satellites and between 2483.5-2500 MHz for "Downlink" communications from our satellites to our mobile earth terminals. The FCC has also authorized us to operate our four domestic gateways with our first-generation satellites in the 5091-5250 and 6875-7055 MHz bands.

Three of our subsidiaries hold our FCC licenses. Globalstar Licensee LLC holds our MSS license. GUSA Licensee LLC (“GUSA”) is authorized by the FCC to distribute mobile and fixed subscriber terminals and to operate gateways in the United States. GUSA holds the licenses for our gateways in Texas, Florida and Alaska. Another subsidiary, GCL Licensee LLC (“GCL”), holds an FCC license to operate a gateway in Puerto Rico. GCL is also subject to regulation by the Puerto Rican Telecommunications Regulatory Board.

Our prior Non-Geostationary Satellite Orbit (“NGSO”) satellite constellation license issued by the FCC is valid until October 2024. This license applies only to our continued use of our first-generation satellites.

Second-Generation Constellation

We licensed and registered our second-generation satellites in France. We also obtained all authorizations necessary from the FCC to operate our domestic gateways with our second-generation satellites. In accordance with our authorization to operate the second-generation satellites, we completed the enhancements to the existing gateway operations in Aussaguel, France to include satellite operations and control functions. We have redundant satellite operation control facilities in Covington, Louisiana, Milpitas, California and Aussaguel, France.

The frequency assignments filed on the behalf of Globalstar by the French National Frequencies Agency (“ANFR”), with the ITU in 2009, have been recorded in the Master international Frequency Register (MIFR). This recording of the Globalstar frequency assignments in the MIFR provides international recognition of these assignments and facilitates the use of these assignments while the frequency coordination process with the two remaining systems is completed.

Terrestrial Authority for Globalstar's Licensed 2.4 GHz Spectrum

In December 2016, the FCC unanimously adopted a Report and Order permitting us to seek modification of our existing MSS licenses to provide terrestrial broadband services over 11.5 MHz of our licensed Mobile Satellite Services spectrum at 2483.5 to 2495 MHz throughout the United States of America and its Territories. In August 2017, the FCC modified Globalstar's MSS licenses, granting us authority to provide terrestrial broadband services over a portion of our satellite spectrum. Specifically, the FCC modified Globalstar's space station authorization and our blanket mobile earth station license to permit a network using 11.5 MHz of our authorized Big LEO mobile-satellite service spectrum. We will need to comply with certain conditions in order to provide terrestrial broadband service, including obtaining FCC certifications for our equipment that will utilize this spectrum authority.

We believe our MSS spectrum position provides potential for harmonized terrestrial authority across many international regulatory domains and have been seeking approvals in various international jurisdictions. To date, we have received terrestrial authorizations in certain countries. We expect this global effort to continue for the foreseeable future while we seek additional terrestrial approvals to internationally harmonize our S-band spectrum across the entire 16.5 MHz authority for terrestrial mobile broadband services.

We expect our terrestrial authority will allow future partners to develop high-density dedicated networks using the TD-LTE protocol for private LTE networks as well as the densification of cellular networks. We believe that our offering has competitive advantages over other conventional commercial spectrum allocations. Such other allocations must meet minimum population coverage requirements, which effectively prohibit the exclusive use of most carrier spectrum for dedicated small cell deployments. In addition, low frequency carrier spectrum is not physically well suited to high-density small cell topologies, and mmWave spectrum is subject to range and attenuation limitations. We believe that our licensed 2.4 GHz band holds physical, regulatory and ecosystem qualities that distinguishes it from other current and anticipated allocations, and that it is well positioned to balance favorable range, capacity and attenuation characteristics.

In December 2018, we were successful in obtaining approval to create a new defined band class, Band 53, from the Third Generation Partnership Project (3GPP) for our 2.4 GHz terrestrial spectrum. This new band class provides a pathway for our terrestrial spectrum to be integrated into handset and infrastructure ecosystems. Additional follow-on 3GPP specifications and approvals are expected in the future.

National Regulation of Service Providers

In order to operate gateways, applicable laws and regulations require the IGOs and our affiliates in each country to obtain a license or licenses from that country's telecommunications regulatory authority. In addition, the gateway operator must enter into appropriate interconnection and financial settlement agreements with local and interexchange telecommunications providers. All gateways operated by us or the IGOs are licensed by the appropriate regulatory authority.

Our subscriber equipment generally must be type certified in countries in which it is sold or leased. The manufacturers of the equipment and our affiliates or IGOs are jointly responsible for securing type certification. We have received type certification in multiple countries for each of our products.

Industry

We compete in the MSS sector of the global communications industry. MSS operators provide voice and data services using a network of one or more satellites and associated ground facilities. Mobile satellite services are usually complementary to, and interconnected with, other forms of terrestrial communications services and infrastructure and are intended to respond to users' desires for connectivity at all times and locations. Customers typically use satellite voice and data communications in situations where existing terrestrial wireline and wireless communications networks are impaired or do not exist.

Worldwide, government organizations, military, natural disaster aid associations, event-driven response agencies and corporate security teams depend on mobile and fixed voice and data communications services on a regular basis. Businesses with global operations require communications services when operating in remote locations around the world. MSS users span the forestry, maritime, government, oil and gas, mining, leisure, emergency services, construction and transportation sectors, among others.

Over the past two decades, the global MSS market has experienced significant growth. Increasingly, better-tailored, improved technology products and services are creating new channels of demand for mobile satellite services. Growth in demand for mobile satellite voice services is driven by the declining cost of these services, the diminishing size and lower cost of the handsets, as well as heightened demand by governments, businesses and individuals for ubiquitous global voice and data coverage. Growth in mobile satellite data services is driven by the rollout of new applications requiring higher bandwidth, as well as low-cost data collection and asset-tracking devices and technological improvements permitting integration of mobile satellite services over smartphones and other Wi-Fi enabled devices.

Communications industry sectors that are relevant to our business include:

- MSS, which provide customers with connectivity to mobile and fixed devices using a network of satellites and ground facilities;
- fixed satellite services, which use geostationary satellites to provide customers with voice and broadband communications links between fixed points on the earth's surface; and
- terrestrial services, which use a terrestrial network to provide wireless or wireline connectivity and are complementary to satellite services.

Within the major satellite sectors, fixed and MSS operators differ significantly from each other. Fixed satellite services providers, such as Intelsat Ltd., Eutelsat Communications and SES S.A., and aperture terminal companies, such as Hughes and Gilat Satellite Networks, are characterized by large, often stationary or "fixed," ground terminals that send and receive high-bandwidth signals to and from the satellite network for video and high speed data customers and international telephone markets. On the other hand, MSS providers, such as Globalstar, Inmarsat PLC ("Inmarsat") and Iridium Communications Inc. ("Iridium"), focus more on voice and data services (including data services which track the location of remote assets such as shipping containers), where mobility or small-sized terminals are essential. As mobile satellite terminals begin to offer higher bandwidth to support a wider range of applications, we expect MSS operators will increasingly compete with fixed satellite services operators.

LEO systems reduce transmission delay compared to a geosynchronous system due to the shorter distance signals have to travel. In addition, LEO systems are less prone to signal blockage and, consequently, we believe provide a better overall quality of service.

Competition

The global communications industry is highly competitive. We currently face substantial competition from other service providers that offer a range of mobile and fixed communications options. Our most direct competition comes from other global MSS providers. Our two largest global competitors are Inmarsat and Iridium. We compete primarily on the basis of coverage, quality, portability and pricing of services and products. In recent years, advancements in technology have also encouraged non-traditional companies to enter the market and request consideration from the FCC and international regulators for authority to provide satellite communication services through a variety of constellations.

Inmarsat owns and operates a fleet of geostationary satellites. Due to its multiple-satellite geostationary system, Inmarsat's coverage area extends to and covers most bodies of water more completely than our system. Accordingly, Inmarsat is the leading provider of satellite communications services to the maritime sector. Inmarsat also offers global land-based and aeronautical communications services. We compete with Inmarsat in several key areas, particularly in our maritime markets. Inmarsat markets mobile handsets designed to compete with both Iridium's mobile handset service and our GSP-1700 handset service.

Iridium owns and operates a fleet of low earth orbit satellites that provide global coverage. Iridium provides voice and data communications to businesses, United States and foreign governments, non-governmental organizations and consumers. Iridium markets products and services that are similar to those marketed by us. Additionally, Garmin's inReach devices provide two-way tracking with SOS capabilities, Honeywell Global Tracking has a personal tracking unit that enables a smartphone with satellite tracking and messaging capabilities and Somewear has a satellite hotspot; these products work on Iridium's satellite network.

We compete with regional mobile satellite communications services in several markets. In these cases, our competitors serve customers who require regional, not global, mobile voice and data services, so our competitors present a viable alternative to our services. All of these competitors operate geostationary satellites. Our principal regional MSS competitor in the Middle East and Africa is Thuraya.

In some of our markets, such as rural telephony, we compete directly or indirectly with very small aperture terminal ("VSAT") operators that offer communications services through private networks using very small aperture terminals or hybrid systems to target business users. VSAT operators have become increasingly competitive due to technological advances that have resulted in smaller, more flexible and cheaper terminals.

We compete indirectly with terrestrial wireline ("landline") and wireless communications networks. We provide service in areas that are inadequately covered by these ground systems. To the extent that terrestrial communications companies invest in underdeveloped areas, we will face increased competition in those areas.

Our SPOT products compete indirectly with Personal Locator Beacons ("PLB"s). A variety of manufacturers offer PLBs to industry specifications.

Our industry has significant barriers to entry, including the cost and difficulty associated with obtaining spectrum licenses and successfully building and launching a satellite network. In addition to cost, there is a significant amount of lead-time associated with obtaining the required licenses, designing and building the satellite constellation and synchronizing the network technology.

United States International Traffic in Arms Regulations and United States Export Administration Regulations

The United States International Traffic in Arms regulations under the United States Arms Export Control Act authorize the President of the United States to control the export and import of articles and services that can be used in the production of arms. The President has delegated this authority to the U.S. Department of State, Directorate of Defense Trade Controls. United States Export Administration Regulations enforced by the United States Bureau of Industry and Security, as well as regulations enforced by the United States Office of Foreign Assets Control regulate the export of certain products, services, and associated technical data. Among other things, these regulations limit the ability to export certain articles and related technical data to certain nations. Some information involved in the performance of our operations falls within the scope of these regulations. As a result, we may have to obtain an export authorization or restrict access to that information by international companies that are our vendors or service providers. We have received and expect to continue to receive export licenses for covered articles and technical data shared with approved parties outside the United States. We also are subject to restrictions related to transactions with persons subject to United States or foreign sanctions. These regulations, enforced by the United States Office of Foreign Assets Control, limit our ability to offer services and equipment to certain parties or in certain areas.

Environmental Matters

We are subject to various laws and regulations relating to the protection of the environment and human health and safety (including those governing the management, storage and disposal of hazardous materials). Some of our operations require continuous power supply. As a result, current and historical operations at our ground facilities, including our gateways, include storing fuels and batteries, which may contain hazardous materials, to power back-up generators. As an owner or operator of property and in connection with our current and historical operations, we could incur significant costs, including cleanup costs, fines, sanctions and third-party claims, as a result of violations of or in connection with liabilities under environmental laws and regulations.

Foreign Operations

We supply services and products to a number of foreign customers. Although most of our sales are denominated in U.S. dollars, we are exposed to currency risk for sales in Canada, Europe, Brazil and various other countries. In 2019, approximately 31% of our sales were generated in foreign countries, which generally are denominated in local currencies. See Note 2: Revenue in the Consolidated Financial Statements for additional information regarding revenue by country. For more information about our exposure to risks related to foreign locations, see Item 1A: Risk Factors - *We face special risks by doing business in international markets and developing markets, including currency and expropriation risks, which could increase our costs or reduce our revenues in these areas.*

Intellectual Property

We hold various U.S. and foreign patents and patents pending that expire between 2020 and 2035. These patents cover many aspects of our satellite system, our global network and our user terminals. In recent years, we have reduced our foreign filings and decided to allow some previously granted foreign patents to lapse based on (a) the relative significance of the patent, (b) our assessment of the likelihood that someone would infringe in the foreign country, and (c) the probability that we could or would enforce the patent in light of the expense of filing and maintaining the foreign patent which, in some countries, is quite substantial. We continue to maintain all of the patents in the United States, Canada and Europe that we believe are important to our business. Our intellectual property is pledged as security for our obligations under our senior secured credit facility agreement (the "Facility Agreement") and second lien credit facility agreement (the "Second Lien Term Loan Facility").

Employees

As of December 31, 2019, we had 336 employees, 24 of whom were located in Brazil and subject to collective bargaining agreements. We consider our relationship with our employees to be good.

Seasonality

Usage on the network and, to some extent, sales are subject to seasonal and situational changes. April through October are typically our peak months for service revenues and equipment sales. We also experience event-driven revenue fluctuations in our business. Most notably, emergencies, natural disasters and other sizable projects where satellite-based communications devices are the only solution may generate an increase in revenue. In the consumer area, SPOT devices sales are influenced by outdoor and leisure activity opportunities, as well as our promotional efforts.

Services and Equipment

Sales of services accounted for approximately 86%, 85% and 87% of our total revenues for 2019, 2018, and 2017, respectively. We also sell the related voice and data equipment to our customers, which accounted for approximately 14%, 15% and 13% of our total revenues for 2019, 2018, and 2017, respectively.

Additional Information

We file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission (the "SEC"). The SEC maintains an internet site that contains annual, quarterly and current reports, proxy and information statements and other information that issuers (including Globalstar) file electronically with the SEC. Our electronic SEC filings are available to the public at the SEC's internet site, www.sec.gov.

We make available free of charge financial information, news releases, SEC filings, including our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to these reports on our website at www.globalstar.com as soon as reasonably practical after we electronically file such material with, or furnish it to, the SEC. The documents available on, and the contents of, our website are not incorporated by reference into this Report.

Item 1A. Risk Factors

You should carefully consider the risks described below, as well as all of the information in this Report and all of the other reports we file from time to time with the SEC, in evaluating and understanding us and our business. Additional risks not presently known or that we currently deem immaterial may also impact our business operations and the risks identified in this Report may adversely affect our business in ways we do not currently anticipate. Our business, financial condition or results of operations could be materially adversely affected by any of these risks.

Risks Related to Our Business

The implementation of our business plan and our ability to generate income from operations assume we are able to maintain a healthy constellation and ground network capable of providing commercially acceptable levels of coverage and service quality, which are contingent on a number of factors.

Our products and services are subject to the risks inherent in relying on a large-scale, complex telecommunications system employing advanced technology. Any disruption to our satellites, services, information systems or telecommunications infrastructure could result in degrading or disrupting services to our customers for an indeterminate period of time.

Since we launched our first satellites in the 1990's, most of our first-generation satellites have been retired or have failed in orbit, and we expect the remaining first-generation satellites to be retired or fail in the future. Although we designed our second-generation satellites to provide commercial service over a 15-year life, we can provide no assurance as to whether any or all of them will continue in operation for their full 15-year design life. Satellites utilize highly complex technology and operate in the harsh environment of space and therefore are subject to significant operational risks while in orbit.

Further, our satellites may experience temporary outages or otherwise may not be fully functioning at any given time. There are some remote tools we use to remedy certain types of problems affecting the performance of our satellites, but the physical repair of satellites in space is not feasible. We do not insure our satellites against in-orbit failures after an initial period of six months, whether the failures are caused by internal or external factors. In-orbit failure may result from various causes, including component failure, solar array failures, telemetry transmitter failures, loss of power or fuel, inability to control positioning of the satellite, solar or other astronomical events, including solar radiation and flares, and collision with space debris or other satellites. These failures are commonly referred to as anomalies. Some of our satellites have had malfunctions and other anomalies in the past and may have anomalies in the future. Further, from time to time we move and relocate satellites within our constellation to improve coverage and service quality. Satellite repositioning may increase the risk of collision or damage to our satellites and may result in degraded service during the repositioning. Although we do not incur any direct cash costs related to the failure of a satellite, if a satellite fails, we record an impairment charge in our statement of operations to reduce the remaining net book value of that satellite, if any, to zero, and any such impairment charges could depress our net income (or increase our net loss) for the period in which the failure occurs. Additionally, human operators may execute improper implementation commands that may negatively impact a satellite's performance.

Prior to 2014 our ability to generate revenue and cash flow was impacted adversely by our inability to offer commercially acceptable levels of Duplex service due to the degradation of our first-generation constellation. As a result, we improved the design of our second-generation constellation to last twice as long in space and have 40% greater capacity compared to our first-generation constellation. Despite working closely with satellite manufacturers to determine the causes of anomalies and mitigate them in second-generation satellites and to provide for intrasatellite redundancies for certain critical components to minimize or eliminate service disruptions in the event of failure, anomalies are likely to be experienced in the future, whether due to the types of anomalies described above or arising from the failure of other systems or components, and intrasatellite redundancy may not be available upon the occurrence of such anomalies. There can be no assurance that, in these cases, it will be possible to restore normal operations. Where service cannot be restored, the failure could cause the satellite to have less capacity available for service, to suffer performance degradation or to cease operating prematurely, either in whole or in part. We cannot guarantee that we could successfully develop and implement a solution to these anomalies.

In order to maintain commercially acceptable service long-term, we must obtain and launch additional satellites from time to time. We cannot provide any assurance that negotiations with satellite manufacturers will be successful or at commercially reasonable prices.

Our ground stations required upgrades to enable us to integrate our second-generation technology and services. We entered into various contracts to upgrade our ground network. During 2016 we completed this work according to the Hughes and Ericsson contracts. In connection with the 2018 launch of Sat-Fi2[®], the first device to operate on our upgraded ground network, we placed into service the portion of the next-generation ground component (including associated developed technology and software upgrades), which represented the gateways capable of supporting commercial traffic at that time. Certain other gateways around the world have since been placed into service and others are expected to be placed into service in the coming months. The installation of RANs at additional sites outside the scope of the core Hughes contract will occur over time, and the completion of these upgrades may not be successful.

If we experience operational disruptions with respect to our gateways or operations center, we may not be able to provide service to our customers.

Our satellite network traffic is supported by 22 gateways distributed around the globe. We operate our satellite constellation from our Network Operations Control Centers at three locations (France, California and Louisiana) to provide geo-redundancy and ongoing coverage. Our gateway facilities are subject to the risk of significant malfunctions or catastrophic loss due to unanticipated events and would be difficult to replace or repair and could require substantial lead-time to do so. In North America, we have implemented contingency coverage which allows neighboring gateways to provide services in the event of a gateway failure. Material changes in the operation of these facilities may be subject to prior FCC approval, and the FCC might not give such approval or may subject the approval to other conditions that could be unfavorable to our business. Our gateways and operations centers may also experience service shutdowns or periods of reduced service in the future as a result of equipment failure, delays in deliveries or regulatory issues. Any such failure would impede our ability to provide service to our customers, which could have a material impact on our business.

The actual orbital lives of our satellites may be shorter than we anticipate, and we may be required to reduce available capacity on our satellite network prior to the end of their orbital lives.

We anticipate that our second-generation satellites will have 15 year orbital lives. A number of factors will affect the actual commercial service lives of each satellite, including:

- the amount of propellant used in maintaining the satellite's orbital location or relocating the satellite to a new orbital location (and, for a newly-launched satellite, the amount of propellant used during orbit raising following launch);
- the durability and quality of its construction;
- the performance of its components;
- hazards and conditions in space such as solar flares and space debris;
- operational considerations, including operational failures and other anomalies; and
- changes in technology which may make all or a portion of our satellite fleet obsolete.

It is possible that the actual orbital lives of one or more of our existing satellites may also be shorter than originally anticipated. Further, it is possible that the total available payload capacity of a satellite may need to be reduced prior to the satellite reaching its end-of-orbital life. We periodically review the expected orbital life of each of our satellites using current engineering data. A reduction in the orbital life of any of our satellites could result in a reduction of the revenues generated by that satellite, the recognition of an impairment loss and an acceleration of capital expenditures. Reducing the available payload capacity prior to the end of a satellite's orbital life, if required, would reduce our revenues from the satellite. The potential impact on our revenues from a reduction in the orbital life of one or more satellites may vary depending on the satellite's orbital location as well as the type of device and service a customer is using.

Replacing a satellite upon the end of its service life will require us to make significant expenditures.

To ensure no disruption in our business and to prevent loss of customers, we may be required to commence a multi-year process to construct and launch replacement satellites prior to the expected end of service life of the satellites then in orbit. There can be no assurance that we will have sufficient cash, cash flow or be able to obtain third-party or shareholder financing to fund such expenditures on favorable terms, if at all. Should we not have sufficient funds available to replace our satellites, it could have a material adverse effect on our results of operations, business prospects and financial condition.

The implementation of our business plan depends on increased demand for wireless communications services via satellite (including IoT applications) and via terrestrial mobile broadband networks, both for our existing services and products and for new services and products. If demand does not increase, our revenues and profitability may not increase as we expect.

Demand for wireless communication services may not grow, or may decrease, either generally or in particular geographic markets, for particular types of services or during particular time periods. A lack of demand could impair our ability to sell our services and develop and successfully market new services, could exert downward pressure on prices, or both. This, in turn, could decrease our revenues and profitability and adversely affect our ability to increase our revenues and profitability over time.

We plan to introduce additional Duplex, SPOT and Commercial IoT products and services as well as low-power terrestrial mobile broadband services. However, we cannot predict with certainty the potential longer-term demand for these products and services or the extent to which we will be able to meet demand. Our business plan assumes we will grow our subscriber base. If we are not able to do so, it may adversely impact our business prospects.

The success of our business plan will depend on a number of factors, including but not limited to:

- our ability to maintain the health, capacity and control of our satellites;
- our ability to maintain the health of our ground network;
- our ability to influence the level of market acceptance and demand for our products and services;
- our ability to introduce new products and services that meet this market demand;
- our ability to retain current customers and obtain new customers;
- our ability to obtain additional business using our existing and future spectrum authority both in the United States and internationally;
- our ability to control the costs of developing an integrated network providing related products and services, as well as our future terrestrial mobile broadband services;
- our ability to market successfully our Duplex, SPOT and Commercial IoT products and services;
- our ability to develop and deploy innovative network management techniques to permit mobile devices to transition between satellite and terrestrial modes;
- our ability to sell our current inventory;
- the cost and availability of user equipment that operates on our network;
- the effectiveness of our competitors in developing and offering similar products and services and in persuading our customers to switch service providers;
- our ability to successfully predict market trends;
- our ability to hire and retain qualified executives, managers and employees;
- our ability to provide attractive service offerings at competitive prices to our target markets; and
- our ability to raise additional capital on acceptable terms when required.

We incurred operating losses in the past three years and we are likely to continue incurring such losses.

We incurred operating losses of \$64.0 million, \$47.4 million and \$68.4 million in 2019, 2018, and 2017, respectively. These losses resulted, in part, from depreciation expense related to our second-generation satellites, which we placed into service in 2010, 2011 and 2013, and ground infrastructure, which we began to place into service in 2018. We designed our second-generation network to have a 15-year life, and we expect that we will continue to recognize high levels of depreciation expense commensurate with its estimated useful life.

Rapid and significant technological changes in the satellite communications industry may impair our competitive position and require us to make significant capital expenditures, which may require additional capital that has not been arranged.

The space and communications industries are subject to rapid advances and innovations in technology. New technology could render our system obsolete or less competitive by satisfying consumer demand in more attractive ways or through the introduction of incompatible standards. Particular technological developments that could adversely affect us include the deployment by our competitors of new satellites with greater power, greater flexibility, greater efficiency or greater capabilities, as well as continuing improvements in terrestrial wireless technologies. We must continue to commit to make significant capital expenditures to keep up with technological changes and remain competitive. Customer acceptance of the services and products that we offer will continually be affected by the technology in our product and service offerings relative to competitive offerings. New technologies may be protected by patents and therefore may not be available to us. We expect to face competition in the future from companies using new technologies and new satellite systems.

The hardware and software we utilize in operating our first-generation gateways were designed and manufactured over 20 years ago and portions have deteriorated. This original equipment may become less reliable as it ages and will be more difficult and expensive to service. It may be difficult or impossible to obtain all necessary replacement parts for the hardware before the new equipment and software is fully deployed. Some of the hardware and software we use in operating our gateways are significantly customized and tailored to meet our requirements and specifications and could be difficult and expensive to service, upgrade or replace. Although we maintain inventories of some spare parts, it nonetheless may be difficult, expensive or impossible to obtain replacement parts for our hardware due to a limited number of parts being manufactured to our requirements and specifications. In addition, our business plan contemplates updating or replacing some of the hardware and software in our network as technology advances, but the complexity of our requirements and specifications may present us with technical and operational challenges that complicate or otherwise make it expensive or infeasible to carry out such upgrades and replacements. If we are not able to suitably service, upgrade or replace our equipment, it could harm our ability to provide our services and generate revenue.

Our business is capital intensive. We may not be able to raise adequate capital to finance our business strategies, or we may be able to do so only on terms that significantly restrict our ability to operate our business.

Implementation of our business strategy requires a substantial outlay of capital. As we pursue business strategies and seek to respond to developments in our business and opportunities and trends in our industry, our actual capital expenditures may differ from our expected capital expenditures. There can be no assurance that we will be able to satisfy our capital requirements in the future. In addition, if one of our satellites failed unexpectedly, there can be no assurance of insurance recovery for our losses or the timing thereof, and we may need to obtain additional financing to replace the satellite. If we determine that we need to obtain additional funds through external financing and are unable to do so, we may be prevented from fully implementing our business strategy.

We have substantial contractual obligations, which may require additional capital, the terms of which have not been arranged. The terms of our Facility Agreement could complicate raising additional capital.

As of December 31, 2019, our current sources of liquidity include cash on hand (\$7.6 million), restricted cash (\$0.6 million) and future cash flows from operations. We also have non-current restricted cash (\$50.9 million), which consists primarily of a debt service reserve account, which is pledged to secure all of our obligations under the Facility Agreement. This account will be used towards the final scheduled principal payment due upon maturity. Our operating expenses for the twelve-month period ended December 31, 2019 were \$195.8 million.

Our short-term and long-term liquidity requirements include primarily paying our debt service obligations and funding our operating costs. We cannot provide assurance that we will not experience a liquidity shortfall in the short or long-term.

Restrictions in our Facility Agreement and our Second Lien Term Loan Facility limit the types of financings we may undertake and our discretion over the use of net cash proceeds from certain future financings. See Note 6: Long-Term Debt and Other Financing Arrangements in our Consolidated Financial Statements in Part II, Item 8 of this Report for further discussion of our debt agreements. We cannot assure you that we will be able to obtain additional financing when required on reasonable terms or at all. If we cannot obtain it in a timely manner, we may be unable to execute our business plan and fulfill our financial commitments.

If we do not develop, acquire and maintain proprietary information and intellectual property rights, it could limit the growth of our business and reduce our market share.

Our business depends on technical knowledge, and we base our business plan in part on our ability to keep up with new technological developments and incorporate them in our products and services. We own or have the right to use our patents, work products, inventions, designs, software, systems and similar know-how. Our proprietary information may be disclosed to others, or others may independently develop similar information, systems and know-how. Protection of our information, systems and know-how may result in litigation, the cost of which could be substantial. Third parties may assert claims that our products or services infringe on their proprietary rights. Any such claims, if made, may prevent or limit our sales of products or services or increase our costs.

We license much of the software we require to support critical gateway operations from third parties, such as Hughes, Ericsson and Qualcomm. This software was developed or customized specifically for our use. We also license technical information for the design, manufacture and sale of our products. This intellectual property is essential to our ability to continue to operate our constellation and sell our products and services. We also license software to support customer service functions, such as billing, from third parties that developed or customized it specifically for our use. If the third-party licensors cease to support and service our software, or our licenses are no longer available on commercially reasonable terms, it might be difficult, expensive or impossible for us to obtain such services from alternative vendors. Replacing such software could be difficult, time consuming and expensive. This might require us to obtain substitute technology with lower quality or performance standards or at a greater cost.

Others may claim that our products violate their patent or intellectual property rights, which could be costly and disruptive to us.

We operate in an industry fraught with significant intellectual property litigation. Intellectual property infringement claims or litigation may be brought against us. Defending intellectual property suits is both costly and time-consuming and, even if ultimately successful, may divert management's attention from other business concerns. An adverse determination in litigation to which we may become a party could, among other things:

- subject us to significant liabilities to third parties, including treble damages;
- require disputed rights to be licensed from a third party for royalties that may be substantial;
- require us to cease using technology that is important to our business; or
- prohibit us from selling some or all of our products or offering some or all of our services.

We have a limited supply of Duplex handsets and rely on a limited number of key vendors for timely supply of equipment and services. If our key vendors fail to provide equipment and services to us, we may face difficulties in finding alternative sources, which would adversely impact our operations.

We have a limited quantity of our Duplex handsets in inventory and have not contracted with a manufacturer to produce additional phone inventory. We have a "buy-back" program with former customers and we have seen meaningful success re-offering refurbished handsets into the market in an effort to mitigate the lack of new handset inventory. However, the number of devices received from the "buy-back" may not be sufficient to meet our customers' demand. Additionally, in some cases we contract with manufacturers to provide us with other equipment inventory for the devices we sell. If these manufacturers do not take on or fulfill future orders or fail to perform under our current contracts, we may be unable to continue producing and selling this equipment to customers at a reasonable cost to us, or there may be delays in production and decreases in sales.

Lack of availability of components from the electronics industry, required in our retail products, gateways and satellites could delay or adversely impact our operations.

We rely upon the availability of components, materials and component parts from the electronics industry. The electronics industry is subject to occasional shortages in parts availability depending on fluctuations in supply and demand. Industry shortages may result in delayed shipments of materials or increased prices, or both. As a consequence, elements of our operation which use electronic parts, such as our retail products, gateways and satellites, could be subject to disruptions, cost increases or both.

We face special risks by doing business in international markets and developing markets, including currency and expropriation risks, which could increase our costs or reduce our revenues in these areas.

Although our most economically important geographic markets currently are the United States and Canada, we have substantial markets for our mobile satellite services in, and our business plan includes, developing countries or regions that are underserved by existing telecommunications systems, such as rural Brazil, Central America, Argentina and Africa. Developing countries are more likely than industrialized countries to experience market, currency and interest rate fluctuations and high inflation. In addition, these countries present risks relating to government policy, price, wage and exchange controls, social instability, expropriation and other adverse economic, political and diplomatic conditions.

Conducting operations outside the United States involves numerous special risks and expanding our international operations would increase these risks. These risks include, but are not limited to:

- difficulties in penetrating new markets due to established and entrenched competitors;
- difficulties in developing products and services that are tailored to the needs of local customers;
- lack of local acceptance or knowledge of our products and services;
- lack of recognition of our products and services;
- unavailability of or difficulties in establishing relationships with distributors;
- significant investments, including the development and deployment of dedicated, physical gateways in countries that require them to connect the traffic coming to and from their territory;
- instability of international economies and governments;
- changes in laws and policies affecting trade and investment in other jurisdictions;
- noncompliance with the Foreign Corrupt Practices Act ("FCPA"), the UK Bribery Act, sanctions laws and export controls;
- exposure to varying legal standards in other jurisdictions, including intellectual property protection and other similar laws and regulations;
- difficulties in obtaining required regulatory authorizations;
- difficulties in enforcing legal rights in other jurisdictions;
- variations in local domestic ownership requirements;
- requirements that operational activities be performed in-country;
- changing and conflicting national and local regulatory requirements; and
- uncertainty in foreign currency exchange rates and exchange controls.

These risks could affect our ability to compete successfully and expand internationally. To the extent that the prices for our products and services are denominated in U.S. dollars, any appreciation of the U.S. dollar against other currencies will increase the cost of our products and services to our international customers and, as a result, may reduce the competitiveness of our international offerings and make it more difficult for us to grow internationally. Limited availability of U.S. currency in some local markets or governmental controls on the export of currency may prevent our customers from making payments in U.S. dollars or delay the availability of payment due to foreign bank currency processing and controls.

Our operations involve transactions in a variety of currencies. Sales denominated in foreign currencies involve primarily the Canadian dollar, the euro and the Brazilian real. Accordingly, our operating results may be significantly affected by fluctuations in the exchange rates for these currencies. Approximately 31% and 30% of our total revenue was to customers primarily located in Canada, Europe, Central America, and South America during 2019 and 2018, respectively. Our results of operations for 2019 and 2018 included net gains of approximately \$0.1 million and net losses of \$3.1 million, respectively, on foreign currency transactions. We may be unable to offset unfavorable currency movements as they adversely affect our revenue and expenses. Our inability to do so could have a substantial negative impact on our operating results and cash flows.

Our global operations expose us to trade and economic sanctions, other restrictions, liabilities and exposure to penalties imposed by the United States, the European Union and other governments and organizations.

The U.S. Departments of Justice, Commerce, State and Treasury and other federal agencies and authorities have a broad range of civil and criminal penalties they may seek to impose against corporations and individuals for violations of economic sanctions laws, export control laws, FCPA and other federal statutes and regulations, including those established by the Office of Foreign Assets Control ("OFAC"). Under these laws and regulations, as well as other anti-corruption laws, anti-money-laundering laws, export control laws, customs laws, sanctions laws and other laws governing our operations, various government agencies require export licenses. They may seek to impose modifications to business practices, including cessation of business activities in sanctioned countries or with sanctioned persons or entities and modifications to compliance programs, which may increase compliance costs, and may subject us to fines, penalties and other sanctions. A violation of these laws or regulations could adversely impact our business, results of operations and financial condition.

Although we have implemented policies and procedures in these areas, we cannot assure you that our policies and procedures are sufficient or that directors, officers, employees, representatives, distributors, consultants, IGOs, dealers and resellers, joint venture partners, independent agents, vendors, customers or subscribers have not engaged and will not engage in conduct for which we may be held responsible. We cannot assure you that our business partners have not engaged and will not engage in conduct that could materially affect their ability to perform their contractual obligations to us or result in us being held liable for such conduct. Violations of the FCPA, OFAC restrictions or other export control, anti-corruption, anti-money-laundering and anti-terrorism laws or regulations may result in severe criminal or civil sanctions, and we may be subject to other liabilities, which could have a material adverse effect on our business, financial condition, cash flows and results of operations.

The United Kingdom and European Union are important markets to our business. The uncertainty surrounding the United Kingdom's decision to leave the European Union could adversely impact our business, results of operations and financial condition.

We sell our products and services in the United Kingdom (the "UK") and throughout Europe. In particular, the United Kingdom is the largest market in Europe for our SPOT product family. On June 23, 2016, the UK voted in an advisory referendum for the UK to leave the European Union (the "EU") and, subsequently, on March 29, 2017, the UK government began the formal process of leaving the EU. The UK withdrew from the EU on January 31, 2020. The exit process (commonly referred to as "Brexit") will involve the negotiation of new trade and other agreements.

Brexit creates legal, regulatory, and economic uncertainty that could have a negative impact on our business. If the UK changes the regulatory structure for telecommunications products, it is possible that we would not be able to comply or compliance would become cost prohibitive. Similarly, post-Brexit trade agreements could impose import taxes or other expenses on our products, which may increase the price of our products sold in the UK.

We also face currency exchange risk as a result of Brexit. Although most of our sales are denominated in U.S. dollars, we also receive payments in international currencies, including the pound and the euro. We therefore incur currency translation risk when currency values fluctuate and the U.S. dollar is strong relative to other currencies. Furthermore, a strong U.S. dollar increases the price of our products in international markets, which could reduce demand in those markets for our products.

The future consequences of Brexit are unknown at this time, but Brexit has created legal, regulatory, and currency risk that may have a materially adverse impact on our business. Furthermore, this uncertainty could negatively impact the economies of other countries in which we operate.

We face intense competition in all of our markets, which could result in a loss of customers, lower revenues and difficulty entering new markets.

Satellite-based Competitors

There are currently at least three other MSS operators providing services similar to ours on a global or regional basis: Iridium, Thuraya and Inmarsat. ORBCOMM Inc. is also a competitor in the Machine-to-Machine and IoT market. The provision of satellite-based products and services is subject to downward price pressure when the capacity exceeds demand or as new competitors enter the marketplace with competitive pricing strategies. We also face competition with respect to network coverage and market share in specialized industries, such as maritime and governmental.

Other providers of satellite-based products could introduce their own products similar to our SPOT, Commercial IoT or Duplex products, which may materially adversely affect our business plan and sales volume. In addition, we may face competition from new competitors or new technologies. Many companies target the same customers, and we may not be able to successfully retain our existing customers or attract new customers. As a result we may not grow our customer base and revenue.

Terrestrial Competitors

In addition to our satellite-based competitors, terrestrial wireless voice and data service providers are continuing to expand into rural and remote areas, particularly in less developed countries. They provide the same general types of services and products that we provide through our satellite-based system. Many of these companies have greater resources, more name recognition and newer technologies than we do. Industry consolidation could adversely affect us by increasing the scale or scope of our competitors and thereby making it more difficult for us to compete. We could lose market share and revenue as a result of increasing competition from land-based communication service providers.

Although satellite communications services and ground-based communications services are not identical, the two compete in similar markets with similar services. Consumers may perceive cellular voice communication products and services as cheaper and more convenient than satellite-based products and services.

Terrestrial Broadband Network Competitors

We also expect to compete with a number of other satellite companies that plan to develop terrestrial networks that utilize their MSS spectrum. DISH Network received FCC approval to offer terrestrial wireless services over the MSS spectrum that previously belonged to TerreStar and ICO Global. Further, Ligado Networks (formerly LightSquared) continues to seek final FCC approval to build out a wireless network utilizing its MSS spectrum. Any of these competitors could deploy terrestrial mobile broadband networks before we do, could combine with existing terrestrial networks that provide them with greater financial or operational flexibility than we have or could offer wireless services, including mobile broadband services, that customers prefer over ours.

We have a substantial amount of indebtedness, which may adversely affect our cash flow and our ability to operate our business, including our ability to incur additional indebtedness.

As of December 31, 2019, the principal balance of our debt obligations was \$528.4 million, consisting of \$190.4 million under the Facility Agreement, \$201.5 million under the Second Lien Term Loan Facility, \$135.1 million outstanding under the Loan Agreement with Thermo and \$1.4 million under the 8.00% Convertible Senior Notes Issued in 2013 (the "2013 8.00% Notes"). Our significant indebtedness could have several consequences. It could increase our vulnerability to adverse economic, industry or competitive developments by dictating that a substantial portion of cash flow from operations be dedicated to the payment of principal and interest on our indebtedness and therefore reducing our ability to use our cash flow to fund our operations, capital expenditures, return of capital to shareholders, and future business opportunities. Our indebtedness could restrict us from making strategic acquisitions by limiting our ability to obtain additional financing for working capital, capital expenditures, product development, debt service requirements, acquisitions and general corporate and other purposes. Our indebtedness could restrict us from paying dividends to our shareholders. It could limit our flexibility in planning for, or reacting to, changes in our business or industry, placing us at a competitive disadvantage compared to competitors who are not as highly leveraged as us and who, therefore, may be able to take advantage of opportunities that our leverage prevents us from exploiting. Additionally, even though our current debt agreements place limits on our ability to incur additional debt, in the future we may incur additional debt which could further exacerbate these risks.

Restrictive covenants in our debt agreements may limit our operating and financial flexibility and our inability to comply with these covenants could have significant implications.

Our Facility Agreement and Second Lien Term Loan Facility contain a number of significant restrictions and covenants. See Note 6: Long-Term Debt and Other Financing Arrangements in our Consolidated Financial Statements in Part II, Item 8 of this Report for further discussion of our debt covenants. Complying with these restrictive covenants, including financial and non-financial covenants in our Facility Agreement and Second Lien Term Loan Facility, as well as those that may be contained in any agreements governing future indebtedness, may impair our ability to finance our operations or capital needs or to take advantage of favorable business opportunities. Our facility agreements include a limitation on expenditures in connection with spectrum rights of \$20 million, which may prohibit us from making certain expenditures that we consider accretive to our business and would otherwise make. Our ability to comply with these covenants will depend on our future performance, which may be affected by events beyond our control. Our failure to comply with these covenants would be an event of default. An event of default under the Facility Agreement or the Second Lien Term Loan Facility would permit the lenders to accelerate the indebtedness under these agreements. That acceleration would permit holders of our obligations under other agreements that contain cross-acceleration provisions to accelerate our obligations to them. See Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – *Liquidity and Capital Resources* of this Report for further discussion.

Pursuing strategic transactions may cause us to incur additional costs, obligations and risks.

We may pursue acquisitions, mergers, joint ventures, partnerships or other strategic transactions on an opportunistic basis. We may face costs and risks arising from any such transactions. These may include legal, operational, financial and other costs and risks. For instance, in 2018, we incurred approximately \$11.2 million in costs for consultants and other advisors related to the now-terminated merger (and related litigation) discussed in Note 12: Related Party Transactions and Note 10: Contingencies to our Consolidated Financial Statements in Part II, Item 8 of this Report.

In addition, if we choose to engage in any major business combination or similar strategic transaction, we may require significant external financing in connection with the transaction. Depending on market conditions, investor perceptions of us, and other factors, we may not be able to obtain capital on acceptable terms, in acceptable amounts or at appropriate times to implement any such transaction. Our Facility Agreement and other debt obligations contain covenants which limit our ability to engage in specified forms of capital transactions without lender consent, which may be impossible to obtain. Any such financing, if obtained, may further dilute our existing stockholders.

Our networks and those of our third-party service providers and customers may be vulnerable to unauthorized or unlawful access. Our use of personal information could give rise to costs and liabilities arising from developing data privacy laws.

Our network and those of our third-party service providers and our customers may be vulnerable to unauthorized access, attacks, malware, data breaches and other security problems. Persons who circumvent security measures could wrongfully obtain or use information from such networks or cause interruptions, delays or malfunctions in our operations. A data breach or network disruption could harm our reputation, cause demand for our products and services to fall or compromise our ability to pursue our business plans. A number of significant, widespread security breaches compromised companies and governmental agencies. In some cases, these breaches originated from outside the United States. We may be required to expend significant resources to protect against the threat of security breaches or to alleviate problems, including reputational harm and litigation, caused by any breaches. In addition, our customer contracts may not adequately protect us against liability to third parties with whom our customers conduct business.

We collect and store data, including our customers' personal information. In jurisdictions around the world, personal information is increasingly becoming the subject of extensive legislation and regulations to protect consumers' privacy and security, including the EU's General Data Protection Regulation that became effective in 2018. The interpretation of privacy and data protection laws and regulations regarding the collection, storage, transmission, use and disclosure of such information in some jurisdictions is unclear and ever evolving. These laws may be interpreted and applied differently from country to country and in a manner that is not consistent with our current data protection practices. Complying with these varying international requirements could cause us to incur additional costs or change our business practices. Our services are accessible in many foreign jurisdictions, and some of these jurisdictions may claim that we are required to comply with their laws, even where we have no local entity, employees or infrastructure. We could be forced to incur significant expenses if we were required to modify our products, services or existing security and privacy procedures in order to comply with new or expanded regulations across numerous jurisdictions. In addition, we could face liability to end users alleging that their personal information is not collected, stored, transmitted, used or disclosed appropriately or in accordance with our privacy policies or applicable laws, including claims and litigation resulting from such allegations. Any failure on our part to protect information pursuant to applicable regulations could result in a loss of user confidence, reputation and customers, which could materially impact our results of operations and cash flows.

Due to fluctuations in the insurance market, we may be unable to obtain and maintain our insurance coverages, and the insurance we obtain may not cover all risks we undertake. As a result, we may incur material uninsured or under-insured losses.

The price, terms and availability of insurance have fluctuated significantly since we began offering commercial satellite services. The cost of obtaining insurance can vary as a result of either satellite failures or general conditions in the insurance industry. Rising premiums on insurance policies could increase our costs. In addition to higher premiums, insurance policies may provide for higher deductibles, shorter coverage periods and additional policy exclusions. Our insurance could become more expensive and difficult to maintain and may not be available in the future on commercially reasonable terms, if at all. Our failure to maintain sufficient insurance could also create an event of default under our debt agreements. Our insurance may not adequately cover losses incurred arising from claims brought against us or otherwise, which could be material.

Product Liability Insurance and Product Replacement or Recall Costs

We are subject to product liability and product recall claims if any of our products and services are alleged to have caused injury to persons or damage to property. If any of our products prove to be defective, we may need to recall and redesign them. In addition, any claim or product recall that results in significant adverse publicity may negatively affect our business, financial condition or results of operations. We do not maintain any product recall insurance, so any product recall we are required to initiate could have a significant impact on our financial position, results of operations or cash flows. We investigate potential quality issues as part of our ongoing effort to deliver quality products to our customers.

Because consumers may use SPOT products and services in isolated or dangerous locations, users of our devices who suffer injury or death may seek to assert claims against us alleging failure of the device to facilitate timely emergency response. We cannot assure investors that any legal disclaimers will be effective or insurance coverage will be sufficient to protect us from material losses.

General Liability Insurance In-Orbit Exposures

Our liability policy, covers amounts up to €70 million per occurrence (with a €70 million annual limit) that we and other specified parties may become liable to pay for bodily injury and property damages to third parties related to processing, maintaining and operating our satellite constellation. Our current policy has a one-year term, which expires in October 2020. Our current in-orbit liability insurance policy contains, and we expect any future policies would likewise contain, specified exclusions and material change limitations customary in the industry. These exclusions may relate to, among other things, losses resulting from in-orbit collisions, acts of war, insurrection, terrorism or military action, government confiscation, strikes, riots, civil commotions, labor disturbances, sabotage, unauthorized use of the satellites and nuclear or radioactive contamination, as well as claims directly or indirectly occasioned as a result of noise, pollution, electrical and electromagnetic interference or interference with the use of property.

Our in-orbit insurance does not cover losses that might arise as a result of a satellite failure, other operational problems affecting our constellation, or damage resulting from de-orbiting a satellite. As a result, a failure of one or more of our satellites or the occurrence of equipment failures, collision damage, or other related problems that may result during the de-orbiting process could constitute an uninsured loss and could materially harm our financial condition.

Our satellites may collide with space debris which could adversely affect the performance of our constellation.

Our ability to maneuver our satellites to avoid potential collisions with space debris is limited by, among other factors, uncertainties and inaccuracies in the projected orbit location of, and predicted conjunctions with, debris objects tracked and cataloged by the U.S. government. Some space debris is too small to be tracked, and therefore its orbital location is completely unknown. Debris that cannot be tracked is still large enough to potentially cause severe damage to or failure of one of our satellites should a collision occur. If our constellation experiences satellite collisions with space debris, our service could be impaired. Any such collision could potentially expose us to significant losses.

We operate in many tax jurisdictions, and changes in tax rates or adverse results of tax examinations could materially increase our costs.

We operate in various U.S. and foreign tax jurisdictions. The process of determining our anticipated tax liabilities involves many calculations and estimates which are inherently complex. Our tax obligations are subject to review and possible challenge by the taxing authorities of these jurisdictions, such as the ongoing income tax return audit being conducted by the Canada Revenue Agency of our Canadian subsidiary. If taxing authorities were to successfully challenge our current tax positions, or if we changed the manner in which we conduct certain activities, we could become subject to material, unanticipated tax liabilities. We may also become subject to additional tax liabilities as a result of changes to tax laws in any of our applicable tax jurisdictions, which in certain circumstances could have a retroactive effect.

Our revenues are subject to changes in global economic conditions and consumer sentiment and regarding discretionary spending.

Financial markets are uncertain and could adversely impact global economic conditions. These conditions could lead to reduced consumer spending, especially for discretionary travel and related products. A substantial portion of the potential addressable market for our consumer retail products and services relates to recreational users, such as mountain climbers, campers, kayakers, sport fishermen and wilderness hikers. These potential customers may reduce their recreational activities or discretionary spending due to economic conditions, which could adversely affect our business, financial condition, results of operations and liquidity.

We are exposed to trade credit risk in the ordinary course of our business activities.

We are exposed to risk of loss in the event of nonperformance by our customers of their obligations to us. Some of our customers may be highly leveraged or subject to their own operating and regulatory risks. Many of our customers finance their activities through cash flow from operations, the incurrence of debt or the issuance of equity. From time to time, credit is less available and available on more restrictive terms. The combination of reduction of cash flow resulting from declines in commodity prices and the lack of availability of debt or equity financing may result in a significant reduction in our customers' liquidity and ability to make payments or perform on their obligations to us. Even if our credit review and analysis mechanisms work properly, we may experience financial losses in our dealings with other parties. Any increase in the nonpayment or nonperformance by our customers could reduce our cash flows.

To illustrate, our Commercial IoT business is heavily concentrated in the oil and gas industry and was negatively impacted by the downturn in this industry in recent years. As an example, our largest customer during 2018 and 2019 is a reseller to oil and gas companies. A high-volume customer not performing its trade obligations to us could adversely affect our cash flow and financial condition. Concentrations of customers in certain industries may further increase trade credit risk to our business if certain experience a similar economic downturn.

Our variable rate indebtedness subjects us to interest rate risk, which could cause our debt service obligations to increase significantly.

Our obligations under our Facility Agreement bear interest at a variable rate. As a result, an increase in interest rates could result in a substantial increase in interest expense.

Additionally, in July 2017, the Financial Conduct Authority in the United Kingdom ("FCA") announced that the Libor rate would be phased out and financial institutions would no longer need to make Libor submissions after 2021. Our Facility Agreement provides for a fallback rate in the event Libor is unable to be determined. At this time, we cannot provide assurance of the impact this Libor phase out will have on our financial statements and internal processes.

The loss of skilled management and personnel could impair our operations.

Our performance is substantially dependent on the performance and institutional knowledge of our senior management and key scientific and technical personnel. Further, we depend on the ability to attract talented employees to maintain consistent performance of our management, scientific and technical teams and the succession of institutional knowledge. Losing the services of any member of our senior management, scientific or technical staff or the inability to attract key employees may significantly delay or prevent the achievement of business objectives and could have a material adverse effect on our business, operating results and financial condition.

A natural disaster could diminish our ability to provide communications service.

Natural disasters could damage or destroy our ground stations and disrupt service to our customers. In addition, the collateral effects of disasters such as flooding may impair, damage or destroy our ground equipment. If a natural disaster were to impair, damage or destroy any of our ground facilities, we may be rendered unable to provide service to our customers in the affected area, either temporarily or indefinitely. Even if our gateways are not affected by natural disasters, our service could be disrupted if a natural disaster damages the public switch telephone network, terrestrial wireless networks or our ability to connect to the public switch telephone network or terrestrial wireless networks. Additionally, there are inherent dangers and risk associated with our satellite operations, including the risk of increased radiation. Any such failures or service disruptions could harm our business and results of operations.

We have been in the past from time to time, and may be in the future, subject to litigation and investigations that could have a substantial, adverse impact on our business.

From time to time we are subject to litigation, including claims related to our business activities, such as the securities claim, or Action, described in Note 10: Contingencies in our Consolidated Financial Statements in Part II, Item 8 of this Report. We have also been in the past from time to time, and may be in the future, subject to investigations by regulators and governmental agencies, including from the United States Department of the Treasury's Office of Foreign Assets Control, the United States Department of Commerce, Bureau of Industry and Security and the United States Immigration and Customs Enforcement. Irrespective of their merits, litigation and investigations may be both lengthy and disruptive to our operations and could cause significant expenditure and diversion of management attention. In our opinion there is no pending litigation, investigation, dispute or claim that could have a material adverse effect on our financial condition, results of operations or liquidity. However, we may be wrong in this assessment. Additionally, in the future we may become subject to additional litigation that could have a material adverse effect on our financial position and operating results, on the trading price of our securities and on our ability to access capital markets.

Wireless devices' radio frequency emissions are the subject of regulation and litigation concerning their environmental effects, which includes alleged health and safety risks. As a result, we may be subject to new regulations, demand for our services may decrease, and we could face liability based on alleged health risks.

There has been adverse publicity concerning alleged health risks associated with radio frequency transmissions from portable hand-held telephones that have transmitting antennas. Lawsuits have been filed against participants in the wireless communications industry alleging a number of adverse health consequences, including cancer, as a result of wireless phone usage. Other claims allege consumer harm from failures to disclose information about radio frequency emissions or aspects of the regulatory regimes governing those emissions. Although we have not been party to any such lawsuits, we may be exposed to such litigation in the future. Courts or governmental agencies could determine that we do not comply with applicable standards for radio frequency emissions and power or that there is valid scientific evidence that use of our devices poses a health risk. Any such finding could reduce our revenue and profitability and expose us and other communications service providers or device sellers to litigation, which, even if frivolous or unsuccessful, could be costly to defend.

If consumers' health concerns over radio frequency emissions increase, they may be discouraged from using wireless handsets. Further, government authorities might increase regulation of wireless handsets as a result of health concerns. Any actual or perceived risk from radio frequency emissions could reduce the number of our subscribers and demand for our products and services.

Risks Related to Government Regulations

Our business is subject to extensive government regulation, which mandates how we may operate our business and may increase our cost of providing services, slow our expansion into new markets and subject our services to additional competitive pressures.

Our ownership and operation of an MSS system are subject to significant regulation in the United States by the FCC and in foreign jurisdictions by similar authorities. Additionally, our use of our licensed spectrum globally is subject to coordination by the ITU. Our second-generation constellation has been licensed and registered in France. The rules and regulations of the FCC or these foreign authorities may change and may not continue to permit our operations as currently conducted or as we plan to conduct them. Further, certain foreign jurisdictions may decide to allow additional uses within our ITU-allocation of spectrum that may be incompatible with our continued provision of MSS.

Failure to provide services in accordance with the terms of our licenses or failure to operate our satellites, ground stations, or other terrestrial facilities (including those necessary to provide ancillary terrestrial component "ATC" services) as required by our licenses and applicable government regulations could result in the imposition of government sanctions against us, up to and including cancellation of our licenses.

Our system requires regulatory authorization in each of the markets in which we or the IGOs provide service. We and the IGOs may not be able to obtain or retain all regulatory approvals needed for operations. Regulatory changes, such as those resulting from judicial decisions or adoption of treaties, legislation or regulation in countries where we operate or intend to operate, may also significantly affect our business. Because regulations in each country are different, we may not be aware if some of the IGOs and/or persons with which we or they do business do not hold the requisite licenses and approvals.

Our current regulatory approvals could now be, or could become, insufficient in the view of foreign regulatory authorities. Furthermore, any additional necessary approvals may not be granted on a timely basis, or at all, in all jurisdictions in which we wish to offer services, and applicable restrictions in those jurisdictions could become unduly burdensome.

Our operations are subject to certain regulations of the United States State Department's Directorate of Defense Trade Controls (the export of satellites and related technical data), United States Treasury Department's Office of Foreign Assets Control (financial transactions and transactions with sanctioned persons or countries) and the United States Commerce Department's Bureau of Industry and Security (export of satellites and related technical data, our gateways and phones) and as well as other similar foreign regulations. These U.S. and foreign obligations and regulations may limit or delay our ability to offer products and services in a particular country. We may be required to provide U.S. and some foreign government law enforcement and security agencies with call interception services and related government assistance, in respect of which we face legal obligations and restrictions in various jurisdictions. These regulations may limit or delay our ability to operate in a particular country or engage in transactions with certain parties and may impose significant compliance costs. As new laws and regulations are issued, we may be required to modify our business plans or operations. If we fail to comply with these regulations in any country, we could be subject to sanctions that could affect, materially and adversely, our ability to operate in that country. Failure to obtain the authorizations necessary to use our assigned radio frequency spectrum and to distribute our products in certain countries could have a material adverse effect on our ability to generate revenue and on our overall competitive position.

Spectrum values historically have been volatile, and may again be volatile in the future, which could cause the value of our business to fluctuate.

Our business plan includes forming strategic partnerships to maximize the use and value of our spectrum, network assets and combined service offerings in the United States and internationally. Value that we may be able to realize from these partnerships will depend in part on the value ascribed to our spectrum. Historically, valuations of spectrum in other frequency bands have been volatile, and we cannot predict the future value that we may be able to realize for our spectrum and other assets. In addition, to the extent that the FCC makes additional spectrum available or promotes the more flexible use or greater availability (e.g., via spectrum leasing or new spectrum sales) of existing satellite or terrestrial spectrum allocations, the availability of such additional spectrum could reduce the value that we are able to realize for our spectrum.

Our business plan to use our licensed MSS spectrum to provide terrestrial wireless services depends upon action by third parties, which we cannot control.

Our business plan includes utilizing our licensed MSS spectrum to provide terrestrial wireless services, including mobile broadband applications, around the world. In support of these plans, in December 2016, the FCC adopted a Report and Order establishing rules permitting us to offer such services. In August 2017, the FCC modified Globalstar's MSS licenses, granting it authority to provide terrestrial broadband services over approximately 11.5 MHz of its satellite spectrum at 2483.5 MHz to 2495.0 MHz. Globalstar's MSS licenses, including its terrestrial authority, are valid through various specified terms, which we will seek to renew. In addition, we will need to comply with certain conditions in order to provide terrestrial broadband service under our MSS licenses, including obtaining FCC certifications for our equipment that will utilize this spectrum authority. We are seeking similar approvals in various foreign jurisdictions, including applying for licenses and commencing due diligence efforts. We cannot guarantee that such efforts will be successful.

We have entered into agreements with multiple third parties to develop an ecosystem of radios and devices using our terrestrially authorized spectrum. These third parties intend to use our terrestrially authorized spectrum to offer wireless services to their respective customers. Our anticipated future revenues and profitability is dependent upon the commercial success of their offerings. Further, we can provide no assurance that we can obtain authorizations to use our MSS spectrum for terrestrial wireless services in all countries, or any specific country. Nor can we provide any assurance that any particular country will not license the terrestrial use of our MSS spectrum to a third party without our consent.

Other future regulatory decisions could reduce our existing spectrum allocation or impose additional spectrum sharing agreements on us, which could adversely affect our services and operations.

Under the FCC's plan for MSS in our frequency bands, we must share frequencies in the United States with other licensed MSS operators. To date, there are no other authorized CDMA-based MSS operators and no pending applications for authorization. However, the FCC or other regulatory authorities may require us to share spectrum with other systems that are not currently licensed by the United States or any other jurisdiction. On February 11, 2013, Iridium filed its own petition for rulemaking seeking to have the FCC reallocate 2.725 MHz of "Big LEO" spectrum from 1616-1618.725 MHz for Iridium's exclusive use. Subsequently, Iridium modified its petition, requesting the ability to share additional spectrum licensed to Globalstar at 1616-1618.725 MHz. On November 1, 2017, Iridium withdrew its petition for rulemaking without prejudice. There can be no assurance, however, that Iridium will not file a similar petition for rulemaking in the future that requests either the redesignation of some amount of our 1.6 GHz spectrum for Iridium's exclusive use or the sharing of additional spectrum licensed to us. An adverse result in this proceeding could materially affect our ability to provide both one-way and two-way mobile satellite services.

We registered our second-generation constellation with the ITU through France rather than the United States. The French radio frequency spectrum regulatory agency, ANFR, submitted the technical papers filing to the ITU on our behalf in July 2009. As with the first-generation constellation, the ITU requires us to coordinate our spectrum assignments with other administrators and operators that use any portion of our spectrum frequency bands. We are actively engaged in but cannot predict how long the coordination process will take; however, we are able to use the frequencies during the coordination process in accordance with our national licenses.

In March 2014, the FCC adopted an order related to the 5 GHz band which, among other things, expanded the use of unlicensed terrestrial mobile broadband services within our C-band Forward Link (Earth Station to Satellite), which operates at 5091-5250 MHz. As part of this order, the FCC adopted certain technical requirements for the expanded unlicensed use within our licensed spectrum which were intended to protect our services from harmful interference. However, since the FCC order has been adopted, we have identified a noticeable increase in the ambient level of interference in the 5 GHz band. Although this increase does not currently affect the quality of our service to customers, should the noise floor rise above a certain level, we could experience a significant reduction in our satellite downlink capacity, resulting in degradation of quality of our service to customers. In May 2018, we petitioned the FCC to open a Notice of Inquiry to assess the potential future effects of continuing to allow unlicensed use of the 5 GHz band. We cannot assure you that the FCC will take any action in response to our Notice of Inquiry. Furthermore, other regulatory jurisdictions internationally may also consider similar expanded unlicensed use in the 5 GHz band that may have a significant adverse impact on our ability to provide mobile satellite services.

If the FCC revokes, modifies or fails to renew or amend our licenses, our ability to operate may be curtailed.

We hold FCC licenses for the operation of certain of our satellites, our U.S. gateways and other ground facilities and our mobile earth terminals that are subject to revocation if we fail to satisfy specified conditions or meet prescribed milestones. The FCC licenses are also subject to modification by the FCC. There can be no assurance that the FCC will renew the FCC licenses we hold. If the FCC revokes, modifies or fails to renew or amend any FCC licenses we hold, or if we fail to satisfy any of the conditions of our respective FCC licenses, then we may not be able to continue to provide mobile satellite communications services, which would have a material adverse effect on our business and operations.

If our French regulator, or any other regulator, revokes, modifies or fails to renew or amend our licenses, our ability to operate may be curtailed.

We hold licenses issued by, and subject to the continued regulatory jurisdiction of, the French Ministry for the Economy, Industry and Employment, French Ministry in charge of Space Activities ("MESR") and ARCEP, the French independent administrative authority of post and electronic communications regulations, for the operation of our second-generation satellites. These licenses are subject to revocation if we fail to satisfy specified conditions or meet prescribed milestones. These licenses are also subject to modification by the French regulators. There can be no assurance that the French regulators will renew the licenses we hold. If MESR, ARCEP or other French regulators revoke, modify or fail to renew or amend the licenses we hold or if we fail to satisfy any of the conditions of our respective French licenses, then we may not be able to continue to provide mobile satellite communications services, which would have a material adverse effect on our business and operations.

Furthermore, if we operate in any country without a valid license, we could face regulatory fines and criminal sanctions. We hold certain licenses in each country where our ground infrastructure is located. If we fail to maintain such licenses within any particular country, we may not be able to continue to operate the ground infrastructure located within that country, which could prevent us from continuing to provide mobile satellite communications services within that region. For example, ANATEL, the national telecommunications agency of Brazil, imposed a fine against us because we operated our gateway stations in Brazil without a valid license while we were working to renew such license. In October 2018, this matter was referred to the Brazil federal authorities, who are currently performing an investigation concerning the action of certain employees. We cannot predict the outcome of this investigation at this time, but the investigation and any potential penalties is limited to the certain employees being investigated.

Changes in international trade regulations and other risks associated with foreign trade could adversely affect our sourcing from foreign manufacturers.

We source our products from both domestic and foreign contract manufacturers, the largest concentration of which being in China. The adoption of regulations related to the importation of products, including quotas, duties, taxes and other charges or restrictions on imported goods, and changes in U.S. customs procedures could result in an increase in the cost of our products. Recently, the U.S. imposed increased tariffs on certain imports from China, including several of our products, resulting in lower gross margin on impacted products. The current tariffs could increase or expand to additional categories of products not currently covered. We cannot predict how any future tariffs or other trade restrictions will impact our business, but further trade restrictions on our products may result in further reductions to gross margin.

Additionally, delays in goods clearing customs or the disruption of international transportation lines used by us could result in our inability to deliver goods to customers in a timely manner or the loss of sales altogether. Current or future social and environmental regulations or critical issues, such as those relating to the sourcing of conflict minerals from the Democratic Republic of the Congo or the need to eliminate environmentally sensitive materials from our products, could restrict the supply of components and materials used in production and increase our costs. Any delay or interruption to our manufacturing process or in shipping our products could result in lost revenue, which would adversely affect our business, financial condition or results of operations.

Risks Related to Our Common Stock

Our common stock is traded on the NYSE American but could be delisted in the future, which may impair our ability to raise capital.

Our common stock is listed on the NYSE American under the symbol "GSAT." Broker-dealers may be less willing or able to sell and/or make a market in our common stock if it were delisted, which may make it more difficult for shareholders to dispose of, or to obtain accurate quotations for the price of, our common stock. Removal of our common stock from listing on the NYSE American may also make it more difficult for us to raise capital through the sale of our securities.

Additionally, if our common stock is not listed on a U.S. national stock exchange or approved for quotation and trading on a national automated dealer quotation system or established automated over-the-counter trading market, then holders of our 2013 8.00% Notes would have the option to require us to repurchase the notes, which we may lack sufficient financial resources to do.

Restrictive covenants in our Facility Agreement do not allow us to pay dividends on our common stock for the foreseeable future, which may affect the market for our shares.

We do not expect to pay cash dividends on our common stock. Our Facility Agreement currently prohibits the payment of cash dividends. Any future dividend payments are within the discretion of our board of directors and will depend on, among other things, our results of operations, working capital requirements, capital expenditure requirements, financial condition, contractual restrictions, business opportunities, anticipated cash needs, provisions of applicable law and other factors that our board of directors may deem relevant. We may not generate sufficient cash from operations in the future to pay dividends on our common stock. Our inability to pay dividends may limit the market for our shares.

The market price of our common stock is volatile, and there is a limited market for our shares.

The trading price of our common stock is subject to wide fluctuations. Factors affecting the trading price of our common stock may include, but are not limited to:

- actual or anticipated variations in our operating results;
- failure in the performance of our current or future satellites;
- changes in financial estimates by research analysts, or any failure by us to meet or exceed any such estimates, or changes in the recommendations of any research analysts that elect to follow our common stock or the common stock of our competitors;
- actual or anticipated changes in economic, political or market conditions, such as recessions or international currency fluctuations;
- actual or anticipated changes in the regulatory environment affecting our industry;
- actual or anticipated sales of common stock by our controlling stockholder or others;
- changes in the market valuations of our industry peers; and
- announcement by us or our competitors of significant acquisitions, strategic partnerships, divestitures, joint ventures or other strategic initiatives.

The trading price of our common stock may also decline in reaction to events that affect other companies in our industry even if these events do not directly affect us. Our stockholders may be unable to resell their shares of our common stock at or above the initial purchase price. Additionally, because we are a controlled company, there is a limited market for our common stock, and we cannot assure our stockholders that a trading market will further develop or persist. In periods of low trading volume, sales of significant amounts of shares of our common stock in the public market could lower the market price of our stock.

The future issuance of additional shares of our common stock could cause dilution of ownership interests and adversely affect our stock price.

We may issue our previously authorized and unissued securities, resulting in the dilution of the ownership interests of our current stockholders. We are authorized to issue 1.9 billion shares of common stock and 100 million shares of preferred stock. As of December 31, 2019, approximately 1.5 billion shares of common stock were issued and outstanding. As of December 31, 2019, there were 535.5 million shares available for future issuance (of which 100 million are designated as preferred), of which approximately 233.4 million shares were contingently issuable upon the exercise of stock options, the conversion of convertible notes and the vesting of restricted stock awards. On February 19, 2020, Thermo converted the entire principal amount outstanding under its 2009 Loan Agreement resulting in the issuance of 200.1 million shares of common stock; these shares were included in the contingently issuable count as of December 31, 2019. We may issue additional shares of our common stock or other securities that are convertible into, or exercisable for, common stock for raising capital or other business purposes. Future sales of substantial amounts of common stock, or the perception that such sales could occur, may have a material adverse effect on the price of our common stock.

We have issued and may issue shares of preferred stock or debt securities with greater rights than our common stock.

Our certificate of incorporation authorizes our board of directors to issue one or more series of preferred stock and set the terms of the preferred stock without seeking any further approval from holders of our common stock. Currently, there are 100 million shares of preferred stock authorized. Any preferred stock that is issued may rank ahead of our common stock in terms of dividends, priorities and liquidation premiums and have preferential voting rights to those held by the holders of our common stock.

If persons engage in short sales of our common stock, the price of our common stock may decline.

Selling short is a technique used by a stockholder to take advantage of an anticipated decline in the price of a security. A significant number of short sales or a large volume of other sales within a relatively short period of time can create downward pressure on the market price of a security. Further sales of common stock could cause even greater declines in the price of our common stock due to the number of additional shares available in the market, which could encourage short sales that could further undermine the value of our common stock. Holders of our securities could, therefore, experience a decline in the value of their investment as a result of short sales of our common stock.

Provisions in our charter documents, debt agreements and Delaware corporate law may discourage takeovers, which could affect the rights of holders of our common stock and convertible notes.

Provisions of Delaware law and our amended and restated certificate of incorporation, amended and restated bylaws and our debt agreements could hamper a third party's acquisition of us or discourage a third party from attempting to acquire control of us. These provisions include:

- the election of our Minority Directors by a plurality of the vote of our stockholders other than Thermo;
- the requirement that (i) any extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving us or any of our subsidiaries and (ii) any sale or transfer of a material amount of assets of Globalstar or any sale or transfer of assets of any of our subsidiaries which are material to us has to be approved by the Strategic Review Committee until such time as Thermo no longer beneficially owns at least 45% of our common stock;
- the ability of our board of directors to issue preferred stock with voting rights or with rights senior to those of the common stock without any further vote or action by the holders of our common stock;
- the division of our board of directors into three separate classes serving staggered three-year terms;
- the fact that if Thermo does not own a majority of our outstanding capital stock entitled to vote in the election of directors, our directors will be able to be removed for cause only with the affirmative vote of the holders of at least 66 2/3% of the outstanding shares of capital stock entitled to vote in the election of directors;
- prohibitions, at such time when Thermo does not own a majority of our outstanding capital stock entitled to vote in the election of directors, on our stockholders acting by written consent;
- prohibitions on our stockholders calling special meetings of stockholders or filling vacancies on our board of directors;
- the requirement, at such time when Thermo does not own a majority of our outstanding capital stock entitled to vote in the election of directors, that our stockholders must obtain a super-majority vote to amend or repeal our amended and restated certificate of incorporation or bylaws;
- change of control provisions in our Facility Agreement and Second Lien Term Loan Facility, which provide that a change of control will constitute an event of default and, unless waived by the lenders, will result in the acceleration of the maturity of all indebtedness under that agreement;
- change of control provisions relating to our 2013 8.00% Notes, which provide that a change of control will permit holders of those notes to demand immediate repayment; and
- change of control provisions in our 2006 Equity Incentive Plan, which provide that a change of control may accelerate the vesting of all outstanding stock options, stock appreciation rights and restricted stock.

We also are subject to Section 203 of the Delaware General Corporation Law, which, subject to certain exceptions, prohibits us from engaging in any business combination with any interested stockholder, as defined in that section, for a period of three years following the date on which that stockholder became an interested stockholder. This provision does not apply to Thermo, which became our principal stockholder prior to our initial public offering.

These provisions also could make it more difficult for our stockholders to take certain corporate actions, and could limit the price that investors might be willing to pay in the future for shares of our common stock.

We are controlled by Thermo, whose interests may conflict with yours.

As of December 31, 2019, Thermo owned approximately 58% of our outstanding common stock; additionally, Thermo owns convertible notes and warrants that may be converted into additional shares of common stock. As previously disclosed, in February 2020, Thermo converted the entire principal amount outstanding due under its 2009 Loan Agreement resulting in the issuance of 200.1 million shares of voting common stock; this issuance increased Thermo's ownership of common stock to approximately 63%. Although extraordinary corporate transactions, material sales of assets and certain transactions with related parties must be approved by the Strategic Review Committee, to the extent these and other matters are also subject to a vote of our shareholders, Thermo is able to control such vote. These matters include the election of certain members of our board of directors and numerous other matters, including changes of control and other significant corporate transactions, so long as these transactions are not between Thermo and Globalstar and until such time as Thermo shall no longer be the beneficial owner of 45% or more of our outstanding common stock.

We have depended substantially on Thermo to provide capital to finance our business. In 2006 and 2007, Thermo purchased an aggregate of \$200 million of common stock at prices substantially above market. On December 17, 2007, Thermo assumed all of the obligations and was assigned all of the rights (other than indemnification rights) of the administrative agent and the lenders under our amended and restated credit agreement. To fulfill the conditions precedent to our Facility Agreement, in 2009, Thermo converted the loans outstanding under the credit agreement into equity and terminated the credit agreement. In addition, Thermo and its affiliates deposited \$60.0 million in a contingent equity account to fulfill a condition precedent for borrowing under the Facility Agreement, purchased \$20.0 million of our 5.0% Notes, which were subsequently converted into shares of common stock in 2013, purchased \$11.4 million of our 2013 8.00% Notes, which were subsequently converted into shares of common stock, loaned us \$37.5 million to fund our debt service reserve account under the Facility Agreement and funded a total of \$65.0 million during 2013 pursuant to the terms of the Equity Commitment, Restructuring and Consent Agreement, the Common Stock Purchase Agreement and the Common Stock Purchase and Option Agreement. In June 2017, Thermo purchased \$33.0 million of our common stock to provide funds required by our lenders to obtain an amendment to our Facility Agreement. In October 2017 and December 2018, Thermo purchased \$43.3 million and \$49.3 million, respectively, of our common stock in connection with our public stock offerings. In July 2019, Thermo loaned us \$53.8 million in a Subordinated Loan Agreement with other unaffiliated lenders. In November 2019, the Subordinated Loan Agreement was paid in full with proceeds from the Second Lien Term Loan Facility, in which Thermo contributed an additional \$41.3 million for a total principal loan amount of \$95.1 million in the Second Lien Term Loan Facility.

Thermo is controlled by James Monroe III, our Executive Chairman. Through Thermo, Mr. Monroe holds equity interests in, and serves as an executive officer or director of, a diverse group of privately-owned businesses not otherwise related to us. We reimburse Thermo and Mr. Monroe for certain third party, documented, out-of-pocket expenses they incur in connection with our business.

The interests of Thermo may conflict with the interests of our other stockholders. Thermo may take actions it believes will benefit its equity investment in us or loans to us even though such actions might not be in your best interests as a holder of our common stock.

Item 1B. Unresolved Staff Comments

Not Applicable

Item 2. Properties

As of December 31, 2019, our principal headquarters are located in Covington, Louisiana. We own or lease the facilities described in the following table (in approximate square feet):

Location	Country	Square Feet	Facility Use	Owned/Leased
Covington, Louisiana	USA	69,365	Corporate Offices	Leased
Milpitas, California	USA	12,375	Satellite and Ground Control Center	Leased
Managua	Nicaragua	10,900	Gateway	Owned
Clifton, Texas	USA	10,000	Gateway	Owned
Los Velasquez, Edo Miranda	Venezuela	9,700	Gateway	Owned
Mississauga, Ontario	Canada	9,502	Canada Office	Leased
Sebring, Florida	USA	12,375	Gateway	Leased
Aussaguel	France	7,502	Satellite Control Center and Gateway	Leased
Smith Falls, Ontario	Canada	6,500	Gateway	Owned
High River, Alberta	Canada	6,500	Gateway	Owned
Barrio of Las Palmas, Cabo Rojo	Puerto Rico	6,000	Gateway	Owned
Wasilla, Alaska	USA	5,000	Gateway	Owned
Seletar Satellite Earth Station	Singapore	4,500	Gateway	Leased
Petrolina	Brazil	2,500	Gateway	Owned
Rio de Janeiro	Brazil	2,120	Brazil Office	Leased
Gaborone	Botswana	2,000	Gateway	Leased
Manaus	Brazil	1,900	Gateway	Owned
Presidente Prudente	Brazil	1,300	Gateway	Owned
Dublin	Ireland	1,280	Ireland Office	Leased
Panama City	Panama	1,100	Panama Office	Leased
Bosque Alegre, Argentina	Argentina	862	Gateway	Owned
Gaborone	Botswana	270	Botswana Office	Leased

Our owned properties in Clifton, Texas and Wasilla, Alaska are encumbered by liens in favor of the administrative agents under our Facility Agreement and Second Lien Term Loan Facility for the benefit of the lenders thereunder. See Part II, Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources - Contractual Obligations and Commitments* in this Report.

Item 3. Legal Proceedings

For a description of our material legal and regulatory proceedings and settlements, see Note 10: Contingencies in our Consolidated Financial Statements in Part II, Item 8 of this Report.

Item 4. Mine Safety Disclosures

Not Applicable

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Common Stock Information

Our common stock trades on the NYSE American under the symbol "GSAT".

As of February 21, 2020, 1,665,377,204 shares of our common stock were outstanding, held by 221 holders of record. The number of holders of record is based upon the actual number of holders registered at such date and does not include holders of shares in street name or persons, partnerships, associates, corporations or other entities in security position listings maintained by depositories.

Dividend Information

We have never declared or paid any cash dividends on our common stock. Our Facility Agreement and Second Lien Term Loan Facility prohibit us from paying dividends. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. See Note 6: Long-Term Debt and Other Financing Arrangements in our Consolidated Financial Statements for further discussion.

Item 6. Selected Financial Data

The following table presents our selected consolidated financial data for the periods indicated. We derived the historical data from our audited Consolidated Financial Statements.

You should read the data set forth below together with our Consolidated Financial Statements and the related notes thereto included in Part II, Item 8 of this Report and the discussion in Part II, Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations* in this Report.

On January 1, 2019, we adopted Accounting Standards Codification ("ASC") Topic 842, "Leases" ("ASC 842"). We adopted this standard using the modified retrospective method and, as such, prior period amounts reflected in the tables and discussion below have not been adjusted.

On January 1, 2018, we adopted Accounting Standards Codification ("ASC") Topic 606, "Revenue from Contracts with Customers" ("ASC 606"). We adopted this standard using the modified retrospective method and, as such, prior period amounts reflected in the tables and discussion below have not been adjusted.

(in thousands)	December 31,				
	2019	2018	2017	2016	2015
Statement of Operations Data (year ended):					
Revenue	\$ 131,718	\$ 130,113	\$ 112,660	\$ 96,861	\$ 90,490
Operating loss	(64,046)	(47,379)	(68,446)	(63,253)	(66,604)
Other income (expense)	79,915	40,988	(20,438)	(75,936)	140,318
Income (loss) before income taxes	15,869	(6,391)	(88,884)	(139,189)	73,714
Net income (loss)	15,324	(6,516)	(89,074)	(132,646)	72,322
Net income (loss) per share - basic	0.01	(0.01)	(0.08)	(0.12)	0.07
Net income (loss) per share - diluted	(0.07)	(0.01)	(0.08)	(0.12)	(0.08)
Balance Sheet Data (end of period):					
Cash and cash equivalents	7,606	15,212	41,644	10,230	7,476
Property and equipment, net	799,914	882,695	971,119	1,039,719	1,077,560
Total assets	965,590	1,045,482	1,129,265	1,132,614	1,175,015
Current maturities of long-term debt	—	96,249	79,215	75,755	32,835
Long-term debt, less current maturities	464,176	367,202	434,651	500,524	548,286
Stockholders' equity	407,343	358,945	291,224	161,819	237,131

During the third quarter of 2019, we identified a misapplication of GAAP in the previously reported calculation of net income (loss) attributable to common stockholders in the numerator of diluted EPS for certain prior periods. The correction of this calculation had no impact on net income (loss), retained deficit or any other financial statement line items. For comparative purposes, prior period calculations of diluted EPS have been adjusted to conform to current period presentation, as necessary, throughout this filing.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis should be read in conjunction with our Consolidated Financial Statements and applicable notes to our Consolidated Financial Statements and other information included elsewhere in this Report, including risk factors disclosed in Part I, Item IA. Risk Factors. The following information contains forward-looking statements, which are subject to risks and uncertainties. Should one or more of these risks or uncertainties materialize, our actual results may differ from those expressed or implied by the forward-looking statements. See "Forward-Looking Statements" at the beginning of this Report.

Performance Indicators

Our management reviews and analyzes several key performance indicators in order to manage our business and assess the quality and potential variability of our earnings and cash flows. These key performance indicators include:

- total revenue, which is an indicator of our overall business growth;
- subscriber growth and churn rate, which are both indicators of the satisfaction of our customers;
- average monthly revenue per user, or ARPU, which is an indicator of our pricing and ability to obtain effectively long-term, high-value customers. We calculate ARPU separately for each type of our Duplex, Commercial IoT, SPOT and IGO revenue;
- operating income and adjusted EBITDA, both of which are indicators of our financial performance; and
- capital expenditures, which are an indicator of future revenue growth potential and cash requirements.

Comparison of the Results of Operations for the years ended December 31, 2019 and 2018

Revenue:

During the twelve months ended December 31, 2019, total revenue increased \$1.6 million to \$131.7 million from \$130.1 million in 2018. This increase was impacted by an out-of-period adjustment of \$3.9 million during the third quarter of 2019 related to a change in the calculation of the estimated impact from the initial adoption of ASC 606. Excluding this adjustment, total revenue decreased \$2.3 million from 2018. This decrease was due primarily to a \$1.6 million decrease in service revenue, driven by fewer Duplex subscribers as well as lower revenue recognized from government contracts. These items were offset by increases in Commercial IoT subscribers and ARPU as well as Duplex ARPU. Revenue generated from subscriber equipment sales decreased \$0.7 million, which resulted primarily from lower volume and pricing of Duplex and SPOT units sold.

The following table sets forth amounts and percentages of our revenue by type of service (dollars in thousands).

	Year Ended December 31, 2019		Year Ended December 31, 2018	
	Revenue	% of Total Revenue	Revenue	% of Total Revenue
Service Revenue:				
Duplex ⁽¹⁾	\$ 39,794	31%	\$ 41,223	32%
SPOT	50,461	40%	52,363	40%
Commercial IoT	16,972	13%	13,459	10%
IGO	497	—%	932	1%
Other	1,777	1%	3,112	2%
Total Service Revenue	\$ 109,501	85%	\$ 111,089	85%

⁽¹⁾ As previously disclosed, we recorded an out-of-period adjustment of \$3.9 million during 2019 as a result of a change in the estimated impact of ASC 606. This adjustment, which increased Duplex service revenue, is excluded from Duplex service revenue in the table above. The percentage of total revenue calculations also exclude this adjustment.

The following table sets forth amounts and percentages of our revenue generated from equipment sales (dollars in thousands).

	Year Ended December 31, 2019		Year Ended December 31, 2018	
	Revenue	% of Total Revenue	Revenue	% of Total Revenue
Equipment Revenue:				
Duplex	\$ 1,325	1%	\$ 2,021	2%
SPOT	7,617	6%	8,425	6%
Commercial IoT	9,300	8%	8,444	7%
Other	90	—%	134	—%
Total Equipment Revenue	\$ 18,332	15%	\$ 19,024	15%

The following table sets forth our average number of subscribers and ARPU by type of revenue.

	December 31,	
	2019	2018
Average number of subscribers for the year ended:		
Duplex	56,856	65,501
SPOT	281,584	291,289
Commercial IoT	399,960	354,678
IGO	26,553	31,537
Other	928	1,140
Total	765,881	744,145
ARPU (monthly):		
Duplex ⁽¹⁾	\$ 58.33	\$ 52.45
SPOT	14.93	14.98
Commercial IoT	3.54	3.16
IGO	1.56	2.46

⁽¹⁾ As previously disclosed, we recorded an out-of-period adjustment of \$3.9 million during 2019 as a result of a change in the estimated impact of ASC 606. This adjustment, which increased Duplex service revenue, is excluded from Duplex ARPU in the table above. When the out-of-period adjustment is included in the calculation, ARPU for the twelve months ended December 31, 2019 is \$64.02.

The numbers reported in the above table are subject to immaterial rounding inherent in calculating averages.

During the twelve months ended December 31, 2019, gross Duplex and SPOT subscriber additions were 9,516 and 70,471, respectively. During 2018, gross Duplex and SPOT subscriber additions were 11,589 and 69,607, respectively. Duplex gross subscriber additions were higher in 2018 as we experienced higher demand due to lower service plan prices in effect and higher availability of inventory. SPOT gross subscriber activations increased slightly from 2018 to 2019 due primarily to sales of SPOT X[®], despite a high volume of sales from its launch in May 2018; the increase in SPOT X[®] activations was offset by lower activations of other SPOT products. Because our Commercial IoT subscribers are able to activate and deactivate their units several times during the year, gross Commercial IoT subscriber additions are not considered to be a meaningful metric.

We count "subscribers" based on the number of devices that are subject to agreements that entitle them to use our voice or data communications services rather than the number of persons or entities who own or lease those devices.

Other service revenue includes revenue generated primarily from sources which are not subscriber driven, such as engineering services. Accordingly, we do not present ARPU for other service revenue in the table above.

Service Revenue

As discussed above, we recorded a one-time out-of-period adjustment of \$3.9 million during the third quarter of 2019, which increased Duplex service revenue. Excluding this adjustment, Duplex service revenue decreased 3% in 2019 driven by a decrease in average subscribers offset partially by an increase in ARPU. The decrease in average subscribers was due to lower gross activations resulting from fewer equipment sales over the last twelve months as well as normal churn in the subscriber base. We have various initiatives underway to drive higher Duplex activations. We released an improved Sat-Fi2[®] device during September 2019 as well as a derivative product, the Sat-Fi2[®] Remote Antenna Station ("RAS"), during October 2019 to expand the use cases for the Sat-Fi2[®] device. Further development efforts are underway to launch additional derivative products of this device. As shown in the table above, excluding the one-time adjustment during 2019, ARPU increased 11% due to rate plan changes from previous periods that have now been rolled out to most of the subscriber base.

SPOT service revenue decreased 4% in 2019 due primarily to a 3% decrease in average subscribers. During 2019, the Company deactivated approximately 10,000 nonpaying customers, particularly in Latin America, and approximately 5,000 customers due to inadvertent credit card processing issues resulting from a change in merchant service processors. Excluding this involuntary churn, ending SPOT subscribers would have been in line with 2018 and average subscribers would have decreased 1%. ARPU remained relatively flat for 2019 compared to 2018; however, it was impacted by the timing and amount of certain transactions during 2018 that did not recur during 2019, including primarily incremental revenue recorded during the second quarter of 2018 of \$0.4 million related to the collection of a customer account that was previously treated as uncollectible.

Commercial IoT service revenue increased 26% in 2019 due to increases in both ARPU and average subscribers. Higher ARPU contributed \$1.8 million to the increase in service revenue from 2018. The increase in ARPU was driven in part by higher usage and a more favorable blend of rate plans in place during 2019. Higher average subscribers contributed \$1.7 million to the increase in Commercial IoT service revenue from 2018. The increase in average subscribers was driven by higher Commercial IoT equipment sales during the last twelve months, primarily due to continued success with our SmartOne family of asset tracking units.

Other service revenue decreased \$1.3 million, or 42%, in 2019. Lower revenue generated from government contracts due to regulatory delays represented nearly all of the decline.

Subscriber Equipment Sales

Revenue from Duplex equipment sales decreased \$0.7 million, or 35%, in 2019. The decline in revenue was driven primarily by a lower sales volume of Duplex accessories as well as fixed devices and data modems due to the availability of these first-generation products. In April 2018, we released a second-generation Duplex device, Sat-Fi2[®]. Based on initial customer feedback, we slowly released this product into the market as we focused on optimizing functionality, performance and usability; therefore, sales of this device have been lower than expected. We released an improved Sat-Fi2[®] device during the third quarter of 2019 and a Sat-Fi2[®] RAS device in October 2019. Development efforts are underway to launch further derivative products of the Sat-Fi2[®] device.

Revenue from SPOT equipment sales decreased \$0.8 million, or 10%, in 2019. The decrease was driven by lower volume and pricing of certain SPOT products. The impact due to pricing was driven by more aggressive discounts and promotions offered during 2019; these promotions are expected to contribute to higher activations and service revenue in future periods. The impact due to a lower sales volume was due primarily to fewer sales of our SPOT Gen3[®] device, which was driven by various factors, including higher service pricing in effect during most of 2019 and the success of SPOT X[®]. Sales of our SPOT X[®] device, our first two-way SPOT product, increased year over year and are sold at a higher price than our other SPOT products, positively impacting revenue from SPOT equipment sales.

Revenue from Commercial IoT equipment sales increased \$0.9 million, or 10%, in 2019. Volume for almost all Commercial IoT devices increased from 2018 to 2019; however, for certain products, the revenue contribution was flat due to pricing. The increase in revenue from Commercial IoT equipment sales is attributable primarily to sales of our new SmartOne Solar[™].

Operating Expenses:

Total operating expenses increased \$18.3 million, or 10%, to \$195.8 million in 2019 from \$177.5 million in 2018. As discussed further below, the increase in total operating expenses was driven primarily by a \$20.5 million revision to our contract termination charge with Thales during 2018 that reduced operating expenses in 2018 and did not recur in 2019. Increases in depreciation, amortization and accretion expense, higher cost of subscriber equipment sales and reductions in the value of both long-lived assets and inventory also contributed to higher operating expenses. Offsetting these increases were lower marketing, general and administrative costs.

Cost of Services

Cost of services decreased \$0.1 million, or less than 1%, to \$37.5 million in 2019 from \$37.6 million in 2018. The decrease was driven by a decrease in vendor support costs for our ground network of \$0.9 million. Lower research and development costs of \$0.2 million associated with the timing and scope of product development initiatives also contributed to the decrease. These decreases were offset by higher personnel costs of \$1.0 million, due to the timing and scope of capital projects.

Cost of Subscriber Equipment Sales

Cost of subscriber equipment sales increased by \$1.4 million, or 10%, to \$15.8 million in 2019 from \$14.4 million in 2018.

In September 2019, U.S Customs and Border Protection ("CBP") issued a ruling related to the classification of certain of our core products imported from China. This classification, which carries 25% tariffs upon import, is inconsistent with the classification we previously used based on external legal advice. As a result of the CBP ruling, during 2019 we have expensed \$1.2 million in tariffs for products sold since July 2018. We plan on filing a protest against this ruling to challenge the classification and reduce the amounts owed but cannot provide any assurance that we may be successful in achieving a favorable outcome. Excluding the \$1.2 million increase in cost of equipment sales due to the China tariff ruling, the remaining fluctuation is generally consistent with the changes in revenue generated from subscriber equipment sales during the respective periods.

Cost of Subscriber Equipment Sales - Reduction in the Value of Inventory

During 2019, we wrote down the value of inventory by \$0.4 million after adjusting for changes in the net realizable value of gateway spare parts due to excess. A similar inventory reserve was not required during 2018.

Marketing, General and Administrative

Marketing, general and administrative expenses decreased \$10.2 million, or 18%, to \$45.2 million in 2019 from \$55.4 million in 2018.

2018 included costs to support the now-terminated merger and associated litigation (see Note 10: Contingencies for further discussion); these costs did not recur at the same level in 2019, resulting in a decrease in costs of \$13.0 million, including a gain of \$1.7 million for an insurance recovery (previously treated as a contingent gain) related to this shareholder litigation. We also had a decrease in stock based compensation of \$1.3 million driven by additional grants to certain employees during the fourth quarter of 2018, including the modification of certain stock awards resulting from the departure of four members of the Board of Directors in December 2018. Offsetting these expense reductions was the write-off of \$3.1 million of previously-capitalized financing costs associated with our initial efforts to refinance our debt obligations through the issuance of a new first lien facility. This write-off was made during the third and fourth quarters of 2019 following the amendment of our existing Facility Agreement and closing of our Second Lien Term Loan Facility in November 2019. Occupancy costs also increased \$1.2 million, resulting primarily from our move into a new headquarters location in February 2019. As a result of this relocation, our annual rent expense, including associated taxes and other operating costs, has increased; the estimated annualized impact of these higher occupancy costs is \$1.5 million. Other smaller items contributed to the remaining change.

Reduction in the Value of Long-Lived Assets

During 2019, we recorded a reduction in the carrying value of long-lived assets of \$1.1 million resulting from the change in classification from held and used to held for sale of our former gateway location in Nicaragua. We reduced the carrying value to the lower of cost or fair value less estimated cost to sell during the fourth quarter of 2019.

Revision to Contract Termination Charge

In May 2018, the statute of limitations for Thales to enforce the arbitration award pursuant to the Federal Arbitration Act expired. Accordingly, we believe that payment of the contract termination charge is not probable, and we removed this liability from our consolidated balance sheet during the second quarter of 2018, resulting in a reduction in operating expenses of €17.5 million, or \$20.5 million. See Note 9: Contingencies in our Consolidated Financial Statements in our 2018 Annual Report on Form 10-K for further discussion.

Depreciation, Amortization and Accretion

Depreciation, amortization, and accretion expense increased \$5.4 million to \$95.8 million in 2019 compared to \$90.4 million in 2018. This increase was due primarily to placing our next-generation ground infrastructure into service during 2018. Since April 1, 2018, we have placed into service approximately \$220.4 million of construction in progress (including capitalized interest) associated with our next-generation ground infrastructure. The costs placed into service represent primarily the gateways capable of supporting commercial traffic from Sat-Fi2[®], the first device to work on our upgraded network. We expect depreciation expense for these assets to be approximately \$3.7 million per quarter for an estimated life of fifteen years.

Other Income (Expense):

Interest Income and Expense

Interest income and expense, net, increased \$18.9 million to expense of \$62.5 million for 2019 compared to expense of \$43.6 million for 2018. This increase was driven by an increase in gross interest costs of \$12.5 million as well as a reduction to capitalized interest of \$6.6 million (which increases interest expense). These increases were partially offset by higher interest income of \$0.2 million earned on our restricted cash account.

The increase in gross interest costs was impacted by a few items, including \$4.5 million of interest (including \$0.5 million of amortization of deferred financing costs) associated with the Subordinated Loan Agreement that we entered into in June 2019 (which was repaid in November 2019), \$2.9 million of interest (including \$0.3 million of accretion of debt discount and amortization of deferred financing costs) associated with the Second Lien Term Loan Facility that we entered into in November 2019 and \$2.2 million of interest (including \$0.4 million of accretion of debt discount) driven by a higher principal balance outstanding on our Loan Agreement with Thermo. Amortization related to the Facility Agreement also increased interest expense by \$5.4 million, including primarily the write-off of a portion of remaining deferred financing costs resulting from the modification of the Facility Agreement in November 2019. Offsetting these increases was a decrease of \$2.3 million in interest for our Facility Agreement driven by a lower principal amount outstanding and other interest costs of \$0.2 million.

Derivative Gain

We recorded derivative gains of \$145.1 million and \$81.1 million in 2019 and 2018, respectively. We recognize gains or losses due to the change in the value of certain embedded features within our debt instruments that require standalone derivative accounting. Although fluctuation in our stock price is a significant cause for the change in value of these derivative instruments, other inputs impact the value including stock price volatility, discount rate, maturity date, probabilities of conversion and change of control, the base conversion rate and changes in the principal amount of notes outstanding. During 2019, the derivative gains were recognized primarily due to the assumed high probability of conversion of the Loan Agreement with Thermo in early 2020, which decreases the value of our derivative liabilities. See Note 8: Fair Value Measurements to our Consolidated Financial Statements for further discussion of the computation of the fair value of our derivatives.

Gain on Legal Settlement

In May 2018, we concluded the settlement of a business economic loss claim in which we received proceeds of \$7.4 million, net of legal fees. We received the two installments of \$3.7 million in each of January 2019 and 2020. During the second quarter of 2018, we recorded \$6.8 million, the present value of such proceeds, as other income in our consolidated statement of operations. During the second quarter of 2019, in connection with a follow-on settlement related to this matter, we received additional proceeds of \$0.1 million and recorded the gross amount of these proceeds as other income in our consolidated statement of operations. See Note 10: Contingencies to our Consolidated Financial Statements for further discussion.

Other

Other expense decreased to \$2.8 million in 2019 compared to \$3.3 million in 2018. Changes in other income (expense) are due primarily to foreign currency gains and losses recognized during the respective periods given the significant financial statement items we have denominated in foreign currencies, including primarily the Brazilian real, euro and Canadian dollar. Total foreign currency losses were \$3.1 million in 2018 compared to gains of \$0.1 million in 2019. Offsetting this decrease were \$2.1 million in legal and other adviser costs incurred related to the modification of our Facility Agreement during 2019 (see Note 6: Long-Term Debt and Other Financing Arrangements for further discussion), which were recorded to non-operating expense under applicable accounting guidance. We also record the non-operating components of net periodic benefit cost to other income (loss), which increased \$0.5 million from 2018 to 2019 due primarily to the settlement of a portion of our pension liability related to terminated vested employees in December 2019.

Income Tax Expense

Income tax expense increased \$0.4 million to \$0.5 million in 2019 compared to \$0.1 million in 2018. During 2019, we recorded a deferred state tax liability with an offsetting expense of \$0.4 million related to net operating loss limitations on deferred tax balances in certain states within the United States.

Comparison of the Results of Operations for the years ended December 31, 2018 and 2017

Discussion of the results of operations for the years ended December 31, 2018 and 2017 can be found in the Globalstar Annual Report on Form 10-K for the year ended December 31, 2018, as filed with the SEC on February 28, 2019.

Liquidity and Capital Resources

Our principal liquidity requirements include paying our debt service obligations and funding our operating costs, including certain contractual obligations discussed in the "*Contractual Obligations and Commitments*" section below. Our principal sources of liquidity include cash on hand, restricted cash and cash flows from operations.

Cash Flows for the years ended December 31, 2019, 2018 and 2017

The following table shows our cash flows from operating, investing and financing activities (in thousands):

Statements of Cash Flows	Year Ended December 31,		
	2019	2018	2017
Net cash provided by operating activities	\$ 3,048	\$ 5,920	\$ 13,857
Net cash used in investing activities	(11,491)	(17,401)	(20,776)
Net cash provided by (used in) financing activities	(7,923)	(18,196)	63,790
Effect of exchange rate changes on cash, cash equivalents and restricted cash	4	(112)	195
Net increase (decrease) in cash, cash equivalents and restricted cash	<u>\$ (16,362)</u>	<u>\$ (29,789)</u>	<u>\$ 57,066</u>

Cash Flows Provided by Operating Activities

Net cash provided by operations includes primarily cash receipts from subscribers related to the purchase of equipment and satellite voice and data services. We use cash in operating activities primarily for personnel costs, inventory purchases and other general corporate expenditures. Net cash provided by operating activities was \$3.0 million during 2019 compared to \$5.9 million during 2018. This decrease was due primarily to lower net income after adjusting for non-cash items. Lower net income was driven by: 1) higher interest expense driven by a lower amount of cash interest capitalized during 2019 as well as higher gross interest payments due to the payment of accrued interest on the Subordinated Loan Agreement in November 2019, 2) costs associated with efforts to refinance our debt obligations, including a) the write-off of financing costs for the issuance of new first-lien debt that was ultimately not pursued, as well as third-party costs to support the modification of our Facility Agreement and b) the write-off of a portion of remaining deferred financing costs resulting from the partial paydown of the Facility Agreement, and 3) the higher cost of goods sold for tariffs resulting from a recent ruling on the classification of certain of our products. Offsetting the decrease due to lower net income were favorable working capital changes, including primarily the timing of prepaid and other assets as well as other non-current liabilities.

Net cash provided by operating activities was \$5.9 million during 2018 compared to \$13.9 million during 2017. This decrease was due to unfavorable changes in certain operating assets and liabilities, primarily resulting from the timing of prepaid assets. These unfavorable changes were offset by higher net income, after adjusting for non-cash items, driven in part by price increases for our Duplex and SPOT subscribers, coupled with higher Commercial IoT and SPOT equipment sales.

Cash Flows Used in Investing Activities

Net cash used in investing activities was \$11.5 million during 2019 compared to \$17.4 million during 2018. This decrease was due primarily to a reduction in the amount of cash interest capitalized of \$2.9 million. As previously disclosed, our construction in progress balance has decreased significantly since 2018, specifically related to our ground network; therefore, the amount of interest eligible to be capitalized is lower. Also contributing to the variance in cash used in investing activities were fewer property and equipment purchases related to our ground network and product development, including software and other back-office efforts.

Net cash used in investing activities was \$17.4 million during 2018 compared to \$20.8 million during 2017. This decrease was driven by lower second-generation network additions in 2018 as we substantially completed the deployment of our next-generation ground infrastructure. This decrease was offset partially by higher property and equipment additions during 2018 as we incurred costs to bring our newly developed products into production, including software and other back-office efforts.

Cash Flows Provided (Used in) by Financing Activities

Net cash used in financing activities was \$7.9 million in 2019 compared to \$18.2 million in 2018. In June 2019, we entered into a \$62.0 million Subordinated Loan Agreement, the proceeds from which were used in part to pay principal of \$47.4 million towards our Facility Agreement. In November 2019, we completed a broad refinancing, which included the issuance of a \$193.0 million Second Lien Term Loan Facility. The proceeds, net of a \$6.0 million, or 3% OID, combined with cash on hand and restricted cash were used to prepay a portion of our Facility Agreement of \$151.6 million. Proceeds from the Second Lien Term Loan Facility were also used to pay off the entire balance of the Subordinated Loan Agreement of \$62.0 million plus accrued interest of \$4.0 million. We incurred \$6.2 million in debt financing costs associated with the November 2019 refinancing. Additionally, we issued warrants to purchase shares of our common stock to each of the Second Lien Term Loan Facility lenders. In December 2019, Thermo exercised 9.5 million warrants resulting in cash proceeds to us of \$3.6 million.

Net cash used in financing activities was \$18.2 million in 2018 compared to cash provided by financing activities of \$63.8 million in 2017. The change in financing activities was driven primarily by lower cash proceeds from equity financings in 2018, resulting in a decline of cash provided to us of \$100.9 million, offset partially by lower debt service payments due primarily by the payment of a \$20.8 million debt restructuring fee in 2017 that did not recur in 2018.

Overview

As of December 31, 2019, we held cash and cash equivalents of \$7.6 million and restricted cash of \$51.5 million, consisting of the balance in our debt service reserve account under our Facility Agreement. The Facility Agreement restricts the use of these funds to making principal and interest payments under the Facility Agreement. See below for further discussion. As of December 31, 2018, we held cash and cash equivalents of \$15.2 million and had \$60.3 million in restricted cash.

The carrying amount of our long-term debt outstanding was \$464.2 million at December 31, 2019, compared to current and long-term debt of \$96.2 million and \$367.2 million, respectively, at December 31, 2018. The current portion of our debt represents primarily principal payments under our Facility Agreement scheduled to occur within 12 months of the balance sheet date. We had no current debt outstanding at December 31, 2019 following the amendment to the principal amortization schedule in our Facility Agreement in November 2019.

The \$0.8 million increase in the carrying amount of our total debt balance was due to the following: 1) the issuance of the Second Lien Term Loan Facility in November 2019; the carrying value of the Second Lien Term Loan Facility was \$166.0 million at December 31, 2019, which includes PIK interest of \$2.5 million and is net of a \$35.4 million debt discount, 2) a higher carrying value of the Loan Agreement with Thermo due to interest accruing on that debt and accretion of the debt discount of \$19.5 million, and 3) a higher carrying value of the Facility Agreement due to accretion and a partial write-off of debt financing costs of \$14.2 million following the Facility Agreement amendment. This increase in our total debt balance was offset partially by principal payments of \$199.0 million of the Facility Agreement, including \$24.6 million using proceeds from the debt service reserve account and cash on hand in November 2019, and \$174.5 million using proceeds from the Subordinated Loan Agreement and Second Lien Term Loan Facility.

Indebtedness and Available Credit

Facility Agreement

In 2009, we entered into the Facility Agreement, which was amended and restated in July 2013, August 2015, June 2017 and November 2019. The Facility Agreement is scheduled to mature in December 2022.

Our indebtedness under the Facility Agreement bears interest at a floating rate of LIBOR plus 4.25% through June 2020, increasing by an additional 0.5% each year thereafter to a maximum rate of LIBOR plus 5.75%. Interest on the Facility Agreement is payable semi-annual in arrears in June and December of each calendar year. Ninety-five percent of our obligations under the Facility Agreement are guaranteed by Bpifrance Assurance Export S.A.S. ("BPIFAE") (formerly COFACE). Our obligations under the Facility Agreement are guaranteed on a senior secured basis by all of our domestic subsidiaries and are secured by a first priority lien on substantially all of our assets and our domestic subsidiaries (other than their FCC licenses), including patents and trademarks, 100% of the equity of our domestic subsidiaries and 65% of the equity of certain foreign subsidiaries.

The Facility Agreement contains customary events of default and requires that we satisfy various financial and non-financial covenants. The compliance calculations of the financial covenants of the Facility Agreement permit us to include certain cash funds we receive from the issuance of our common stock and/or subordinated indebtedness. We refer to these funds as "Equity Cure Contributions". If we violate any covenants and are unable to obtain a sufficient Equity Cure Contribution or a waiver, or

are unable to make payments to satisfy our debt obligations under the Facility Agreement and are unable to obtain a waiver, we would be in default under the Facility Agreement, and the lenders could accelerate payment of the indebtedness. As of December 31, 2019, we were in compliance with respect to the covenants of the Facility Agreement.

The Facility Agreement requires that we maintain a debt service reserve account that is pledged to secure our obligations under the Facility Agreement. As part of the amendment to the Facility Agreement in November 2019, the required balance in the debt service reserve account is now fixed. As of December 31, 2019, the balance in the debt service reserve account was approximately \$51.5 million, of which \$50.9 million is classified as non-current restricted cash on our consolidated balance sheet as it will be used towards the final scheduled payment due upon maturity of the Facility Agreement in December 2022. The remaining balance of \$0.6 million is classified as current and represents the portion of the debt service reserve account in excess of the required balance. We expect to receive this amount from our lenders during the next twelve months.

In November 2019, we amended and restated the Facility Agreement and entered into a Fourth Global Amendment and Restatement Agreement (the “2019 GARA”). The 2019 GARA, among other things, revised the remaining principal amortization schedule to reflect, in part, a \$151.6 million prepayment (using primarily the proceeds from the Second Lien Term Loan Facility discussed below); reduced the required balance in the debt service reserve account; required us to raise no less than \$45.0 million of equity prior to March 31, 2021 via the cash exercise of outstanding warrants to be applied towards the principal payment due on June 30, 2021; reset financial covenant levels; and extended our ability to make Equity Cure Contributions through the maturity date.

See Note 6: Long-Term Debt and Other Financing Arrangements to our Consolidated Financial Statements for further discussion of the Facility Agreement.

Subordinated Loan Agreement

On July 2, 2019, we entered into a Subordinated Loan Agreement (the “Subordinated Loan Agreement”), effective as of June 28, 2019, with Thermo Funding Company LLC (an affiliated entity to Thermo, as previously defined in this filing), and certain other unaffiliated parties (together with Thermo, the “Lenders”). Under the Subordinated Loan Agreement, we borrowed \$62.0 million from the Lenders on June 28, 2019 for the primary purpose of funding the June 30, 2019 scheduled payment of interest and principal under our Facility Agreement and maintaining compliance with the financial covenants thereunder. The proceeds from the Subordinated Loan Agreement qualified as an Equity Cure Contribution under the Facility Agreement. The Subordinated Loan Agreement accrued interest at 15% per annum, which was capitalized and added to the outstanding principal in lieu of cash payments. Prior to repayment, the Subordinated Loan Agreement had accrued a total of \$4.0 million. In November 2019, the Subordinated Loan Agreement was paid in full from a portion of the proceeds from the Second Lien Term Loan Facility (see further discussion below). There were no unamortized deferred financing costs on the repayment debt.

Second Lien Term Loan Facility

In November 2019, we entered into a \$199.0 million Second Lien Term Loan Facility with Thermo, EchoStar Corporation and certain other unaffiliated lenders. The Second Lien Term Loan Facility is scheduled to mature in November 2025. The loans under the Second Lien Term Loan Facility bear interest at a blended rate of 13.5% per annum to be paid-in-kind (or in cash at our option, subject to restrictions in the Facility Agreement). The cash proceeds from this loan were net of a 3% original issue discount.

As additional consideration for the loan, we issued the lenders warrants to purchase 124.5 million shares of common stock an exercise price of \$0.38 per share. These warrants expire on March 31, 2021. In December 2019, Thermo exercised 9.5 million warrants resulting in cash proceeds of \$3.6 million to the Company.

A portion of the proceeds from the Second Lien Term Loan Facility was used to repay all of our obligations under the Subordinated Loan Agreement. The remaining proceeds of the Second Lien Term Loan Facility were used towards the prepayment of scheduled principal payments under the Facility Agreement.

The Second Lien Term Loan Facility contains customary events of default and requires us to satisfy various financial and non-financial covenants. As of December 31, 2019, we were in compliance with all the covenants of the Second Lien Term Loan Facility.

See Note 6: Long-Term Debt and Other Financing Arrangements in our Consolidated Financial Statements for further discussion of the Second Lien Term Loan Facility.

Thermo Loan Agreement

We have an amended and restated loan agreement with Thermo (the “Loan Agreement”). Our obligations to Thermo under the Loan Agreement are subordinated to all of our obligations under the Facility Agreement and the Second Lien Term Loan Facility. The Loan Agreement is convertible into shares of common stock at a conversion price of \$0.69 (as adjusted) per share of common stock. Amounts outstanding under the Loan Agreement accrue interest at 12% per annum, which we capitalize and add to the outstanding principal in lieu of cash payments. As of December 31, 2019, the principal amount outstanding was \$135.1 million, including \$91.6 million of interest that had accrued since 2009 under the Loan Agreement.

Principal and interest under the Loan Agreement become due and payable six months after the obligations under the Facility Agreement have been paid in full; however, the November 2019 Finance Documents (including the amended and restated Facility Agreement and the Second Lien Term Loan Facility) permit the conversion of all amounts outstanding under the Loan Agreement by June 30, 2022, or earlier if there is a change in control or any acceleration of the maturity of the loans under the Facility Agreement or Second Lien Term Loan Facility occurs. In connection with the November 2019 refinancing, Thermo committed to convert the total principal balance outstanding under the Loan Agreement by March 31, 2020; on February 19, 2020, Thermo converted the entire principal balance outstanding resulting in the issuance of 200.1 million shares of common stock.

See Note 6: Long-Term Debt and Other Financing Arrangements in our Consolidated Financial Statements for further discussion of the Thermo Loan Agreement.

8.00% Convertible Senior Notes Issued in 2013

Our 2013 8.00% Notes are convertible into shares of our common stock at a conversion price of \$0.69 (as adjusted) per share of common stock. As of December 31, 2019, the principal amount outstanding of the 2013 8.00% Notes was \$1.4 million. The 2013 8.00% Notes will mature on April 1, 2028, subject to various call and put features. Interest on the 2013 8.00% Notes is payable semi-annually in arrears on April 1 and October 1 of each year. We pay interest in cash at a rate of 5.75% per annum and by issuing additional 2013 8.00% Notes at a rate of 2.25% per annum.

A holder of 2013 8.00% Notes has the right, at the holder’s option, to require us to purchase some or all of the 2013 8.00% Notes on April 1, 2023 at a price equal to the principal amount of the 2013 8.00% Notes to be purchased plus accrued and unpaid interest.

The indenture governing the 2013 8.00% Notes provides for customary events of default. As of December 31, 2019, we were in compliance with the terms of the 2013 8.00% Notes and the Indenture.

See Note 6: Long-Term Debt and Other Financing Arrangements in our Consolidated Financial Statements for further discussion of the 2013 8.00% Notes.

Contractual Obligations and Commitments

Contractual obligations at December 31, 2019 are as follows (in thousands):

Contractual Obligations:	2020	2021	2022	2023	2024	Thereafter	Total
Debt obligations (1)	\$ 137,642	\$ 60,565	\$ 129,520	\$ 1,525	\$ —	\$ 446,618	\$ 775,870
Interest on long-term debt (2)	13,032	12,418	9,387	43	—	—	34,880
Network purchase obligations (3)	4,850	4,850	4,850	—	—	—	14,550
Inventory purchase obligations (4)	7,025	—	—	—	—	—	7,025
Operating lease obligations	3,045	2,462	2,345	2,372	2,373	11,122	23,719
Pension obligations	1,023	1,024	1,041	1,026	1,037	5,101	10,252
Total (6)	\$ 166,617	\$ 81,319	\$ 147,143	\$ 4,966	\$ 3,410	\$ 462,841	\$ 866,296

(1) These amounts include principal and payment in kind interest payments.

Interest on the Loan Agreement with Thermo accrues at 12% per annum and is capitalized and added to the total outstanding principal in lieu of cash payments. Principal and interest under the Loan Agreement with Thermo was due and payable in June 2023. Thermo converted the principal amount outstanding under the Loan Agreement into shares of common stock on February 19, 2020; therefore, we show this payment in 2020.

In connection with the 2019 GARA, we were required to sweep excess cash in January 2020, measured as of December 31, 2019. The total payment of \$0.3 million was calculated according to the Facility Agreement and is shown in the table above in 2020. This payment reduced the next principal payment under the Facility Agreement, which is scheduled for June 2021.

Interest on the 2013 8.00% Notes is payable semi-annually in cash at a rate of 5.75% per annum and in additional notes at a rate of 2.25% per annum. The maturity date of the 2013 8.00% Notes is April 1, 2028; however, the holders of these notes can require us to purchase any or all of the notes at par in cash on April 1, 2023. For purposes of this schedule, we show these notes as due in 2023 because of this put option.

Interest on the Second Lien Term Loan Facility accrues interest at a blended rate of 13.5% per annum and is capitalized and added to the total outstanding principal in lieu of cash payments. Principal and interest under the Second Lien Term Loan Facility become due and payable in November 2025.

See Note 6: Long-Term Debt and Other Financing Arrangements in our Consolidated Financial Statements for further discussion of these debt arrangements.

- (2) Amounts include projected interest payments to be made in cash. Debt outstanding under our Facility Agreement bears interest at a floating rate and, accordingly, we estimated our interest costs in future periods. Amounts also include projected cash interest to be paid on the 2013 8.00% Notes through April 1, 2023 (see further discussion above).
- (3) We have purchase commitments with certain vendors related to the procurement, deployment and maintenance of our second-generation network. We intend to continue to purchase maintenance and warranties for our second-generation network. However, there is no contractual obligation at this time for future annual payments; therefore, we have excluded maintenance and warranty payments for these contracts in the table above.

Amounts in the table above include the minimum purchase commitment of LEO tracking antennas. Additionally, in connection with this contract, we are obligated to incur additional costs for auxiliary equipment at each installation site as well as costs for installing the antennas at each of our gateways; these amounts are not included in the table above as we can perform some of the work internally or through other vendors. The additional installation costs above and beyond the minimum purchase commitment are approximately \$1.0 million in each of 2020, 2021 and 2022.

See Note 9: Commitments in our Consolidated Financial Statements for discussion on our contractual commitments.

- (4) Amounts include obligations for non-cancelable purchase orders for inventory as of December 31, 2019. This amount is reflected in 2020 based on current forecasted equipment sales.

Off-Balance Sheet Transactions

We have no material off-balance sheet transactions.

Recently Issued Accounting Pronouncements

For a discussion of recent accounting guidance and the expected impact that the guidance could have on our Consolidated Financial Statements, see Note 1: Summary of Significant Accounting Policies in our Consolidated Financial Statements.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based on our Consolidated Financial Statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and assumptions that affect the amounts reported in our Consolidated Financial Statements and accompanying notes. Note 1: Summary of Significant Accounting Policies in our Consolidated Financial Statements contains a description of the accounting policies used in the preparation of our financial statements as well as the consideration of recently issued accounting standards and the estimated impact these standards will have on our financial statements. We evaluate our estimates on an ongoing basis, including those related to revenue recognition; property and equipment; income taxes; and derivative instruments. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. Actual amounts could differ significantly from these estimates under different assumptions and conditions.

We define a critical accounting policy or estimate as one that is both important to our financial condition and results of operations and requires us to make difficult, subjective or complex judgments or estimates about matters that are uncertain. We believe that the following are the critical accounting policies and estimates used in the preparation of our Consolidated Financial Statements. In addition, there are other items within our Consolidated Financial Statements that require estimates but are not deemed critical as defined in this paragraph.

Revenue Recognition

Our primary types of revenue include (i) service revenue from two-way voice communication and data transmissions and one-way data transmissions between a mobile or fixed device and (ii) subscriber equipment revenue from the sale of fixed and mobile devices as well as other products and accessories. Additionally, we generate revenue by providing engineering and support services to certain customers.

Unless otherwise disclosed, service revenue is recognized over a period of time (consistent with the customer's receipt and consumption of the benefits of our performance) and revenue from the sale of subscriber equipment is recognized at a point in time (consistent with the transfer of risks and rewards of ownership of the hardware). We record customer payments received in advance of the corresponding service period as deferred revenue. We provide Duplex, SPOT and Commercial IoT services directly to customers and indirectly through resellers and IGOs. Credits granted to customers are expensed or charged against revenue or accounts receivable over the remaining term of the customer contract. Subscriber acquisition costs primarily include dealer and internal sales commissions and certain other costs, including but not limited to, promotional costs, cooperative marketing credits and shipping and fulfillment costs. We capitalize incremental costs to obtain a contract to the extent we expect to recover them; these costs include internal and external initial activation commissions. All other subscriber acquisitions costs are expensed at the time of the related sale.

Duplex Service Revenue

We recognize revenue for monthly access fees in the period services are rendered. Access fees represent the minimum monthly charge for each line of service based on its associated rate plan. We also recognize revenue for airtime minutes and data in excess of the monthly access fees in the period such minutes or data are used. Under certain annual plans whereby a customer prepays for a predetermined amount of minutes and data, revenue is recognized consistent with the customer's expected pattern of usage based on historical experience because we believe that this method most accurately depicts the satisfaction of our obligation to the customer. For annual plans where the customer is charged an annual fee to access our system, we recognize revenue on a straight-line basis over the term of the plan.

SPOT Service Revenue

We sell SPOT services as monthly, annual or multi-year plans and recognize revenue on a straight-line basis over the service term, beginning when the service is activated by the customer.

Commercial IoT Service Revenue

We sell Commercial IoT services as monthly, annual or multi-year plans and recognize revenue ratably over the service term or as service is used, beginning when the service is activated by the customer.

IGO Service Revenue

We earn a portion of our revenues through the sale of airtime minutes or data on a wholesale basis to IGOs. Revenue from services provided to IGOs is recognized based upon airtime minutes or data packages used by customers of the IGO and in accordance with contractual fee arrangements.

Other Service Revenue

We provide certain engineering services to assist customers in developing new applications related to our system. We generally recognize the revenues associated with these services when the services are rendered and our obligation to the customer is satisfied.

Equipment Revenue

Subscriber equipment revenue represents the sale of fixed and mobile user terminals, SPOT and Commercial IoT products, and accessories to these products. We recognize revenue upon shipment provided control has transferred to the customer. We sell equipment designed to work on our network through various channels.

Multiple-Element Arrangement Contracts

At times, we sell subscriber equipment through multiple-element arrangement contracts with services. When we sell subscriber equipment and services in bundled arrangements and determine that we have separate performance obligations, we allocate the bundled contract price among the various performance obligations based on relative stand-alone selling prices at contract inception of the distinct goods or services underlying each performance obligation and recognizes them when, or as, each performance obligation is satisfied.

Property and Equipment

We capitalize costs associated with the design, manufacture, test and launch of our low earth orbit satellites. We track capitalized costs associated with our satellites by fixed asset category and allocate them to each asset as it comes into service. For assets that are sold or retired, including satellites that are de-orbited and no longer providing services, we remove the estimated cost and accumulated depreciation. We recognize a loss from an in-orbit failure of a satellite equal to its net book value, if any, in the period it is determined that the satellite is not recoverable.

We depreciate satellites over their estimated useful lives, beginning on the date each satellite is placed into service. We evaluate the appropriateness of estimated depreciable lives assigned to our property and equipment and revise such lives to the extent warranted by changing facts and circumstances.

We capitalize costs associated with the design, manufacture and test of our ground stations and other capital assets. We track capitalized costs associated with our ground stations and other capital assets by fixed asset category and allocate them to each asset as it comes into service.

We review the carrying value of our assets for impairment whenever events or changes in circumstances indicate that the recorded value may not be recoverable. We look to current and future undiscounted cash flows, excluding financing costs, as primary indicators of recoverability. If we determine that impairment exists, we calculate any related impairment loss based on fair value.

Income Taxes

We use the asset and liability method of accounting for income taxes. This method takes into account the differences between financial statement treatment and tax treatment of certain transactions. We recognize deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis. We measure deferred tax assets and liabilities using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Our deferred tax calculation requires us to make certain estimates about our future operations. Changes in state, federal and foreign tax laws, as well as changes in our financial condition or the carrying value of existing assets and liabilities, could affect these estimates. We recognize the effect of a change in tax rates as income or expense in the period that the rate is enacted; however, as we have a full valuation allowance on our deferred tax assets, there is no impact to the consolidated statements of operations and balance sheets.

GAAP requires us to assess whether it is more likely than not that we will be able to realize some or all of our deferred tax assets. If we cannot determine that deferred tax assets are more likely than not to be recoverable, GAAP requires us to provide a valuation allowance against those assets. This assessment takes into account factors including: (a) the nature, frequency, and severity of current and cumulative financial reporting losses; (b) sources of estimated future taxable income; and (c) tax planning strategies. We must weigh heavily a pattern of recent financial reporting losses as a source of negative evidence when determining our ability to realize deferred tax assets. Projections of estimated future taxable income exclusive of reversing temporary differences are a source of positive evidence only when the projections are combined with a history of recent profitable operations and can be reasonably estimated. Otherwise, GAAP requires that we consider projections inherently subjective and generally insufficient to overcome negative evidence that includes cumulative losses in recent years. If necessary and available, we would implement tax planning strategies to accelerate taxable amounts to utilize expiring carryforwards. These strategies would be a source of additional positive evidence supporting the realization of deferred tax assets.

Derivative Instruments

We recognize all derivative instruments as either assets or liabilities on the balance sheet at their respective fair values. We record recognized gains or losses on derivative instruments in the consolidated statements of operations.

We estimate the fair values of our derivative financial instruments using various techniques that are considered to be consistent with the objective of measuring fair values. In selecting the appropriate technique, we consider, among other factors, the nature of the instrument, the market risks that embody it and the expected means of settlement. There are various features embedded in our debt instruments that require bifurcation from the debt host. For the conversion options and the contingent put features in the Loan Agreement with Thermo and the 2013 8.00% Notes, we use a Monte Carlo simulation model to determine fair value. For the mandatory prepayments in the Second Lien Term Loan Facility, we use a probability weighted discounted cash flow model to determine fair value. Valuations derived from these models are subject to ongoing internal and external verification and review. Estimating fair values of derivative financial instruments requires the development of significant and subjective estimates that may, and are likely to, change over the duration of the instrument with related changes in internal and external market factors. Our financial position and results of operations may vary materially from quarter-to-quarter based on conditions other than our operating revenues and expenses.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Our services and products are sold, distributed or available in over 120 countries. Our international sales are denominated primarily in Canadian dollars, Brazilian reais and euros. In some cases, insufficient supplies of U.S. currency may require us to accept payment in other foreign currencies. We reduce our currency exchange risk from revenues in currencies other than the U.S. dollar by requiring payment in U.S. dollars whenever possible and purchasing foreign currencies on the spot market when rates are favorable. We currently do not purchase hedging instruments to hedge foreign currencies. We are obligated to enter into currency hedges with the lenders to the Facility Agreement no later than 90 days after any fiscal quarter during which more than 25% of revenues is denominated in a single currency other than U.S. or Canadian dollars. Otherwise, we cannot enter into hedging agreements other than interest rate cap agreements or other hedges described above without the consent of the agent for the Facility Agreement, and with that consent the counterparties may only be the lenders to the Facility Agreement.

We also have operations in Venezuela and Argentina; both countries are considered to have highly inflationary economies. We continue to monitor the significant uncertainty surrounding current Venezuelan and Argentinian exchange mechanisms. Operations in these countries are not considered significant to our consolidated operations.

Our interest rate risk arises from our variable rate debt under our Facility Agreement, under which loans bear interest at a floating rate based on the LIBOR. We have \$190.4 million in principal outstanding under the Facility Agreement. A 1.0% change in interest rates would result in a change to interest expense of approximately \$1.9 million annually.

See Note 8: Fair Value Measurements in our Consolidated Financial Statements for discussion of our financial assets and liabilities measured at fair market value and the market factors affecting changes in fair market value of each.

Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Globalstar, Inc. Covington, Louisiana

Opinions on the Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Globalstar, Inc. (the “Company”) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income (loss), stockholders’ equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively referred to as the “financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2019, 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 financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the threeyear period ended December 31, 2019 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, 2019, based on criteria established in Internal Control - Integrated Framework: (2013) issued by COSO.

Basis for Opinions

The Company’s management is responsible for these 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 the accompanying Item 9A - *Management’s Annual Report on Internal Control over Financial Reporting*. Our responsibility is to express an opinion on the Company’s financial statements and an opinion 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 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 financial statements included performing procedures to assess the risks of material misstatement of the 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 financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, and as well as evaluating the overall presentation of the 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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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.

/s/ Crowe LLP

We have served as the Company’s auditor since 2006.

Oak Brook, Illinois
February 28, 2020

GLOBALSTAR, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except par value and share data)

	December 31,	
	2019	2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 7,606	\$ 15,212
Restricted cash	622	60,278
Accounts receivable, net of allowance of \$2,952 and \$3,382, respectively	21,760	19,327
Inventory	16,341	14,274
Prepaid expenses and other current assets	16,931	13,410
Total current assets	63,260	122,501
Property and equipment, net	799,914	882,695
Restricted Cash	50,900	—
Operating lease right of use assets, net	15,871	—
Intangible and other assets, net of accumulated amortization of \$9,009 and \$7,930, respectively	35,645	40,286
Total assets	\$ 965,590	\$ 1,045,482
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt	\$ —	\$ 96,249
Accounts payable	8,015	6,995
Accrued expenses	24,874	23,085
Payables to affiliates	261	656
Derivative liabilities	—	757
Deferred revenue	29,910	31,938
Total current liabilities	63,060	159,680
Long-term debt, less current portion	464,176	367,202
Lease Liabilities	14,747	—
Employee benefit obligations	4,128	4,489
Derivative liabilities	3,792	146,108
Deferred revenue	5,273	5,692
Other non-current liabilities	3,071	3,366
Total non-current liabilities	495,187	526,857
Commitments and contingent liabilities (Notes 9 and 10)		
Stockholders' equity:		
Preferred Stock of \$0.0001 par value; 100,000,000 shares authorized and none issued and outstanding at December 31, 2019 and 2018, respectively	—	—
Series A Preferred Convertible Stock of \$0.0001 par value; one share authorized and none issued and outstanding at December 31, 2019 and 2018, respectively	—	—
Voting Common Stock of \$0.0001 par value; 1,900,000,000 shares authorized and 1,464,544,144 shares issued and outstanding at December 31, 2019; 1,500,000,000 shares authorized and 1,446,783,645 shares issued and outstanding at December 31, 2018	146	145
Nonvoting Common Stock of \$0.0001 par value; no shares authorized and none issued and outstanding at December 31, 2019; 400,000,000 shares authorized and none issued and outstanding at December 31, 2018	—	—
Additional paid-in capital	1,970,047	1,937,364
Accumulated other comprehensive loss	(3,449)	(3,839)
Retained deficit	(1,559,401)	(1,574,725)
Total stockholders' equity	407,343	358,945
Total liabilities and stockholders' equity	\$ 965,590	\$ 1,045,482

See accompanying notes to Consolidated Financial Statements.

GLOBALSTAR, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Year Ended December 31,		
	2019	2018	2017
Revenue:			
Service revenue	\$ 113,386	\$ 111,089	\$ 98,473
Subscriber equipment sales	18,332	19,024	14,187
Total revenue	<u>131,718</u>	<u>130,113</u>	<u>112,660</u>
Operating expenses:			
Cost of services (exclusive of depreciation, amortization and accretion shown separately below)	37,456	37,648	37,022
Cost of subscriber equipment sales	15,763	14,441	9,944
Cost of subscriber equipment sales - reduction in the value of inventory	416	—	843
Marketing, general and administrative	45,233	55,443	38,759
Reduction in the value of long-lived assets	1,124	—	17,040
Revision to contract termination charge	—	(20,478)	—
Depreciation, amortization and accretion	95,772	90,438	77,498
Total operating expenses	<u>195,764</u>	<u>177,492</u>	<u>181,106</u>
Loss from operations	<u>(64,046)</u>	<u>(47,379)</u>	<u>(68,446)</u>
Other income (expense):			
Loss on extinguishment of debt	—	—	(6,306)
Gain on equity issuance	—	—	2,670
Interest income and expense, net of amounts capitalized	(62,464)	(43,612)	(34,771)
Derivative gain	145,073	81,120	21,182
Gain on legal settlement	120	6,779	—
Other	(2,814)	(3,299)	(3,213)
Total other income (expense)	<u>79,915</u>	<u>40,988</u>	<u>(20,438)</u>
Income (loss) before income taxes	15,869	(6,391)	(88,884)
Income tax expense	545	125	190
Net income (loss)	<u>\$ 15,324</u>	<u>\$ (6,516)</u>	<u>\$ (89,074)</u>
Net income (loss) per common share:			
Basic	\$ 0.01	\$ (0.01)	\$ (0.08)
Diluted	(0.07)	(0.01)	(0.08)
Weighted-average shares outstanding:			
Basic	1,450,768	1,269,548	1,166,581
Diluted	1,655,191	1,269,548	1,166,581

See accompanying notes to Consolidated Financial Statements.

GLOBALSTAR, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)

	Year Ended December 31,		
	2019	2018	2017
Net income (loss)	\$ 15,324	\$ (6,516)	\$ (89,074)
Other comprehensive income (loss):			
Defined benefit pension plan liability adjustment	1,097	(64)	384
Net foreign currency translation adjustment	(707)	3,164	(1,945)
Total other comprehensive income (loss)	390	3,100	(1,561)
Total comprehensive income (loss)	<u>\$ 15,714</u>	<u>\$ (3,416)</u>	<u>\$ (90,635)</u>

See accompanying notes to Consolidated Financial Statements.

GLOBALSTAR, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)

	Common Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Deficit	Total
Balances – December 31, 2016	1,106,611	\$ 110	\$1,649,315	\$ (5,378)	\$(1,482,228)	\$ 161,819
Issuances (forfeitures) of restricted stock awards, stock for employee stock option exercises and recognition of stock-based compensation	3,190	1	4,111	—	—	4,112
Contribution of services	—	—	548	—	—	548
Issuance and recognition of stock-based compensation of employee stock purchase plan	775	—	1,151	—	—	1,151
Issuance of stock to Terrapin	8,867	1	11,999	—	—	12,000
Issuance of stock to Thermo from exercise of warrants	24,571	2	243	—	—	245
Issuance of stock to Thermo for equity financing	17,838	2	32,998	—	—	33,000
Common stock issued in connection with conversions of 2013 8.00% Notes	26,411	3	53,614	—	—	53,617
Issuance of stock for legal settlement	321	—	453	—	—	453
Issuance of stock for public offering	73,365	7	114,986	—	—	114,993
Stock offering issuance costs	—	—	(300)	—	—	(300)
Investment in business	—	—	221	—	—	221
Other comprehensive loss	—	—	—	(1,561)	—	(1,561)
Net loss	—	—	—	—	(89,074)	(89,074)
Balances – December 31, 2017	1,261,949	\$ 126	\$1,869,339	\$ (6,939)	\$(1,571,302)	\$ 291,224
Issuances (forfeitures) of restricted stock awards, stock for employee stock option exercises and recognition of stock-based compensation	11,892	2	7,726	—	—	7,728
Contribution of services	—	—	428	—	—	428
Issuance and recognition of stock-based compensation of employee stock purchase plan	1,514	—	1,047	—	—	1,047
Issuance of stock for public offering	171,429	17	59,083	—	—	59,100
Stock offering issuance costs	—	—	(259)	—	—	(259)
Other comprehensive income	—	—	—	3,100	—	3,100
Impact of adoption of ASC 606	—	—	—	—	3,093	3,093
Net loss	—	—	—	—	(6,516)	(6,516)
Balances – December 31, 2018	1,446,784	\$ 145	\$1,937,364	\$ (3,839)	\$(1,574,725)	\$ 358,945
Issuances (forfeitures) of restricted stock awards, stock for employee stock option exercises and recognition of stock-based compensation	6,003	—	4,118	—	—	4,118
Contribution of services	—	—	338	—	—	338
Issuance and recognition of stock-based compensation of employee stock purchase plan	2,257	—	1,096	—	—	1,096
Stock offering issuance costs	—	—	(195)	—	—	(195)
Investment in business	—	—	155	—	—	155
Fair value of warrants issued in connection with Second Lien Term Loan Facility	—	—	23,562	—	—	23,562
Issuance of stock for warrant exercises	9,500	1	3,609	—	—	3,610
Other comprehensive income	—	—	—	390	—	390
Net income	—	—	—	—	15,324	15,324
Balances – December 31, 2019	1,464,544	\$ 146	\$1,970,047	\$ (3,449)	\$(1,559,401)	\$ 407,343

See accompanying notes to Consolidated Financial Statements.

GLOBALSTAR, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	<u>Year Ended December 31,</u>		
	<u>2019</u>	<u>2018</u>	<u>2017</u>
Cash flows provided by (used in) operating activities:			
Net income (loss)	\$ 15,324	\$ (6,516)	\$ (89,074)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation, amortization, and accretion	95,772	90,438	77,498
Change in fair value of derivative assets and liabilities	(145,073)	(81,120)	(21,182)
Stock-based compensation expense	5,700	6,995	5,088
Amortization of deferred financing costs	15,896	8,690	8,096
Reduction in the value of long-lived assets and inventory	1,540	—	17,883
Provision for bad debts	1,747	1,398	1,256
Non-cash interest and accretion expense	21,453	14,541	11,043
Loss on extinguishment of debt	—	—	6,306
Change in fair value related to equity issuance	—	—	(2,670)
Revision to contract termination charge	—	(20,478)	—
Change to estimated impact upon adoption of ASC 606	(3,885)	—	—
Unrealized foreign currency (gain) loss	(192)	3,057	2,159
Other, net	598	919	(260)
Changes in operating assets and liabilities:			
Accounts receivable	(4,299)	(3,792)	(2,983)
Inventory	(1,664)	(486)	50
Prepaid expenses and other current assets	(421)	(7,926)	(2,504)
Other assets	864	(3,794)	(699)
Accounts payable and accrued expenses	(173)	3,979	(1,114)
Payables to affiliates	(395)	431	(84)
Other non-current liabilities	359	(1,394)	105
Deferred revenue	(103)	978	4,943
Net cash provided by operating activities	<u>3,048</u>	<u>5,920</u>	<u>13,857</u>
Cash flows used in investing activities:			
Second-generation network costs (including interest)	(3,342)	(7,032)	(11,910)
Property and equipment additions	(4,594)	(7,349)	(5,525)
Purchase of intangible assets	(3,555)	(3,020)	(3,341)
Net cash used in investing activities	<u>(11,491)</u>	<u>(17,401)</u>	<u>(20,776)</u>
Cash flows provided by (used in) financing activities:			
Principal payments of the Facility Agreement	(199,029)	(77,866)	(75,755)
Net proceeds from common stock offering and exercise of warrants	4,282	59,100	114,993
Proceeds from Thermo Common Stock Purchase Agreement	—	—	33,000
Payment of debt restructuring fee	—	—	(20,795)
Payment of financing costs	(6,166)	(276)	(654)
Proceeds from Subordinated Loan Agreement	62,000	—	—
Payoff of Subordinated Loan Agreement	(62,000)	—	—
Proceeds from Second Lien Term Loan Facility	192,990	—	—
Proceeds from issuance of stock to Terrapin	—	—	12,000
Proceeds from issuance of common stock and exercise of options and warrants	—	846	1,001
Net cash provided by (used in) financing activities	<u>(7,923)</u>	<u>(18,196)</u>	<u>63,790</u>
Effect of exchange rate changes on cash, cash equivalents and restricted cash	<u>4</u>	<u>(112)</u>	<u>195</u>
Net increase (decrease) in cash, cash equivalents and restricted cash	<u>(16,362)</u>	<u>(29,789)</u>	<u>57,066</u>
Cash, cash equivalents and restricted cash, beginning of period	<u>75,490</u>	<u>105,279</u>	<u>48,213</u>
Cash, cash equivalents and restricted cash, end of period	<u>\$ 59,128</u>	<u>\$ 75,490</u>	<u>\$ 105,279</u>

	As of December 31,		
	2019	2018	2017
Reconciliation of cash, cash equivalents and restricted cash			
Cash and cash equivalents	\$ 7,606	\$ 15,212	\$ 41,644
Restricted cash (See Note 6 for further discussion on restrictions)	51,522	60,278	63,635
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	\$ 59,128	\$ 75,490	\$ 105,279

Supplemental disclosure of cash flow information:

Cash paid for:

Interest	\$ 27,353	\$ 25,867	\$ 24,075
Income taxes	45	155	115

	Year Ended December 31,		
	2019	2018	2017
Supplemental disclosure of non-cash financing and investing activities:			
Increase in capitalized accrued interest for second-generation network costs	\$ 434	\$ 2,093	\$ 4,317
Fair value of warrants issued with Second Lien Term Loan Facility	23,562	—	—
Capitalized accretion of debt discount and amortization of prepaid financing costs	501	1,898	5,089
Issuance of common stock for legal settlement	—	—	453
Principal amount of debt converted into common stock	—	—	15,986
Reduction of debt discount and issuance costs due to note conversions	—	—	1,194
Fair value of common stock issued upon conversion of debt	—	—	53,614
Reduction in derivative liability due to conversion of debt	—	—	32,000

See accompanying notes to Consolidated Financial Statements.

GLOBALSTAR, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Business

Globalstar, Inc. (“Globalstar” or the “Company”) was formed as a Delaware limited liability company in November 2003 and was converted into a Delaware corporation on March 17, 2006. Globalstar provides Mobile Satellite Services (“MSS”) including voice and data communications services through its global satellite network. Thermo Companies, through commonly controlled affiliates, (collectively, “Thermo”), is the principal owner and largest stockholder of Globalstar. The Company's Executive Chairman of the Board controls Thermo. Two other members of the Company's Board of Directors are also directors, officers or minority equity owners of various Thermo entities.

The Company’s satellite communications business, by providing critical mobile communications to subscribers, serves principally the following markets: recreation and personal; government; public safety and disaster relief; oil and gas; maritime and fishing; natural resources, mining and forestry; construction; utilities; and transportation.

Globalstar currently provides the following communications services via satellite which are available only with equipment designed to work on the Globalstar network:

- two-way voice communication and data transmissions using mobile or fixed devices, including the GSP-1700 phone, two generations of our Sat-Fi[®], the Sat-Fi[®] Remote Antenna Station, and other fixed and data-only devices ("Duplex");
- one-way or two-way communication and data transmissions using mobile devices, including the SPOT family of products, such as SPOT X[®], SPOT Gen3[®] and SPOT Trace[®], that transmit messages and the location of the device ("SPOT"); and
- one-way data transmissions using a mobile or fixed device that transmits its location and other information to a central monitoring station, including commercial IoT products, such as the battery- and solar-powered SmartOne, STX-3 and STINGR ("Commercial IoT").

Globalstar provides Duplex, SPOT and Commercial IoT products and services to customers directly and through a variety of independent agents, dealers and resellers, and independent gateway operators (“IGOs”).

Use of Estimates in Preparation of Financial Statements

The preparation of Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") 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 date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from estimates. Certain reclassifications have been made to prior year Consolidated Financial Statements to conform to current year presentation. The Company evaluates estimates on an ongoing basis. Significant estimates include the value of derivative instruments, the allowance for doubtful accounts, the net realizable value of inventory, the useful life and value of property and equipment, the value of stock-based compensation, and income taxes.

Principles of Consolidation

The Consolidated Financial Statements include the accounts of Globalstar and all its subsidiaries. All significant intercompany transactions and balances have been eliminated in the consolidation.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash on hand and highly liquid investments with original maturities of three months or less.

Restricted Cash

Restricted cash is comprised of funds held in escrow by the agent for the Company's senior secured facility agreement (the "Facility Agreement") to secure the Company's principal and interest payment obligations related to its Facility Agreement. Restricted cash is classified as either a current or non-current asset on the Company's Consolidated Balance Sheet based on when these funds are expected to be used to pay principal and interest due under the Facility Agreement.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash and cash equivalents and restricted cash. Cash and cash equivalents and restricted cash consist primarily of highly liquid short-term investments deposited with financial institutions that are of high credit quality.

Accounts and Notes Receivable

Receivables are recorded when the right to consideration from the customer becomes unconditional, which is generally upon billing or upon satisfaction of a performance obligation, whichever is earlier. Accounts receivable are uncollateralized, without interest, and consist primarily of receivables from the sale of Globalstar services and equipment. For service customers, payment is generally due within thirty days of the invoice date and for equipment customers, payment is generally due within thirty to sixty days of the invoice date, or, for some customers, may be made in advance of shipment.

The Company performs ongoing credit evaluations of its customers and impairs receivable balances by recording specific allowances for bad debts based on factors such as current trends, the length of time the receivables are past due and historical collection experience. Accounts receivable are considered past due in accordance with the contractual terms of the arrangements. Accounts receivable balances that are determined likely to be uncollectible are included in the allowance for doubtful accounts. After attempts to collect a receivable have failed, the receivable is written off against the allowance.

Effective January 1, 2020, the Company adopted ASU No. 2016-13, *Credit Losses, Measurement of Credit Losses on Financial Instruments*. The consolidated financial statements, including related disclosures, will reflect this adoption in prospective financial periods.

The following is a summary of the activity in the allowance for doubtful accounts (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Balance at beginning of period	\$ 3,382	\$ 3,610	\$ 3,966
Provision, net of recoveries	1,747	1,398	1,256
Write-offs and other adjustments	(2,177)	(1,626)	(1,612)
Balance at end of period	<u>\$ 2,952</u>	<u>\$ 3,382</u>	<u>\$ 3,610</u>

Inventory

Inventory consists primarily of purchased products, including subscriber equipment devices which work on the Company's network, of approximately \$12.0 million and \$8.6 million as of December 31, 2019 and 2018, respectively, as well as ground infrastructure assets expected to be used as spare parts of approximately \$4.3 million and \$5.7 million as of December 31, 2019 and 2018, respectively. Inventory is stated at the lower of cost and net realizable value. Cost is computed using the first-in, first-out (FIFO) method. Inventory write downs are measured as the difference between the cost of inventory and the net realizable value and are recorded as a cost of subscriber equipment sales - reduction in the value of inventory in the Company's Consolidated Financial Statements. At the point of any inventory write down to net realizable value, a new, lower cost basis for that inventory is established, and any subsequent changes in facts and circumstances do not result in the restoration of the former cost basis or increase in that newly established cost basis. Product sales and returns from the previous 12 months and future demand forecasts are reviewed and excess and obsolete inventory is written off.

For the years ended December 31, 2019 and 2017, the Company wrote down the value of inventory by \$0.4 million and \$0.8 million, respectively, after adjusting for changes in net realizable value. In 2019, the Company reduced the carrying value of gateway spare parts due to excess hardware parts. In 2017, the carrying value of certain products, particularly in international locations, was higher than the net realizable value; additionally, the Company recorded a reduction in the value of prepaid inventory

due to design changes for products under development. During the year ended December 31, 2018, no write down of inventory was required.

Property and Equipment

The Globalstar System includes costs for the design, manufacture, test and launch of a constellation of low earth orbit satellites (the “Space Component”), and primary and backup control centers and gateways (the “Ground Component”). Property and equipment is stated at cost, net of accumulated depreciation.

Costs associated with the design, manufacture, test and launch of the Company’s Space and Ground Components are capitalized. Capitalized costs associated with the Company’s Space Component, Ground Component, and other assets are tracked by fixed asset category and are allocated to each asset as it comes into service. When a second-generation satellite was incorporated into the second-generation constellation, the Company began depreciation on the date the satellite was placed into service, which was the point that the satellite reached its orbital altitude, over its estimated depreciable life.

The Company capitalizes interest costs associated with the costs of assets in progress. Capitalized interest is added to the cost of the underlying asset and is amortized over the depreciable life of the asset after it is placed into service. As the Company’s construction in progress decreases, the Company capitalizes less interest, resulting in a higher amount of net interest expense recognized under U.S. GAAP.

Depreciation is provided using the straight-line method over the estimated useful lives of the respective assets as follows:

- Space Component - 15 years from the commencement of service
- Ground Component - Up to 15 years from commencement of service
- Software, Facilities & Equipment - 3 to 10 years
- Buildings - 18 years
- Leasehold Improvements - Shorter of lease term or the estimated useful lives of the improvements

The Company evaluates and revises the estimated depreciable lives assigned to property and equipment based on changes in facts and circumstances. When changes are made to estimated useful lives, the remaining carrying amounts are depreciated prospectively over the remaining useful lives.

For assets that are sold or retired, including satellites that are de-orbited and no longer providing services, the estimated cost and accumulated depreciation is removed from property and equipment.

The Company assesses the impairment of long-lived assets when indicators of impairment are present. Recoverability of assets is measured by comparing the carrying amounts of the assets to the estimated future undiscounted cash flows, excluding financing costs. If the Company determines that an impairment exists, any related impairment loss is estimated based on fair values.

Assets held for sale are carried at the lower of cost or fair value less estimated cost to sell; these assets are generally classified as current on the Company’s consolidated balance sheets as the disposal of these assets is expected within one year. As of December 31, 2019, the Company had approximately \$0.5 million of assets classified as held for sale due to the anticipated disposal of its former gateway location in Nicaragua. The change in classification from held and used to held for sale resulted in an impairment for long-lived assets of \$1.1 million, which was recorded during 2019 in the Company’s consolidated statement of operations.

Leases

The Company has operating and finance leases for facilities and equipment throughout the United States and around the world, including corporate offices, satellite control centers, ground control centers, gateways and certain equipment.

Upon inception of a contract, the Company evaluates if the contract, or part of the contract, contains a lease. A lease conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Leases include both a right-of-use asset and a lease liability. The right-of-use asset represents the Company's right to use the underlying asset in the lease. Certain initial direct costs associated with consummating a lease are included in the initial measurement of the right-of-use asset. The right-of-use asset also includes prepaid lease payments and lease incentives. The lease liability represents the present value of the remaining lease payments discounted using the implicit rate in the lease on the lease commencement date. For leases in which the implicit rate is not readily determinable, an estimated incremental borrowing rate is used, which represents a rate of interest that the Company would pay to borrow on a collateralized basis over a similar term. The Company has elected to combine lease and nonlease components, if applicable. As of December 31, 2019, there are no leases not yet commenced that create significant rights and obligations.

For operating leases, the Company records lease expense on a straight-line basis over the lease term in either marketing, general and administrative expense or cost of services, depending on the nature of the underlying asset. For finance leases, the Company records the amortization of the right-of-use asset through depreciation, amortization and accretion expense and records the interest expense on the lease liability through interest expense, net, using the effective interest method.

Variable lease payments are payments made to a lessor due to changes in circumstances occurring after the commencement date. Variable lease payments dependent upon an index or rate are included in the measurement of the lease liability; all other variable lease payments are not included in the measurement of the lease liability and recognized when incurred. Variable lease payments excluded from the measurement of the lease liability are uncommon and, when incurred, are immaterial for the Company.

The Company's leases have remaining lease terms of less than 1 year to 12 years. Lease terms include renewal or termination options that the Company is reasonably certain to exercise. For leases with a term of twelve months or less, the Company does not record a right-of-use asset and associated lease liability on its condensed consolidated balance sheet.

The Company reviews the carrying value of its right-of-use assets for impairment whenever events or changes in circumstances indicate that the recorded value may not be recoverable. Recoverability of assets is measured by comparing the carrying amounts of the assets to the estimated future undiscounted cash flows, excluding financing costs. If the Company determines that an impairment exists, any related impairment loss is estimated based on fair values.

Derivative Instruments

The Company has financing arrangements that are hybrid instruments that contain embedded derivative features. Derivative instruments are recognized as either assets or liabilities in the consolidated balance sheets and are measured at fair value with gains or losses recognized in earnings. The Company determines the fair value of derivative instruments based on available market data using appropriate valuation models.

Deferred Financing Costs

Deferred financing costs are those costs directly incurred in obtaining long-term debt. These costs are amortized as additional interest expense over the expected term of the corresponding debt. Deferred financing costs are recorded on the Company's consolidated balance sheets as a reduction in the carrying amount of the related debt liability. The Company classifies deferred financing costs consistent with the classification of the related debt outstanding at the end of the reporting period. As of December 31, 2019 and 2018, the Company had net deferred financing costs of \$43.6 million and \$24.4 million, respectively. The increase in deferred financing costs from 2018 to 2019 is driven by additions for the Second Lien Term Loan Facility Agreement entered into in November 2019 offset by a reduction in costs related to the Company's Facility Agreement that was modified in November 2019 (see Note 6: Long-Term Debt and Other Financing Arrangements).

Fair Value of Financial Instruments

The Company believes it is not practicable to determine the fair value of the Facility Agreement and Second Lien Term Loan Facility. Interest rates and other terms for long-term debt are not readily available and generally involve a variety of factors, including due diligence by the debt holders. For the Company's other debt instruments, which include the Loan Agreement with Thermo and the Company's 8.00% Convertible Senior Notes Issued in 2013 ("2013 8.00% Notes"), the fair value of debt is calculated using inputs consistent with those used to calculate the fair value of the derivatives embedded in these instruments.

Litigation, Commitments and Contingencies

The Company is subject to various claims and lawsuits that arise in the ordinary course of business. Estimating liabilities and costs associated with these matters requires judgment and assessment based on professional knowledge and experience of our management and legal counsel. When a loss is considered probable and reasonably estimable, a liability is recorded for the Company's best estimate. If there is a range of loss, the Company will record a reserve based on the low end of the range, unless facts and circumstances can support a different point in the range. When a loss is probable, but not reasonably estimable, disclosure is provided, as considered necessary. Reserves for potential claims or lawsuits may be relieved if the loss is no longer considered probable. The ultimate resolution of any such exposure may vary from earlier estimates as further facts and circumstances become known.

Gain/Loss on Extinguishment of Debt

Gain or loss on extinguishment of debt generally is recorded upon an extinguishment of a debt instrument or the conversion of certain of the Company's convertible notes. Gain or loss on extinguishment of debt is calculated as the difference between the reacquisition price and net carrying amount of the debt and is recorded as an extinguishment gain or loss in the Company's consolidated statement of operations.

Revenue Recognition and Deferred Revenue

Effective January 1, 2018, the Company adopted ASC 606 using the modified retrospective method. As such, the revenue accounting policies below reflect the Company's policies after adoption of this standard. Refer to the Company's annual report on Form 10-K for the year ended December 31, 2017 for its revenue accounting policies in place during 2017 and 2016.

Revenue consists primarily of satellite voice and data service revenue and revenue generated from the sale of fixed and mobile devices as well as other products and accessories. A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. Each type of revenue is a separate performance obligation with distinct deliverables and is therefore accounted for discretely. Revenue is measured based on the consideration specified in a contract with a customer, adjusted for credits and discounts, as applicable, and is recognized when the Company satisfies a performance obligation by transferring control over a product or service to a customer.

Unless otherwise disclosed, service revenue is recognized over a period of time and revenue from the sale of subscriber equipment is recognized at a point in time. The recognition of revenue for service is over time as the customer simultaneously receives and consumes the benefits of the Company's performance over the contract term. The recognition of revenue for subscriber equipment is at a point in time as the risks and rewards of ownership of the hardware transfer to the customer generally upon shipment, which is when legal title of the product transfers to the customer, among other things (as discussed further below).

The Company does not record sales taxes, telecommunication taxes or other governmental fees collected from customers in revenue. The Company excludes these taxes from the measurement of contract transaction prices.

The Company receives payment from customers in accordance with billing statements or invoices for customer contracts; these payments may be in advance or arrears of services provided to the customer by the Company. Customer payments received in advance of the corresponding service period are recorded as deferred revenue.

Upon activation of a Globalstar device, certain customers are charged an activation fee, which is recognized over the term of the expected customer life. Credits granted to customers are expensed or charged against revenue or accounts receivable over the remaining term of the contract. Estimates related to earned but unbilled service revenue are calculated primarily using current subscriber data, including plan subscriptions and usage between the end of the billing cycle and the end of the period. The recognition of service revenue related to amounts allocated to performance obligations that were satisfied (or partially satisfied) in a previous period is not material to the Company's financial statements. Amounts related to earned but unbilled revenue from the sale of subscriber equipment are recognized if hardware is shipped prior to the invoice being generated. This situation may result from multi-deliverable contracts, whereby equipment and service revenue are bundled and billed over time to a single customer.

Provisions for estimated future warranty costs, returns and rebates are recorded as a cost of sale, or a reduction to revenue, as applicable. These costs are based on historical trends and the provision is reviewed regularly and periodically adjusted to reflect changes in estimates.

Certain contracts with customers may contain a financing component. Under ASC 606, an entity should adjust the promised amount of the consideration for the effects of time value of money if the timing of the payments agreed upon by the parties to the contract provides the customer or the entity with a significant benefit of financing for the transfer of goods or services to the customer. This type of transaction is infrequent and not considered material to the Company. Additionally, in connection with the adoption of ASC 606, the Company has applied the practical expedient related to the existence of a significant financing component as it expects at contract inception that the period between payment by the customer and transfer of the promised goods or services will be one year or less.

The following describes the principal activities from which the Company generates its revenue. The Company's only reportable segment is its MSS business.

Duplex Service Revenue. The Company recognizes revenue for monthly access fees in the period services are rendered. Access fees represent the minimum monthly charge for each line of service based on its associated rate plan. The Company also recognizes revenue for airtime minutes and data in excess of the monthly access fees in the period such minutes or data are used. The Company offers certain annual plans whereby a customer prepays for a predetermined amount of minutes and data. In these cases, revenue is recognized consistent with a customer's expected pattern of usage based on historical experience because the Company believes that this method most accurately depicts the satisfaction of the Company's obligation to the customer. This usage pattern is typically seasonal and highest in the second and third calendar quarters of the year. The Company offers other annual plans whereby the customer is charged an annual fee to access the Company's system with an unlimited amount of usage. Annual fees for unlimited plans are recognized on a straight-line basis over the term of the plans.

SPOT Service Revenue. The Company sells SPOT services as monthly, annual or multi-year plans and recognizes revenue on a straight-line basis over the service term, beginning when the service is activated by the customer.

Commercial IoT Service Revenue. The Company sells Commercial IoT services as monthly, annual or multi-year plans and recognizes revenue ratably over the service term or as service is used, beginning when the service is activated by the customer.

Independent Gateway Operator ("IGO") Service Revenue. The Company owns and operates its satellite constellation and earns a portion of its revenues through the sale of airtime minutes or data on a wholesale basis to IGOs. Revenue from services provided to IGOs is recognized based upon airtime minutes or data packages used by customers of the IGOs and in accordance with contractual fee arrangements.

Equipment Revenue. Subscriber equipment revenue represents the sale of fixed and mobile user terminals, SPOT and Commercial IoT products, and accessories. The Company recognizes revenue upon shipment provided control has transferred to the customer. Indicators of transfer of control include, but are not limited to; 1) the Company's right to payment, 2) the customer has legal title of the equipment, 3) the Company has transferred physical possession of the equipment to the customer or carrier, and 4) the customer has significant risks and rewards of ownership of the equipment. The Company sells equipment designed to work on its network through various channels, including through dealers, retailers and resellers (including IGOs) as well as direct to consumers or other businesses by its global sales team and through its e-commerce website. The sales channel depends primarily on the type of equipment and geographic region. Promotional rebates are offered from time to time. A reduction to revenue is recorded to reflect the lower transaction price based on an estimate of the customer take rate at the time of the sale using primarily historical data. This estimate is adjusted periodically to reflect actual rebates given to the Company's customers. Shipping and handling costs associated with outbound freight after control over a product has transferred to a customer are accounted for as a fulfillment cost and are included in cost of revenues.

Other Service Revenue. Other service revenue includes primarily revenue associated with engineering services to assist customers in developing new applications related to its system. The revenue associated with these engineering services is generally recorded over time as the services are rendered, and the Company's obligation to the customer is satisfied.

Multiple-Element Arrangement Contracts. At times, the Company will sell subscriber equipment through multiple-element arrangement contracts with services. When the Company sells subscriber equipment and services in bundled arrangements and determines that it has separate performance obligations, the Company allocates the bundled contract price among the various performance obligations based on relative stand-alone selling prices at contract inception of the distinct goods or services underlying each performance obligation and recognizes revenue when, or as, each performance obligation is satisfied.

Stock-Based Compensation

The Company recognizes compensation expense in the financial statements for both employee and non-employee share-based awards based on the grant date fair value of those awards. For stock options, the Company uses the Black-Scholes option pricing model to estimate fair values of stock options. Option pricing models, including the Black-Scholes model, require the use of input estimates and assumptions, including expected volatility, term, and risk-free interest rate. The assumptions for expected volatility and expected term most significantly affect the estimated grant-date fair value. For restricted stock awards and units, the fair value is determined from the stock price on the grant date. The Company's estimate of the forfeiture rate of its share-based awards also impacts the timing of expense recorded over the vesting period of the award. The Company's estimate for pre-vesting forfeitures is recognized over the requisite service periods of the awards on a straight-line basis, which is generally commensurate with the vesting term. See Note 16: Stock Compensation for a description of methods used to determine the Company's assumptions.

For share-based awards with a performance condition that affects vesting, the Company recognizes compensation cost for awards if and when the performance condition is probable of achievement. For awards with a performance condition, the Company reassesses the probability of vesting at each reporting period and adjusts compensation cost based on the Company's probability assessment.

Foreign Currency

The functional currency of the Company's foreign consolidated subsidiaries is generally their local currency, unless the subsidiary operates in a hyperinflationary economy, such as Venezuela and Argentina. Assets and liabilities of its foreign subsidiaries are translated into United States dollars based on exchange rates at the end of the reporting period. Income and expense items are translated at the average exchange rates prevailing during the reporting period. For 2019, 2018 and 2017, the foreign currency translation adjustments were net losses of \$0.7 million, net gains of \$3.2 million and net losses of \$1.9 million, respectively.

Foreign currency transaction gains/losses were approximately net gains of \$0.1 million, net losses of \$3.1 million and net losses of \$2.2 million for each of 2019, 2018, and 2017, respectively. These were classified as other income (expense) on the consolidated statement of operations.

Asset Retirement Obligation

Liabilities arising from legal obligations associated with the retirement of long-lived assets are measured at fair value and recorded as a liability. Upon initial recognition of a liability for retirement obligations, the Company records an asset, which is depreciated over the life of the asset to be retired. Accretion of the asset retirement obligation liability and depreciation of the related assets are included in depreciation, amortization and accretion in the accompanying consolidated statements of operations.

The Company capitalizes, as part of the carrying amount, the estimated costs associated with the eventual retirement of gateways owned by the Company. As of both December 31, 2019 and 2018, the Company had accrued approximately \$1.5 million, respectively, for asset retirement obligations. The Company believes this estimate will be sufficient to satisfy the Company's obligation under leases to remove the gateway equipment and restore the sites to their original condition.

Warranty Expense

Warranty terms extend from 90 days on equipment accessories to one year for fixed and mobile user terminals. A provision for estimated future warranty costs is recorded as cost of sales when products are shipped. Warranty costs are based on historical trends in warranty charges as a percentage of gross product shipments. The resulting accrual is reviewed regularly and periodically adjusted to reflect changes in warranty cost estimates.

Research and Development Expenses

Research and development costs were \$3.2 million, \$2.7 million and \$3.8 million for 2019, 2018 and 2017, respectively. These costs are expensed as incurred as cost of services and include primarily the cost of new product development, chip set design and other engineering work.

Advertising Expenses

Advertising costs were \$3.4 million, \$3.6 million and \$2.5 million for 2019, 2018, and 2017, respectively. These costs are expensed as incurred as marketing, general and administrative expenses.

Income Taxes

The Company is taxed as a C corporation for U.S. tax purposes. The Company recognizes deferred tax assets and liabilities for future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis, operating losses and tax credit carryforwards. The Company measures deferred tax assets and liabilities using tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The Company recognizes the effect on deferred tax assets and liabilities of a change in tax rates in income in the period that includes the enactment date; however, as the Company has full valuation allowance on its deferred tax assets, there is no impact to the consolidated statements of operations and balance sheets.

The Company also recognizes valuation allowances to reduce deferred tax assets to the amount that is more likely than not to be realized. In assessing the likelihood of realization, management considers: (i) future reversals of existing taxable temporary differences; (ii) future taxable income exclusive of reversing temporary differences and carryforwards; (iii) taxable income in prior carry-back year(s) if carry-back is permitted under applicable tax law; and (iv) tax planning strategies.

Comprehensive Income (Loss)

All components of comprehensive income (loss), including the minimum pension liability adjustment and foreign currency translation adjustment, are reported in the financial statements in the period in which they are recognized. Comprehensive income (loss) is defined as the change in equity during a period from transactions and other events and circumstances from non-owner sources.

Earnings (Loss) Per Share

The Company is required to present basic and diluted earnings (loss) per share. Basic earnings (loss) per share is computed by dividing income (loss) available to common stockholders by the weighted average number of shares of common stock outstanding during the period. The numerator used to calculate diluted EPS includes the effect of dilutive securities, including interest expense, net, and derivative gains or losses reflected in net income (loss). Common stock equivalents are included in the calculation of diluted earnings per share only when the effect of their inclusion would be dilutive. Potentially dilutive securities include primarily outstanding stock-based awards, convertible notes, warrants and shares issuable pursuant to the Company's Employee Stock Purchase Plan.

Intangible and Other Assets

Intangible Assets Not Subject to Amortization

A significant portion of the Company's intangible assets are licenses that provide the Company the exclusive right to provide MSS services over the Globalstar System or to utilize designated radio frequency spectrum to provide terrestrial wireless communication services in a particular region of the world. While licenses are issued for only a fixed time, such licenses are subject to renewal by the Federal Communications Commission ("FCC") or equivalent international regulatory authorities. These license renewals are expected to occur routinely and at nominal cost. Moreover, the Company has determined that there are currently no legal, regulatory, contractual, competitive, economic or other factors that limit the useful life of its wireless licenses. As a result, the Company treats the wireless licenses as an indefinite-lived intangible asset. The Company re-evaluates the useful life determination for wireless licenses annually, or more frequently if needed, to determine whether events and circumstances continue to support an indefinite useful life.

Intangible Assets Subject to Amortization

Our intangible assets that do not have indefinite lives (primarily developed technology and customer relationships) are amortized over their estimated useful lives. For information related to each major classes of intangible assets, including accumulated amortization and estimated average useful lives, see Note 5: Intangible and Other Assets.

Other Assets

Prepaid Licenses and Royalties

The Company has signed various licensing and royalty agreements necessary for the manufacture and distribution of its second-generation products. Amounts that are prepaid are recorded primarily in noncurrent assets on the Company's consolidated balance sheet. The Company estimates the portion of expense incurred or royalties earned for the next 12 months and reclassifies these amounts to current assets on the Company's consolidated balance sheet each reporting period. The Company will expense these amounts through depreciation expense over the life of the gateway, maintenance expense over the term of the services, or cost of goods sold on a per unit basis as these units are manufactured, sold, or activated.

Business Economic Loss Claim Receivable

In accordance with ASC 450, the Company believes that the recognition of a gain is appropriate at the earlier of when the gain is realizable or realized. A realized gain is one where cash (or other assets, such as claims to cash) has already been received without expectation of repayment. A gain is realizable when assets are readily convertible to known amounts of cash or claims to cash. In May 2018, the Company entered into a settlement agreement related a business economic loss claim. As part of the Company's assessment, it considered that the terms of the settlement agreement are final (e.g. not subject to appeal) and the counterparty has the ability to pay the amount. Therefore, the Company recorded a receivable and non-operating income for the amount of the settlement. The Company imputed interest on this receivable in accordance with ASC 835-30-15-2 as it represents a contractual right to receive money on fixed or determinable dates. The difference between the present value and the face amount was treated as a discount and is being amortized as interest income over the life of the claim using the interest method. See Note 10: Contingencies for further discussion.

Costs to Obtain a Contract

The Company also capitalizes costs to obtain a contract, which include certain deferred subscriber acquisition costs which are amortized consistently with the pattern of transfer of the good or delivery of the service to which the asset relates. When a contract terminates prior to the end of its expected life, the remaining deferred costs asset associated with it becomes impaired. An immediate recognition of expense for individual remaining costs to obtain a contract following deactivation is not practicable. Because early terminations are factored into the determination of the expected customer life and therefore affect the amortization period, the Company does not recognize early termination expense on individual assets because the incremental effect would be immaterial and doing so would be impractical.

Impairment of Intangible and Other Assets

The Company assesses these intangible assets for impairment annually or more frequently if events or changes in circumstances indicate that it is more likely than not that the asset is impaired. In assessing whether it is more likely than not that such an asset is impaired, the Company assesses relevant events and circumstances that could affect the significant inputs used to determine the fair value of the asset. If the Company determines that an impairment exists, any related loss is estimated based on fair values.

Recently Issued Accounting Pronouncements

In August 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2018-14, *Compensation - Retirement Benefits - Defined Benefit Plans - General Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans*. As part of the FASB's disclosure framework project, it has changed the disclosure requirements for defined pension and other post-retirement benefit plans. The FASB eliminated disclosure requirements related to the amounts in accumulated other comprehensive income expected to be recognized as components of net periodic benefit cost over the next fiscal year, the amount and timing of plan assets expected to be returned to the employer, if any, information related to Japanese Welfare Pension Insurance Law, information about the amount of future annual benefits covered by insurance contracts and significant transactions between the employer or related parties and the plan, and the disclosure of the effects of a one-percentage-point change in the assumed health care cost trend rates on the (1) aggregate of the service and interest cost components of net periodic benefit costs and the (2) benefit obligation for postretirement health care benefits. Entities will be required to disclose the weighted-average interest crediting rate for cash balance plans and other plans with promised interest crediting rates as well as an explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period. This ASU is effective for public entities for annual periods beginning after December 15, 2020. Early adoption is permitted as of the beginning of any annual reporting period. This ASU will have an impact on the Company's disclosures.

Recently Issued and Implemented Financial Reporting Rules

In April 2019, the SEC adopted the final rules under SEC Releases 33-10618 and 34-85381, *FAST Act Modernization and Simplification of Regulation S-K*. Among other things, the amendments 1) allow registrants who present financial statements covering three years in their periodic reports to omit discussion of the earliest year from management's discussion and analysis if the discussion was included in a prior filing, 2) allow registrants to omit certain information and exhibits from their periodic reports without submitting confidential treatment requests to the Commission, 3) clarify and streamline certain risk factor and property disclosure requirements, 4) require all filings to include hyperlinks to information that is incorporated by reference in current filings to the information available on EDGAR, as applicable, and 5) require registrants to apply XBRL tags to certain information on cover pages of SEC filings. Certain of the amended rules became effective April 2, 2019 or May 2, 2019 and have been applied to any filings after these dates, except for the XBRL tagging requirement, which is effective for accelerated filers for fiscal reports ending on or after June 15, 2020. These final rules did not (or will not) have a material impact on its disclosures and financial statements.

Recently Adopted Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, *Leases*. ASU 2016-02 amended the FASB Accounting Standards Codification ("ASC") and created a new ASC Topic 842, "Leases" ("ASC 842"). This ASU became effective for public business entities in fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. The Company adopted this standard when it became effective on January 1, 2019. See Note 3: Leases for further discussion, including the impact on the Company's condensed consolidated financial statements and required disclosures.

In June 2016, the FASB issued ASU No. 2016-13, *Credit Losses, Measurement of Credit Losses on Financial Instruments*. ASU No. 2016-13, as amended, significantly changes how entities will measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net income. The standard will replace today's incurred loss approach with an expected loss model for instruments measured at amortized cost. Entities will apply the standard's provisions as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. This ASU became effective for public entities for annual and interim periods beginning after December 15, 2019. The Company adopted this standard on January 1, 2020. The adoption of this standard did not have a material impact on the Company's consolidated financial statements and will impact certain of the Company's related disclosures in future filings.

In February 2018, the FASB issued ASU No. 2018-02, *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. This guidance allows companies to reclassify items in accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the H.R.1, "An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018" (the "Tax Act") (previously known as "The Tax Cuts and Jobs Act"). This ASU is effective for all entities for annual and interim periods beginning after December 15, 2018. The Company adopted this standard on January 1, 2019. The adoption of this standard did not have a material effect on the Company's financial statements or related disclosures.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation - Stock Compensation: Improvements to Nonemployee Share-Based Payment Accounting*. ASU 2018-07 aligns the accounting for share-based payment awards issued to employees and nonemployees. Measurement of equity-classified nonemployee awards will now be valued on the grant date and will no longer be remeasured through the performance completion date. This amendment also changes the accounting for nonemployee awards with performance conditions to recognize compensation cost when achievement of the performance condition is probable, rather than upon achievement of the performance condition, as well as eliminating the requirement to reassess the equity or liability classification for nonemployee awards upon vesting, except for certain award types. This ASU is effective for public entities for annual and interim periods beginning after December 15, 2018. The Company adopted this standard on January 1, 2019. The adoption of this standard did not have a material effect on the Company's financial statements or related disclosures.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement*. As part of the FASB's disclosure framework project, it has eliminated, amended and added disclosure requirements for fair value measurements. Entities will no longer be required to disclose the amount of, and reasons for, transfers between Level 1 and Level 2 of the fair value hierarchy, the policy of timing of transfers between levels of the fair value hierarchy and the valuation processes for Level 3 fair value measurements. Public companies will be required to disclose the range and weighted average used to develop significant unobservable inputs for Level 3 fair value measurements. This ASU became effective for public entities for annual and interim periods beginning after December 15, 2019. The Company adopted this standard on January 1, 2020. The adoption of this standard will impact certain of the Company's disclosures in future filings.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles - Goodwill and Other - Internal-Use Software Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. This ASU requires companies to defer specified implementation costs in a cloud computing arrangement that are often expensed under current US GAAP and recognize these costs to expense over the noncancellable term of the arrangement. This ASU became effective for public entities for annual and interim periods beginning after December 15, 2019. The Company adopted this standard on January 1, 2020. The adoption of this standard did not have a material impact on the Company's consolidated financial statements.

2. REVENUE

Disaggregation of Revenue

The following table discloses revenue disaggregated by type of product and service (amounts in thousands):

	Year Ended		
	December 31, 2019	December 31, 2018	December 31, 2017
Service revenue:			
Duplex	\$ 43,679	\$ 41,223	\$ 37,635
SPOT	50,461	52,363	45,427
Commercial IoT	16,972	13,459	10,946
IGO	497	932	1,068
Other	1,777	3,112	3,397
Total service revenue	113,386	111,089	98,473
Subscriber equipment sales:			
Duplex	\$ 1,325	\$ 2,021	\$ 2,773
SPOT	7,617	8,425	6,062
Commercial IoT	9,300	8,444	5,335
Other	90	134	17
Total subscriber equipment sales	18,332	19,024	14,187
Total revenue	\$ 131,718	\$ 130,113	\$ 112,660

⁽¹⁾ Effective January 1, 2018, the Company adopted Accounting Standards Codification ("ASC") Topic 606, "Revenue from Contracts with Customers" ("ASC 606"). This standard was adopted using the modified retrospective method and, as such, amounts reflected in the table for the year ended December 31, 2017 have not been adjusted.

The Company attributes equipment revenue to various countries based on the location where equipment is sold. Service revenue is generally attributed to the various countries based on the Globalstar entity that holds the customer contract. The following table discloses revenue disaggregated by geographical market (amounts in thousands):

	Year Ended		
	December 31, 2019	December 31, 2018	December 31, 2017 ⁽¹⁾
Service revenue:			
United States	\$ 80,704	\$ 78,918	\$ 68,556
Canada	20,709	20,186	18,296
Europe	8,628	9,190	8,183
Central and South America	2,513	2,183	2,959
Others	832	612	479
Total service revenue	113,386	111,089	98,473
Subscriber equipment sales:			
United States	\$ 9,937	\$ 11,756	\$ 8,431
Canada	4,632	3,051	2,995
Europe	1,707	2,487	1,532
Central and South America	1,946	1,472	1,202
Others	110	258	27
Total subscriber equipment sales	18,332	19,024	14,187
Total revenue	\$ 131,718	\$ 130,113	\$ 112,660

⁽¹⁾ Effective January 1, 2018, the Company adopted Accounting Standards Codification ("ASC") Topic 606, "Revenue from Contracts with Customers" ("ASC 606"). This standard was adopted using the modified retrospective method and, as such, amounts reflected in the table for the year ended December 31, 2017 have not been adjusted.

During the third quarter of 2019, the Company changed its calculation of the estimated impact from the initial adoption of ASC 606 on January 1, 2018. In accordance with ASC 606, the Company accrues contract breakage to revenue based on historical usage patterns. The original calculation of the adoption impact did not reduce deferred revenue and retained deficit enough for revenue that would have been recognized under ASC 606 for contracts that were open at the adoption date. This adjustment was immaterial to the Company's financial statements for each period since January 1, 2018. Accordingly, the Company recorded a cumulative adjustment to increase service revenue during the third quarter of 2019; this adjustment included an out-of-period amount of \$3.9 million.

Contract Balances

The following table discloses information about accounts receivable, costs to obtain a contract (as recorded in intangible and other assets, net on the Company's consolidated balance sheet), and contract liabilities (as recorded in both current and long-term deferred revenue on the Company's consolidated balance sheet) from contracts with customers (amounts in thousands):

	December 31, 2019	December 31, 2018
Accounts receivable	\$ 21,760	\$ 19,327
Capitalized costs to obtain a contract	1,976	2,018
Contract liabilities	35,183	37,630

Accounts Receivable

Included in the accounts receivable balance in the table above are contract assets, which represent primarily unbilled amounts related to performance obligations satisfied by the Company, of \$2.2 million and \$0.7 million as of December 31, 2019 and 2018, respectively. The increase in this balance is primarily attributable to the timing and higher volume of sales to one of our Commercial IoT value-added-resellers ("VAR"). The Company recognizes the revenue for performance obligations in the period they are satisfied and then bills this VAR for both hardware and service on a monthly basis over the subsequent twelve-month period.

The Company has agreements with certain of its IGOs whereby the parties net settle outstanding payables and receivables between the respective entities on a periodic basis. As of December 31, 2019 and 2018, \$6.5 million and \$7.8 million, respectively, related to these agreements was included in accounts receivable on the Company's consolidated balance sheet. The reduction in this accounts receivable balance from December 31, 2018 resulted primarily from the write-off of the receivable due from the Company's Mexican IGO partner following that gateway being shut down during 2019 and the settlement of the receivable due from the Argentinian IGO partner following the acquisition of their MSS license by Globalstar in 2019.

During the year ended December 31, 2019 and 2018, impairment loss on receivables from contracts with customers was \$4.8 million and \$3.9 million, respectively, including both provisions for bad debt and the reversal of revenue for accounts where collectability is not reasonably assured. The increase in the impairment loss on receivables during 2019 compared to 2018 was driven primarily by a specific reserve related to one of the Company's IGOs, which shut down gateway operations during the quarter ended March 31, 2019.

Costs to Obtain a Contract

The Company also capitalizes costs to obtain a contract, which include certain deferred subscriber acquisition costs that are amortized consistently with the pattern of transfer of the good or delivery of the service to which the asset relates. The Company's subscriber acquisition costs primarily include dealer and internal sales commissions and certain other costs, including but not limited to, promotional costs, cooperative marketing credits and shipping and fulfillment costs. The Company capitalizes incremental costs to obtain a contract to the extent it expects to recover them. These capitalized contract costs include only internal and external initial activation commissions because these costs are considered incremental and would not have been incurred if the contract had not been obtained. These capitalized costs are included in other assets on the Company's consolidated balance sheet and are amortized to marketing, general and administrative expenses on the Company's consolidated statement of operations on a straight-line basis over the estimated customer life of three years, which considers anticipated contract renewals.

For the year ended December 31, 2019 and 2018, the amount of amortization related to previously capitalized costs to obtain a contract was \$1.4 million and \$1.5 million, respectively.

Contract Liabilities

Contract liabilities, which are included in deferred revenue on the Company's consolidated balance sheet, represent the Company's obligation to transfer service or equipment to a customer for which it has previously received consideration from a customer. As of December 31, 2019, the total transaction price allocated to unsatisfied (or partially unsatisfied) performance obligations was \$35.2 million. The amount of revenue recognized during the year ended December 31, 2019 from performance obligations included in the contract liability balance at the beginning of the period was \$30.9 million. The amount of revenue recognized during the year ended December 31, 2018 from performance obligations included in the contract liability balance at the beginning of the period was \$28.7 million.

In general, the duration of the Company's contracts is one year or less; however, from time to time, the Company offers multi-year contracts. As of December 31, 2019, the Company expects to recognize \$29.9 million, or approximately 85%, of its remaining performance obligations during the next twelve months and \$2.4 million, or approximately 7%, between two to six years from the balance sheet date. The remaining \$2.9 million, or approximately 8%, is related to a single contract and will be recognized as work is performed by the Company, the timing of which is currently unknown.

3. LEASES

Adoption of ASC Topic 842 "Leases"

On January 1, 2019, the Company adopted ASC 842 using the modified retrospective method. The Company has presented financial results and applied its accounting policies for the period beginning January 1, 2019 under ASC 842, while prior period results and accounting policies have not been adjusted and are reflected under legacy GAAP pursuant to ASC 840.

In connection with the adoption of ASC 842, the Company performed an analysis of contracts under ASC 840 to ensure proper assessment of leases (or embedded leases) in existence as of January 1, 2019. The Company elected the package of practical expedients permitted under ASC 842, which allows the Company not to reassess 1) whether any expired or existing contracts as of the adoption date are or contain a lease, 2) lease classification for any expired or existing leases as of the adoption date and 3) initial direct costs for any existing leases as of the adoption date.

The most significant impact of applying ASC 842 was the recognition of right-of-use assets and lease liabilities for operating leases in its condensed consolidated balance sheet. For finance leases, the accounting remained generally consistent with legacy GAAP; however, the existing capital lease and obligation for these leases have been reclassified to a right-of-use asset and lease liability. On January 1, 2019, the Company recognized an initial operating right-of-use asset of \$3.3 million and associated operating lease liabilities of \$3.7 million. Since adoption of ASC 842 on January 1, 2019, the Company entered into additional leases, most significantly a lease agreement for its new headquarters location (see further discussion in Note 12: Related Party Transactions), resulting in the recognition of additional right-of-use assets and associated lease liabilities of \$14.3 million. There was no impact to opening retained deficit as of January 1, 2019.

Leases

The following tables disclose the components of the Company's finance and operating leases (amounts in thousands):

	As of:
	December 31, 2019
Operating leases:	
Right-of-use asset, net	\$ 15,871
Short-term lease liability (as recorded in accrued expenses)	1,634
Long-term lease liability	14,747
Total operating lease liabilities	<u>\$ 16,381</u>
Finance leases:	
Right-of-use asset, net (as recorded in intangible and other current assets, net)	\$ 95
Short-term lease liability (as recorded in accrued expenses)	68
Long-term lease liability (as recorded in non-current liabilities)	19
Total finance lease liabilities	<u>\$ 87</u>

Impact on Financial Statements

The following table summarizes the impact of the adoption of ASC 842 on the Company's condensed consolidated balance sheet. There was no impact on the Company's condensed consolidated statement of operations as a result of this adoption. Amounts are in thousands.

Condensed Consolidated Balance Sheet As of December 31, 2019

	Impact on change in accounting policy		
	As reported December 31, 2019	Impact of ASC 842	Legacy GAAP
Right-of-use asset, net	\$ 15,871	\$ (15,871)	\$ —
Intangible and other assets, net	95	(95)	—
Property and equipment, net	—	95	95
Accrued expenses	1,702	(1,526)	176
Lease liabilities	14,747	(14,747)	—
Other non-current liabilities	19	—	19

Lease Cost

The components of lease cost are reflected in the table below (amounts in thousands). As noted above, prior periods have not been adjusted under the modified retrospective method of adoption.

	Twelve Months Ended December 31, 2019
Operating lease cost:	
Amortization of right-of-use assets	\$ 1,719
Interest on lease liabilities	1,098
Finance lease cost:	
Amortization of right-of-use assets	105
Interest on lease liabilities	11
Short-term lease cost	180
Total lease cost	<u>\$ 3,113</u>

As reported under legacy GAAP, total rent expense for 2018 and 2017 was approximately \$1.4 million and \$1.3 million, respectively.

Weighted-Average Remaining Lease Term and Discount Rate

The following table discloses the weighted-average remaining lease term and discount rate for finance and operating leases.

	As of: December 31, 2019
Weighted-average lease term	
Finance leases	1.5 years
Operating Leases	8.9 years
Weighted-average discount rate	
Finance leases	8.1%
Operating leases	8.4%

Supplemental Cash Flow Information

The below table discloses supplemental cash flow information for finance and operating leases (in thousands).

	Twelve Months Ended December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	\$ 2,647
Operating cash flows from finance leases	11
Financing cash flows from finance leases	103

Maturity Analysis

The following table reflects undiscounted cash flows on an annual basis for the Company's lease liabilities as of December 31, 2019 (amounts in thousands):

	Operating Leases	Finance Leases
2020	\$ 3,045	\$ 72
2021	2,462	11
2022	2,345	7
2023	2,372	3
2024	2,373	—
Thereafter	11,123	—
Total lease payments	\$ 23,720	\$ 93
Imputed interest	(7,339)	(6)
Discounted lease liability	\$ 16,381	\$ 87

4. PROPERTY AND EQUIPMENT

Property and equipment consists of the following (in thousands):

	December 31, 2019	December 31, 2018
Globalstar System:		
Space component		
First and second-generation satellites in service	\$ 1,195,509	\$ 1,195,291
Second-generation satellite, on-ground spare	32,443	32,481
Ground component	269,547	256,850
Construction in progress:		
Ground component	16,040	18,068
Next-generation software upgrades	3,699	2,250
Other	1,433	2,699
Total Globalstar System	1,518,671	1,507,639
Internally developed and purchased software	18,922	26,045
Equipment	8,731	10,097
Land and buildings	3,287	3,311
Leasehold improvements	1,633	1,478
Total property and equipment	1,551,244	1,548,570
Accumulated depreciation	(751,330)	(665,875)
Total property and equipment, net	\$ 799,914	\$ 882,695

Amounts in the above table consist primarily of costs incurred related to the construction of the Company's second-generation constellation and ground upgrades. The remaining ground component of construction in progress represents costs (including capitalized interest) incurred for assets to upgrade the Company's ground infrastructure in certain regions around the world. These gateway assets will be deployed based on coverage optimization. The ground component of construction in progress also includes costs (including capitalized interest) associated with the Company's contract for the procurement and production of new gateway antennas.

In January 2019, the Company completed technology upgrades to allow customers to use Sat-Fi2[®] in certain areas of Latin America. Accordingly, it placed into service approximately \$7.9 million of construction in progress (including capitalized interest)

related to the deployment of two RANs to this region. Additionally, a portion of internally developed and purchased software assets were retired during 2019, driving the decrease in the table above. Offsetting these decreases was an increase in construction in progress related to the procurement and production of new antennas for substantially all of the Company's gateways. The Company plans to deploy these antennas over the next few years.

Amounts included in the Company's second-generation satellite, on-ground spare balance as of December 31, 2019 and 2018, consist primarily of costs related to a spare second-generation satellite that has not been placed in orbit, but is capable of being included in a future launch. As of December 31, 2019, this satellite has not been placed into service; therefore, the Company has not started to record depreciation expense.

Capitalized Interest and Depreciation Expense

The following table summarizes capitalized interest for the periods indicated below (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Interest cost eligible to be capitalized	\$ 64,058	\$ 51,819	\$ 51,212
Interest cost recorded in interest income (expense), net	(62,255)	(43,434)	(33,319)
Net interest capitalized	<u>\$ 1,803</u>	<u>\$ 8,385</u>	<u>\$ 17,893</u>

The following table summarizes depreciation expense for the periods indicated below (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Depreciation Expense	<u>\$ 83,575</u>	<u>\$ 81,779</u>	<u>\$ 77,197</u>

The following table summarizes amortization expense for the periods indicated below (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Amortization Expense	<u>\$ 12,197</u>	<u>\$ 8,659</u>	<u>\$ 301</u>

During 2018, the Company placed into service developed technology associated with the launch of its next generation of products. The amortization expense in the table above reflects primarily the 15-year life of these assets from the in-service date.

Geographic Location of Long-Lived Assets

Long-lived assets consist primarily of property and equipment and are attributed to various countries based on the physical location of the asset, except for the Company's satellites which are included in the long-lived assets of the United States. The Company's information by geographic area is as follows (in thousands):

	Year Ended December 31,	
	2019	2018
Long-lived assets:		
United States	\$ 772,498	\$ 852,033
Canada	12,239	12,603
Europe	3,126	3,425
Central and South America	11,786	14,383
Other	265	251
Total long-lived assets	<u>\$ 799,914</u>	<u>\$ 882,695</u>

5. INTANGIBLE AND OTHER ASSETS

Intangible Assets

The Company has intangible assets not subject to amortization, which include certain costs to obtain or defend regulatory authorizations and a portion of capitalized interest associated with these assets. These costs include primarily efforts related to the enhancement of the Company's licensed MSS spectrum to provide terrestrial wireless services as well as costs with international regulatory agencies to obtain similar terrestrial authorizations outside of the United States. This category includes work in progress assets as well as indefinite lived assets already placed into service. The Company also has intangible assets subject to amortization, which include primarily developed technology and definite lived MSS licenses.

The gross carrying amount and accumulated amortization of the Company's intangible assets consist of the following (in thousands):

	December 31, 2019			December 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Intangible Assets Not Subject to Amortization	\$ 18,288	\$ —	\$ 18,288	\$ 20,215	\$ —	\$ 20,215
Intangible Assets Subject to Amortization:						
Developed technology	\$ 11,692	\$ (6,232)	\$ 5,460	\$ 9,415	\$ (5,478)	\$ 3,937
Customer relationships	2,100	(2,100)	—	2,100	(2,100)	—
Regulatory authorizations	1,937	(477)	1,460	1,109	(152)	957
Trade name	200	(200)	—	200	(200)	—
	\$ 15,929	\$ (9,009)	\$ 6,920	\$ 12,824	\$ (7,930)	\$ 4,894
Total	\$ 34,217	\$ (9,009)	\$ 25,208	\$ 33,039	\$ (7,930)	\$ 25,109

During 2019, the Company completed the acquisition of certain assets and related government authorizations from the owner of its IGO in Argentina. Included in this asset purchase was an indefinite lived spectrum license totaling \$1.0 million.

For 2019 and 2018, the Company recorded amortization expense on these intangible assets of \$1.1 million and \$0.6 million, respectively. Amortization expense is recorded in operating expenses in the Company's consolidated statements of operations.

Excluding the effects of any acquisitions, dispositions or write-downs subsequent to December 31, 2019, total estimated annual amortization of intangible assets is as follows (in thousands):

2020	\$	1,158
2021		1,081
2022		1,081
2023		813
2024		583
Thereafter		2,204
Total	\$	6,920

Other Assets

Other assets consist of the following (in thousands):

	December 31,	
	2019	2018
Costs to obtain a contract	\$ 1,976	\$ 2,018
Long-term prepaid licenses and royalties	5,037	5,209
Business economic loss claim receivable (see Note 10 for further discussion)	—	3,684
International tax receivables	800	840
Investments in businesses	2,089	2,089
Other long-term assets	535	1,337
	<u>\$ 10,437</u>	<u>\$ 15,177</u>

6. LONG-TERM DEBT AND OTHER FINANCING ARRANGEMENTS

Long-term debt consists of the following (in thousands):

	December 31, 2019			December 31, 2018		
	Principal Amount	Unamortized Discount and Deferred Financing Costs	Carrying Value	Principal Amount	Unamortized Discount and Deferred Financing Costs	Carrying Value
Facility Agreement	\$ 190,361	\$ 10,185	\$ 180,176	\$ 389,390	\$ 24,355	\$ 365,035
Second Lien Term Loan Facility	201,495	35,448	166,047	—	—	—
Loan Agreement with Thermo	135,105	18,562	116,543	119,702	22,665	97,037
8.00% Convertible Senior Notes Issued in 2013	1,410	—	1,410	1,379	—	1,379
Total Debt	528,371	64,195	464,176	510,471	47,020	463,451
Less: Current Portion	—	—	—	96,249	—	96,249
Long-Term Debt	<u>\$ 528,371</u>	<u>\$ 64,195</u>	<u>\$ 464,176</u>	<u>\$ 414,222</u>	<u>\$ 47,020</u>	<u>\$ 367,202</u>

The principal amounts shown above include payment of in-kind interest, as applicable. The carrying value is net of deferred financing costs and any discounts to the loan amounts at issuance, including accretion, as further described below. As of December 31, 2019, there is no current portion of long-term debt since there are no scheduled principal repayments due within one year of the balance sheet date. As discussed further below, the Company completed a broad-scale refinancing during November 2019, including an amendment and restatement of the Facility Agreement and issuance of a second lien term loan facility agreement (the "Second Lien Term Loan Facility").

Facility Agreement

In 2009, the Company entered into the Facility Agreement with a syndicate of bank lenders, including BNP Paribas, Société Générale, Natixis, Crédit Agricole Corporate and Investment Bank and Crédit Industriel et Commercial, as arrangers, and BNP Paribas, as the security agent. The Facility Agreement was amended and restated in July 2013, August 2015, June 2017 and November 2019.

The Facility Agreement is scheduled to mature in December 2022. Indebtedness under the Facility Agreement bears interest at a floating rate of LIBOR plus a margin that increases by 0.5% each year to a maximum rate of LIBOR plus 5.75%. The current interest rate is LIBOR plus 4.25%. Interest on the Facility Agreement is payable semi-annually in arrears on June 30 and December 31 of each calendar year. Ninety-five percent of the Company's obligations under the Facility Agreement are guaranteed by Bpifrance Assurance Export S.A.S. ("BPIFAE"), the French export credit agency. The Company's obligations under the Facility Agreement are guaranteed on a senior secured basis by all of its domestic subsidiaries and are secured by a first priority lien on substantially all of the assets of the Company and its domestic subsidiaries (other than their FCC licenses), including patents and trademarks, 100% of the equity of the Company's domestic subsidiaries and 65% of the equity of certain foreign subsidiaries.

The Facility Agreement contains customary events of default and requires that the Company satisfy various financial and non-financial covenants, including the following:

- The Company's capital expenditures do not exceed \$15.0 million per year;
- The Company's expenditures in connection with its spectrum rights do not exceed \$20.0 million;
- The Company maintains at all times a minimum liquidity balance of \$4.0 million;
- The Company achieves for each period the following minimum adjusted consolidated EBITDA (as defined in the Facility Agreement) (amounts in thousands):

Period	Minimum Amount
1/1/19-6/30/19	\$ 45,509
7/1/19-12/31/19	\$ 21,174
1/1/20-6/30/20	\$ 18,245
7/1/20-12/31/20	\$ 23,755

- The Company maintains a minimum debt service coverage ratio of 1.00:1;
- The Company maintains a maximum net debt to adjusted consolidated EBITDA ratio of 4.90:1 for the December 31, 2019 measurement period, decreasing gradually each semi-annual period until the requirement equals 2.50:1 for the four semi-annual measurement periods leading up to December 31, 2022;
- The Company maintains a minimum interest coverage ratio of 1.50:1 for the December 31, 2019 measurement period, increasing gradually each semi-annual period until the requirement equals 5.25:1 for the two semi-annual measurement periods leading up to December 31, 2022; and
- The Company makes mandatory prepayments in specified circumstances and amounts, including if the Company generates excess cash flow, monetizes its spectrum rights, receives the proceeds of certain asset dispositions or receives more than \$145.0 million from the sale of additional debt or equity securities.

Additionally, the covenants in the Facility Agreement limit the Company's ability to, among other things, incur or guarantee additional indebtedness; make certain investments, acquisitions or capital expenditures above certain agreed levels; pay dividends or repurchase or redeem capital stock or subordinated indebtedness; grant liens on its assets; incur restrictions on the ability of its subsidiaries to pay dividends or to make other payments to the Company; enter into transactions with its affiliates; merge or consolidate with other entities or transfer all or substantially all of its assets; and transfer or sell assets.

In calculating compliance with the financial covenants of the Facility Agreement, the Company may include certain cash funds contributed to the Company from the issuance of the Company's common stock and/or subordinated indebtedness. These funds are referred to as "Equity Cure Contributions" and may be used to achieve compliance with financial covenants through maturity. If the Company violates any covenants and is unable to obtain a sufficient Equity Cure Contribution or obtain a waiver, or is unable to make payments to satisfy its debt obligations under the Facility Agreement when due and is unable to obtain a waiver, it would be in default under the Facility Agreement and payment of the indebtedness could be accelerated. The acceleration of the Company's indebtedness under one agreement may permit acceleration of indebtedness under other agreements that contain cross-acceleration provisions. As of December 31, 2019, the Company was in compliance with respect to the covenants of the Facility Agreement.

The Facility Agreement also requires the Company to maintain a debt service reserve account, which is pledged to secure all of the Company's obligations under the Facility Agreement. As part of the amendment to the Facility Agreement in November 2019, the required balance in the debt service reserve account is fixed and must equal at least \$50.9 million. As of December 31, 2019, the balance in the debt service reserve account was approximately \$51.5 million, of which \$50.9 million is classified as non-current restricted cash on the Company's consolidated balance sheet as it will be used towards the final scheduled payment due upon maturity of the Facility Agreement in December 2022. The remaining balance of \$0.6 million is classified as current and represents the portion of the debt service reserve account in excess of the required balance. The Company expects to receive this amount from its lenders during the next twelve months.

On November 26, 2019, the Company, Thermo, the lenders and the BPIFAE and Security Agent entered into a Fourth Global Amendment and Restatement Agreement (the “2019 GARA”). Pursuant to the 2019 GARA, the Facility Agreement was amended and restated and the Company, Thermo and the lenders agreed to the following:

- The \$151.6 million prepayment of the next three scheduled principal payments and a portion of the fourth scheduled principal payment using proceeds from the Second Lien Term Loan Facility (as described in more detail below), cash on hand and proceeds from the reduction of the Company's debt service reserve account;
- A \$10.0 million reduction to the required balance in the debt service reserve account, which will remain at approximately \$50.9 million through the maturity date;
- Revisions to the remaining repayment schedule to reduce the amount of scheduled principal payments prior to maturity, leaving a final scheduled principal payment upon maturity of \$109.5 million;
- A requirement that the Company raise no less than \$45.0 million of equity prior to March 31, 2021 via the cash exercise of outstanding warrants or other equity to be applied towards the principal payment due on June 30, 2021 and then, if applicable, to the next scheduled principal payments;
- A reset of financial covenant levels based on the Company's 2019 business plan agreed with the lenders under the Facility Agreement;
- An extension of the Company's ability to make Equity Cure Contributions to prevent certain financial covenant defaults through the maturity date; and
- Amendment fees of \$1.4 million paid to the agent for the Lenders and BPI in connection with the 2019 GARA.

The 2019 GARA was considered a debt modification pursuant to applicable accounting guidance. As such, fees paid to the creditors were capitalized on the Company's consolidated balance sheet as deferred financing costs and fees paid to the Company's advisors and other third parties were expensed in the Company's statement of operations for the period ended December 31, 2019. Additionally, as a result of this modification, the Company wrote off \$7.3 million in deferred financing costs, which represents the portion of debt prepaid by the Company in November 2019.

Subordinated Loan Agreement

In July 2019, the Company entered into a Subordinated Loan Agreement (the “Subordinated Loan Agreement”) with Thermo Funding Company LLC (an affiliated entity to Thermo), and certain unaffiliated parties (together with Thermo, the “Lenders”). Under the Subordinated Loan Agreement, the Lenders lent \$62.0 million to the Company for the primary purpose of funding the June 30, 2019 scheduled payment of interest and principal under the Company’s Facility Agreement and for certain other purposes. The Subordinated Loan Agreement accrued interest at 15% per annum, which was capitalized and added to the outstanding principal in lieu of cash payments. Prior to repayment, the Subordinated Loan Agreement had accrued a total of \$4.0 million. In November 2019, the Subordinated Loan Agreement was paid in full from a portion of the proceeds from the Second Lien Term Loan Facility (see further discussion below). There were no unamortized deferred financing costs on the repayment debt.

The payoff of the Subordinated Loan Agreement was considered a debt extinguishment pursuant to applicable accounting guidance. As such, fees paid to the Company's advisors and other third parties were capitalized on the Company's consolidated balance sheet as deferred financing costs and fees paid to the Company's creditors, including the value of the original issue discount and warrants, were expensed in the Company's statement of operations for the period ended December 31, 2019. Additionally, a gain or loss on extinguishment of debt is generally recorded upon an extinguishment of a debt instrument. Such gain or loss on extinguishment of debt is calculated as the difference between the reacquisition price (including the new Second Lien Term Loan Facility, warrants issued to the holders and fees paid to the lenders) and net carrying amount of the Subordinated Loan Agreement. Based on an assessment of the transaction, the Company estimated the reacquisition price to be \$66.0 million, which is equal to the net carrying value of the extinguished debt. Therefore, the Company did not record a gain or loss on extinguishment of debt. Furthermore, the Company was required to record the portion of the Second Lien Term Loan Facility, which was used to pay off the Subordinated Loan Agreement, at fair value at inception. The fair value was determined based on various factors and included the value of the warrants issued to the Second Lien Term Loan Facility holders.

The Company’s Board of Directors considered the Subordinated Loan Agreement and the related transactions and unanimously concluded that they constitute a “Permitted Financing” under Article Eleventh of the Second Amended and Restated Certificate of Incorporation of the Company.

Second Lien Term Loan Facility

In November 2019, the Company entered into a \$199.0 million Second Lien Term Loan Facility with Thermo, EchoStar Corporation and certain other unaffiliated lenders. The Second Lien Term Loan Facility is scheduled to mature in November 2025. The loans under the Second Lien Term Loan Facility bear interest at a blended rate of 13.5% per annum to be paid in kind (or in cash at the option of the Company, subject to restrictions in the Facility Agreement).

The cash proceeds from this loan were net of a 3%, or \$6.0 million, original issue discount (the "OID"). The portion of this OID that was not included in the reacquisition price of the Subordinated Loan Agreement (see previous section) was recorded as a debt discount of \$4.0 million. This debt discount was netted against the principal amount of the loan and is being accreted using an effective interest method to interest expense over the term of the loan.

As additional consideration for the loan, the Company issued the lenders warrants to purchase 124.5 million shares of voting common stock at an exercise price of \$0.38 per share. These warrants expire on March 31, 2021. The Company determined that the warrants were equity instruments and recorded them as a part of stockholders' equity. The portion of the warrants fair value that was not included in the reacquisition price of the Subordinated Loan Agreement (see previous section) was recorded as a debt discount of \$15.8 million. This debt discount was netted against the principal amount of the loan and is being accreted using an effective interest method to interest expense over the term of the loan. In December 2019, Thermo exercised 9.5 million warrants resulting in cash proceeds to the Company of \$3.6 million.

A portion of the proceeds from the Second Lien Term Loan Facility was used to repay all of the Company's Subordinated Loan Agreement. The remaining proceeds of the Second Lien Term Loan Facility were used towards the prepayment of scheduled principal payments under the Facility Agreement.

The Second Lien Term Loan Facility contains customary events of default and requires that the Company satisfy various financial and non-financial covenants. Unless shown below, covenants under the Second Lien Term Loan Facility are consistent with the covenants under the Company's Facility Agreement (discussed above). The financial covenants in the Second Lien Term Loan Facility require the Company to:

- maintain at all times a minimum liquidity balance of \$3.6 million;
- achieve for each period the following minimum adjusted consolidated EBITDA (as defined in the Second Lien Term Loan Facility) (amounts in thousands):

Period	Minimum Amount
7/1/19-12/31/19	\$ 19,100
1/1/20-6/30/20	\$ 16,400
7/1/20-12/31/20	\$ 21,400

- maintain a minimum debt service coverage ratio of 0.90:1;
- maintain a maximum net debt to adjusted consolidated EBITDA ratio of 5.39:1 for the December 31, 2019 measurement period, decreasing gradually each semi-annual period until the requirement equals 2.75:1 for the four semi-annual measurement periods leading up to December 31, 2022;
- maintain a minimum interest coverage ratio of 1.35:1 for the December 31, 2019 measurement period, increasing gradually each semi-annual period until the requirement equals 4.73:1 for the two semi-annual measurement periods leading up to December 31, 2022; and

As of December 31, 2019, the Company was in compliance with the covenants of the Second Lien Term Loan Facility.

The portion of the Second Lien Term Loan Facility proceeds that was used to repay the Subordinated Loan Agreement was considered a debt extinguishment pursuant to applicable accounting guidance. See discussion in the *Subordinated Loan Agreement* section above for further information. The remaining Second Lien Term Loan Facility was recorded at its carrying value at inception.

The Company evaluated the various embedded derivatives within the Second Lien Term Loan Facility related to certain contingently exercisable put options. Due to the substantial discount upon issuance, as calculated under applicable accounting guidance, these prepayment features within the Second Lien Term Loan Facility were required to be bifurcated and separately valued. The Company recorded the compound embedded derivative liability as a non-current liability on its consolidated balance sheets with a corresponding debt discount, which is netted against the face value of the Second Lien Term Loan Facility.

The Company is accreting the debt discount associated with the compound embedded derivative liability to interest expense through the maturity of the Second Lien Term Loan Facility using an effective interest rate method. The fair value of the compound embedded derivative liability is marked-to-market at the end of each reporting period, with any changes in value reported in the consolidated statements of operations. The Company determines the fair value of the compound embedded derivative using a probability weighted discounted cash flow model.

Thermo's participation in the Second Lien Term Loan Facility was reviewed and approved on the Company's behalf by the Strategic Review Committee, which is a committee of disinterested and independent directors who are represented by independent legal counsel. See Note 12: Related Party Transactions for further information on the role and responsibility of the Strategic Review Committee.

Thermo Loan Agreement

In connection with the amendment and restatement of the Facility Agreement in July 2013, the Company amended and restated its loan agreement with Thermo (the "Loan Agreement"). All obligations of the Company to Thermo under the Loan Agreement are subordinated to the Company's obligations under the Facility Agreement and the Second Lien Term Loan Facility. The Loan Agreement is convertible into shares of common stock at a conversion price of \$0.69 (as adjusted) per share of common stock.

The Loan Agreement accrues interest at 12% per annum, which is capitalized and added to the outstanding principal in lieu of cash payments. As of December 31, 2019, \$91.6 million of interest had accrued since 2009 with respect to the Loan Agreement; the Loan Agreement is included in long-term debt on the Company's consolidated balance sheets based on its contractual maturity date.

The Company will make payments to Thermo only when permitted by the Facility Agreement and the Second Lien Term Loan Facility. Principal and interest under the Loan Agreement become due and payable six months after the obligations under the Facility Agreement have been paid in full; however, the November 2019 Finance Documents (including the amended and restated Facility Agreement and the Second Lien Term Loan Facility) permit the conversion of all amounts outstanding under the Loan Agreement by June 30, 2022, or earlier if the Company has a change in control or if any acceleration of the maturity of the loans under the Facility Agreement or Second Lien Term Loan Facility occurs. In connection with the November 2019 refinancing, Thermo committed to convert the total principal balance outstanding under the Loan Agreement by March 31, 2020; on February 19, 2020, Thermo converted the entire principal balance outstanding resulting in the issuance of 200.1 million shares of common stock. Upon conversion, the remaining debt discount and deferred financing costs is written off through the statement of operations and the associated derivative liability (discussed below) is marked-to-market at the conversion date and then extinguished through the statement of operations.

The Company evaluated the various embedded derivatives within the Loan Agreement (See Note 8: Fair Value Measurements for additional information about the embedded derivative in the Loan Agreement). The Company determined that the conversion option and the contingent put feature upon a fundamental change required bifurcation from the Loan Agreement. The conversion option and the contingent put feature were not deemed clearly and closely related to the Loan Agreement and were separately accounted for as a standalone derivative. The Company recorded this compound embedded derivative liability as a non-current liability on its consolidated balance sheets with a corresponding debt discount, which is netted against the face value of the Loan Agreement.

The Company is accreting the debt discount associated with the compound embedded derivative liability to interest expense through the maturity of the Loan Agreement using an effective interest rate method. The stated maturity is used as the expected term for purposes of amortizing the debt discount, despite the Company's expectation of an earlier conversion as of December 31, 2019, based on the applicable accounting rules. The fair value of the compound embedded derivative liability is marked-to-market

at the end of each reporting period, or upon conversion, with any changes in value reported in the consolidated statements of operations. The Company determines the fair value of the compound embedded derivative using a Monte Carlo simulation model.

8.00% Convertible Senior Notes Issued in 2013

In May 2013, the Company issued \$54.6 million aggregate principal amount of its 2013 8.00% Notes. The 2013 8.00% Notes are convertible into shares of common stock at a conversion price of \$0.69 per share of common stock, as adjusted pursuant to the terms of the Fourth Supplemental Indenture between the Company and U.S. Bank National Association, as Trustee (the “Indenture”). The 2013 8.00% Notes are senior unsecured debt obligations that will mature on April 1, 2028, subject to various call and put features, and bear interest at a rate of 8.00% per annum. Interest is paid in cash at a rate of 5.75% and in additional notes at a rate of 2.25%. Since issuance, \$55.4 million of principal amount of the 2013 8.00% Notes have been converted; no amount was converted during 2019.

Subject to certain conditions set forth in the Indenture, the Company may redeem the 2013 8.00% Notes, with the prior approval of the majority lenders under the Facility Agreement and the Second Lien Term Loan Facility, in whole or in part, at a price equal to the principal amount of the 2013 8.00% Notes to be redeemed plus all accrued and unpaid interest thereon. As of December 31, 2019, the 2013 8.00% Notes have not been redeemed by the Company.

A holder of the 2013 8.00% Notes has the right, at the holder’s option, to require the Company to purchase some or all of the 2013 8.00% Notes held by it on April 1, 2023, or at any time if there is a Fundamental Change (as defined in the Indenture), at a price equal to the principal amount of the 2013 8.00% Notes to be purchased plus accrued and unpaid interest. Subject to the procedures for conversion and other terms and conditions of the Indenture, a holder may convert its 2013 8.00% Notes at its option at any time prior to April 1, 2028, into shares of common stock (or, at the option of the Company, cash in lieu of all or a portion thereof, provided that, under the Facility Agreement and the Second Lien Term Loan Facility, the Company may pay cash only with the consent of the majority lenders).

The Indenture provides for customary events of default. If there is an event of default, the Trustee may, at the direction of the holders of 25% or more in aggregate principal amount of the 2013 8.00% Notes, accelerate the maturity of the 2013 8.00% Notes. As of December 31, 2019, the Company was in compliance with respect to the terms of the 2013 8.00% Notes and the Indenture.

The Company evaluated the various embedded derivatives within the Indenture for the 2013 8.00% Notes. The Company determined that the conversion option and the contingent put feature within the Indenture required bifurcation from the 2013 8.00% Notes. The Company did not deem the conversion option and the contingent put feature to be clearly and closely related to the 2013 8.00% Notes and separately accounted for them as a standalone derivative. The Company recorded this compound embedded derivative liability as a liability on its consolidated balance sheets with a corresponding debt discount which was netted against the face value of the 2013 8.00% Notes. The debt discount associated with the compound embedded derivative liability has been fully accreted as of September 30, 2017, following significant conversions in August 2017. The Company is marking to market the fair value of the compound embedded derivative liability at the end of each reporting period, or more frequently as deemed necessary, with any changes in value reported in the consolidated statements of operations. The Company determines the fair value of the compound embedded derivative using a Monte Carlo simulation model.

Debt maturities

Annual debt maturities for each of the five years following December 31, 2019 and thereafter are as follows (in thousands):

2020	\$	—
2021		60,841
2022		129,520
2023		136,515
2024		—
Thereafter		201,495
Total	<u>\$</u>	<u>528,371</u>

Amounts in the above table are calculated based on amounts outstanding at December 31, 2019, and therefore exclude paid-in-kind interest payments that will be made in future periods.

On February 19, 2020, Thermo converted into shares of common stock the principal amount outstanding under the Loan Agreement; however, the maturity of the Loan Agreement is shown in 2023 in the table above, consistent with its contractual life.

7. DERIVATIVES

In connection with certain existing borrowing arrangements, the Company was required to record derivative instruments on its consolidated balance sheets. None of these derivative instruments are designated as a hedge. The following table discloses the fair values of the derivative instruments on the Company's consolidated balance sheets (in thousands):

	<u>December 31,</u> <u>2019</u>	<u>December 31,</u> <u>2018</u>
Derivative liabilities:		
Compound embedded derivative with the 2013 8.00% Notes	\$ (522)	\$ (757)
Compound embedded derivative with the Loan Agreement with Thermo	(1,270)	(146,108)
Compound embedded derivative with the Second Lien Term Loan Facility	<u>(2,000)</u>	<u>—</u>
Total derivative liabilities	<u>\$ (3,792)</u>	<u>\$ (146,865)</u>

The following table discloses the changes in value recorded as a derivative gain in the Company's consolidated statement of operations (in thousands):

	<u>Year ended December 31,</u>		
	<u>2019</u>	<u>2018</u>	<u>2017</u>
Interest rate cap	\$ —	\$ —	\$ (4)
Compound embedded derivative with the 2013 8.00% Notes	235	569	(6,662)
Compound embedded derivative with the Loan Agreement with Thermo	144,838	80,551	27,848
Total derivative gain	<u>\$ 145,073</u>	<u>\$ 81,120</u>	<u>\$ 21,182</u>

Intangible and Other Assets

Interest Rate Cap

In June 2009, in connection with entering into the Facility Agreement, under which interest accrues at a variable rate, the Company entered into five ten-year interest rate cap agreements, which matured in December 2019. The interest rate cap agreements reflect a variable notional amount at interest rates that provide coverage to the Company for exposure resulting from escalating interest rates over the term of the Facility Agreement. The interest rate cap provides limits on the six-month Libor rate ("Base Rate") used to calculate the coupon interest on outstanding amounts on the Facility Agreement and is capped at 5.50% should the Base Rate not exceed 6.5%. Should the Base Rate exceed 6.5%, the Company's Base Rate will be 1% less than the then six-month Libor rate. The Company paid an approximately \$12.4 million upfront fee for the interest rate cap agreements. The interest rate cap did not qualify for hedge accounting treatment, and changes in the fair value of the agreements are included in the consolidated statements of operations. The value of the interest rate cap was zero as of both December 31, 2019 and December 31, 2018.

Derivative Liabilities

The Company has identified various embedded derivatives resulting from certain features in the Company's debt instruments, including the conversion option and the contingent put feature within both the 2013 8.00% Notes and the Loan Agreement with Thermo as well as certain contingently exercisable put features within the Second Lien Term Loan Facility. The fair value of each embedded derivative liability is marked-to-market at the end of each reporting period, or more frequently as deemed necessary, with any changes in value reported in its consolidated statements of operations and its consolidated statements of cash flows as an operating activity. The Company classifies its derivative liabilities consistent with the classification of the underlying debt on the Company's consolidated balance sheet. See Note 8: Fair Value Measurements for further discussion. Each liability and the features embedded in the debt instrument which required the Company to account for the instrument as a derivative are described below.

Compound Embedded Derivative with 2013 8.00% Notes

As a result of the conversion option and the contingent put feature within the 2013 8.00% Notes, the Company recorded a compound embedded derivative liability on its consolidated balance sheets with a corresponding debt discount that is netted against the face value of the 2013 8.00% Notes. The Company determined the fair value of the compound embedded derivative liability using a Monte Carlo simulation model. The Company classifies this derivative liability consistent with the classification of the 2013 8.00% Notes on the Company's consolidated balance sheet.

Compound Embedded Derivative with the Loan Agreement with Thermo

As a result of the conversion option and the contingent put feature within the Loan Agreement with Thermo as amended and restated in 2013, the Company recorded a compound embedded derivative liability on its consolidated balance sheets with a corresponding debt discount that is netted against the face value of the Loan Agreement. The Company determined the fair value of the compound embedded derivative liability using a Monte Carlo simulation model.

Compound Embedded Derivative with the Second Lien Term Loan Facility

As a result of certain contingently exercisable put features within the Second Lien Term Loan Facility, the Company recorded a compound embedded derivative liability on its consolidated balance sheet with a corresponding debt discount that is netted against the face value of the Second Lien Term Loan Facility. The Company determined the fair value of the compound embedded derivative liability using a probability weighted discounted cash flow model.

8. FAIR VALUE MEASUREMENTS

The Company follows the authoritative guidance for fair value measurements relating to financial and non-financial assets and liabilities, including presentation of required disclosures herein. This guidance establishes a fair value framework requiring the categorization of assets and liabilities into three levels based upon the assumptions (inputs) used to price the assets and liabilities. Level 1 provides the most reliable measure of fair value, whereas Level 3 generally requires significant management judgment. The three levels are defined as follows:

Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical assets or liabilities.

Level 2: Quoted prices in markets that are not active or inputs which are observable, either directly or indirectly, for substantially the full term of the asset or liability.

Level 3: Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (i.e., supported by little or no market activity).

Recurring Fair Value Measurements

The following tables provide a summary of the liabilities measured at fair value on a recurring basis (in thousands):

	Fair Value Measurements at December 31, 2019:			
	(Level 1)	(Level 2)	(Level 3)	Total Balance
Liabilities:				
Compound embedded derivative with the 2013 8.00% Notes	\$ —	\$ —	\$ (522)	\$ (522)
Compound embedded derivative with the Loan Agreement with Thermo	—	—	(1,270)	(1,270)
Compound embedded derivative with the Second Lien Term Loan Facility	—	\$ —	(2,000)	(2,000)
Total liabilities measured at fair value	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (3,792)</u>	<u>\$ (3,792)</u>

Fair Value Measurements at December 31, 2018:			
(Level 1)	(Level 2)	(Level 3)	Total Balance

Liabilities:

Compound embedded derivative with the 2013 8.00% Notes	\$	—	\$	—	\$	(757)	\$	(757)
Compound embedded derivative with the Loan Agreement with Thermo		—		—		(146,108)		(146,108)
Total liabilities measured at fair value	\$	—	\$	—	\$	(146,865)	\$	(146,865)

Assets*Interest Rate Cap*

The fair value of the interest rate cap is determined using observable pricing inputs including benchmark yields, reported trades and broker/dealer quotes at the reporting date. As previously disclosed, the value of the interest rate cap was zero as of both December 31, 2019 and December 31, 2018, accordingly, the interest rate cap is not reflected in the tables above. See Note 7: Derivatives for further discussion.

Liabilities

The Company has three derivative liabilities classified as Level 3. The Company marks-to-market these liabilities at each reporting date, or more frequently as deemed necessary, with the changes in fair value recognized in the Company's consolidated statements of operations. See Note 7: Derivatives for further discussion.

Derivative Liabilities - 2013 8.00% Notes and Loan Agreement with Thermo

The significant quantitative Level 3 inputs utilized in the valuation models are shown in the tables below:

	December 31, 2019:				
	Stock Price Volatility	Risk-Free Interest Rate	Note Conversion Price	Discount Rate	Market Price of Common Stock
Compound embedded derivative with the 2013 8.00% Notes	70 - 130%	1.6%	\$0.69	27%	\$0.52
Compound embedded derivative with the Loan Agreement with Thermo	70 - 130%	1.6%	\$0.69	27%	\$0.52

	December 31, 2018:				
	Stock Price Volatility	Risk-Free Interest Rate	Note Conversion Price	Discount Rate	Market Price of Common Stock
Compound embedded derivative with the 2013 8.00% Notes	40 - 120%	2.5%	\$0.69	28%	\$0.64
Compound embedded derivative with the Loan Agreement with Thermo	40 - 120%	2.5%	\$0.69	28%	\$0.64

Fluctuation in the Company's stock price is a significant driver of the changes in the derivative valuations during each reporting period. The Company's stock price decreased 19% from December 31, 2018 to December 31, 2019. As the stock price decreases, the value to the holder of the instrument generally decreases, thereby decreasing the liability on the Company's consolidated balance sheets. Stock price volatility is another significant unobservable input used in the fair value measurement of each of the Company's derivative instruments. The simulated fair value of these liabilities is sensitive to changes in the expected volatility of the Company's stock price. Decreases in expected volatility would generally result in a lower fair value measurement.

Probability of a change of control is another significant unobservable input used in the fair value measurement of the Company's derivative instruments. Subject to certain restrictions in each indenture, the Company's debt instruments contain certain provisions whereby holders may require the Company to purchase all or any portion of the convertible debt instrument upon a change of control. A change of control will occur upon certain changes in the ownership of the Company or certain events relating to the trading of the Company's common stock. The simulated fair value of the derivative liabilities above is sensitive to changes in the assumed probabilities of a change of control. Increases in the assumed probability of a change of control in the short-term

would generally result in a lower fair value measurement, while increases in the assumed probability of a change in control in the long-term would generally result in a higher fair value measurement.

Expected term is another significant input used in the fair value measurement of the Company's derivative instruments. As previously discussed, in November 2019, the Company completed the refinancing of its debt obligations. In connection with this refinancing, Thermo committed to convert the total principal balance outstanding under the Loan Agreement by March 31, 2020; on February 19, 2020, Thermo converted the entire principal balance outstanding resulting in the issuance of 200.1 million shares of common stock. For the valuation of the associated compound embedded derivative, this probability of conversion was modeled into the valuation as of December 31, 2019, which resulted in a reduction of the derivative value during 2019.

In addition to the inputs described above, the valuation model used to calculate the fair value measurement of the compound embedded derivatives within the Company's 2013 8.00% Notes and Loan Agreement with Thermo included the following inputs and features: payment in kind interest payments, make whole premiums, a 40-day stock issuance settlement period upon conversion, and the principal balance of each loan at the balance sheet date. There are also certain put and call features within the 2013 8.00% Notes that impact the valuation model.

Derivative Liabilities - Second Lien Term Loan Facility

The compound embedded derivative with the Second Lien Term Loan Facility is valued using a probability weighted discounted cash flow model. The significant unobservable inputs used in the fair value measurement include estimated timing and amounts of cash flows associated with certain mandatory prepayments within the debt agreement. These mandatory prepayments include, but are not limited to, prepayments upon change of control, excess cash flow from spectrum monetization, and excess cash flow from the Company's core satellite business.

Rollforward of Recurring Level 3 Liabilities

The following table presents a rollforward for all liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) (in thousands):

	Year Ended December 31,	
	2019	2018
Balance at beginning of period	\$ (146,865)	\$ (227,985)
Issuance of compound embedded derivative with the Second Lien Term Loan Facility	(2,000)	—
Unrealized gain, included in derivative gain	145,073	81,120
Balance at end of period	<u>\$ (3,792)</u>	<u>\$ (146,865)</u>

Fair Value of Debt Instruments

The Company believes it is not practicable to determine the fair value of the Facility Agreement and the Second Lien Term Loan Facility without incurring significant additional costs. Unlike typical long-term debt, interest rates and other terms for these instruments are not readily available and generally involve a variety of factors, including due diligence by the debt holders. The following table sets forth the carrying values and estimated fair values of the Company's other debt instruments, which are classified as Level 3 financial instruments (in thousands):

	December 31, 2019		December 31, 2018	
	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
Loan Agreement with Thermo	\$ 116,543	\$ 88,886	\$ 97,037	\$ 67,452
2013 8.00% Notes	1,410	875	1,379	734

Nonrecurring Fair Value Measurements

Warrants

The Company follows the authoritative guidance regarding non-financial assets and non-financial liabilities that are remeasured at fair value on a nonrecurring basis; pursuant to applicable accounting guidance, measuring the fair value of an instrument classified in shareholders' equity is generally consistent with the requirement for measuring liabilities. On November 27, 2019, the Company entered into a Second Lien Term Loan Facility Agreement. As additional consideration for the loan, the Company issued the lenders warrants to purchase 124.5 million shares of voting common stock at a strike price of \$0.38. The Company determined that the warrants were equity instruments and recorded them as a part of stockholders' equity. The fair value of the warrants was estimated using a Black-Scholes option-pricing model. On the date of issuance, the fair value of the warrants was \$23.6 million. The significant quantitative Level 3 inputs utilized in the valuation model as of the issuance date are shown in the table below:

	November 27, 2019			
	Stock Price Volatility	Risk-Free Interest Rate	Exercise Price	Market Price of Common Stock
Warrants issued in connection with the Second Lien Term Loan Facility	120%	1.6%	\$ 0.38	\$ 0.37

Long-Lived Assets

Long-lived assets and intangible and other assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable.

During 2019, the Company reclassified its former gateway location in Nicaragua to held for sale as, among other factors, the Company intends on disposing of this asset in the next twelve months. In its 2019 consolidated statement of operations, the Company recorded a reduction in the carrying value of this asset of \$0.5 million to equal fair value less estimated costs to sell. This asset was originally recorded at a total fair value of \$1.6 million prior to the reduction in its value, resulting in a total loss of \$1.1 million during 2019. During 2018, a reduction in the value of long-lived assets and/or intangible and other assets was not required.

9. COMMITMENTS

Contractual Obligations - Second-Generation Network

As of December 31, 2019, the Company had purchase commitments with certain vendors related to the procurement, deployment and maintenance of the second-generation network. These commitments include primarily a purchase commitment with MIL-SAT LLC for the procurement and production of new antennas for substantially all of the Company's gateways. As of December 31, 2019, the Company's remaining purchase obligations under this commitment are approximately \$14.6 million; the timing of payments is driven by work performed under the contract over the remaining contract period, approximately three years.

Other Commitments

The Company has inventory purchase commitments with its third party product manufacturers in the normal course of business. These commitments are generally non-cancelable and are based on sales forecasts. The Company estimates that its open inventory purchase commitments as of December 31, 2019 were approximately \$7.0 million. As of December 31, 2019, approximately \$1.1 million related to these commitments was recorded in prepaid expenses and other current assets on the Company's consolidated balance sheet.

10. CONTINGENCIES

Securities Claim

On September 25, 2018, a shareholder action was filed against Globalstar, Inc. (the "Company" or "Globalstar"), members of the Board of Directors, Thermo Companies, Inc., and certain members of Globalstar management in the Court of Chancery of the State of Delaware (the "Court"), captioned Mudrick Capital Management, LP, et al. v. Monroe, et al., C.A. No. 2018-0699-TMR (the "Action"). As previously disclosed, on December 14, 2018, all parties to the Action, including plaintiffs Mudrick Capital Management, L.P. ("Mudrick Capital") and Warlander Asset Management ("Warlander", and, together with Mudrick Capital, the "Plaintiffs"), entered into a stipulation and agreement of settlement, compromise and release of stockholder derivative action (the "Settlement Agreement") to settle all claims asserted against all defendants in the Action.

On September 5, 2019, the Court approved the Settlement Agreement and awarded to the Plaintiffs' attorneys a fee of \$4.5 million, inclusive of expenses, which was paid in November 2019. The Plaintiff's award, as well as other costs incurred by the Company directly associated with the Action, exceeded the Company's retention limit of \$1.5 million for a "securities claim" under its directors and officers insurance policy. The Company's primary insurance provider paid the \$4.5 million settlement award directly to the Plaintiff's in November 2019. Additionally, the Company received a total of \$2.4 million during 2019 as reimbursement for other costs incurred by the Company directly associated with the Action. According to ASC 450, a recovery related to a contingent loss (e.g., insurance recovery) is a contingent gain. Recovery of a recorded contingent loss shall be recognized only when realization of the recovery is deemed probable and reasonably estimable. Accordingly, in December 2019, the Company recorded a gain of \$1.7 million, which represents the portion of the total \$2.4 million insurance recovery that was previously treated as a contingent gain. This gain was recorded in marketing, general and administrative expenses during the fourth quarter of 2019.

Tariff Ruling

In September 2019, U.S Customs and Border Protection ("CBP") issued a ruling related to the classification of certain of the Company's core products imported from China. This classification, which carries 25% tariffs upon import, is inconsistent with the classification the Company previously used based on external legal advice. As a result of the CBP ruling, the Company recorded a payable of approximately \$1.8 million in accrued expenses on the Company's December 31, 2019 consolidated balance sheet related to goods imported from China since July 2018. The Company recorded an offsetting receivable for a portion of the payable that is recoverable as a duty drawback; this receivable represents the portion of duties owed for equipment transferred to foreign subsidiaries for sale.

The Company plans on filing a protest against this ruling to challenge the classification and reduce the amounts owed. The Company cannot provide any assurance that it may be successful in achieving a favorable outcome; as such, the Company is accounting for this matter as a gain contingency and may record any such gain from a reimbursement or change in ruling in future periods if and when the contingency is resolved.

Business Economic Loss Claim

In May 2018, the Company concluded the settlement of a business economic loss claim in which it was an absent member in a tort class action lawsuit. The Company received proceeds of \$7.4 million, net of legal fees, related to this settlement. The Company received the two installments of \$3.7 million each in January 2019 and January 2020. As of December 31, 2019, the \$3.7 million received in January 2020 was recorded in prepaid and other current assets on the Company's consolidated balance sheet. The Company evaluated the facts and circumstances surrounding this settlement and determined that under ASC 450, this contingent gain was considered realizable as the signed settlement was enforceable, the counterparty had the wherewithal to pay the amount and the proceeds met the definition of an asset. Accordingly, during 2018, the Company recorded the present value of the proceeds of \$6.8 million and a discount of \$0.6 million. The present value of the net proceeds of \$6.8 million was recorded in other income on the Company's consolidated statement of operations. The discount of \$0.6 million was recorded on the Company's consolidated balance sheet and was accreted to interest income over the term of the receivable using the effective interest method.

Other Litigation

Due to the nature of the Company's business, the Company is involved, from time to time, in various litigation matters or subject to disputes or routine claims regarding its business activities. Legal costs related to these matters are expensed as incurred.

In management's opinion, there is no pending litigation, dispute or claim, other than those described in this report, which could be expected to have a material adverse effect on the Company's financial condition, results of operations or liquidity.

11. ACCRUED EXPENSES AND OTHER NON-CURRENT LIABILITIES

Accrued expenses consist of the following (in thousands):

	December 31,	
	2019	2018
Accrued compensation and benefits	\$ 3,455	\$ 3,027
Accrued property and other taxes	4,022	3,069
Accrued customer liabilities and deposits	5,751	4,802
Accrued professional and other service provider fees	3,034	5,224
Accrued commissions	1,780	1,224
Accrued telecommunications expenses	610	1,528
Accrued inventory	702	561
Accrued asset purchase	—	1,401
Accrued tariffs	1,795	—
Short-term lease liability	1,634	—
Other accrued expenses	2,091	2,249
Total accrued expenses	\$ 24,874	\$ 23,085

Other accrued expenses include primarily advertising costs, vendor services, warranty reserve, occupancy costs, accrued network costs and estimated payroll shortfall under the Cooperative Endeavor Agreement with the Louisiana Department of Economic Development (“LED”).

The following is a summary of the activity in the warranty reserve account, which is included in other accrued expenses above (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Balance at beginning of period	\$ 153	\$ 143	\$ 132
Provision	525	372	273
Utilization	(492)	(362)	(262)
Balance at end of period	\$ 186	\$ 153	\$ 143

Other non-current liabilities consist of the following (in thousands):

	December 31,	
	2019	2018
Asset retirement obligation	\$ 1,467	\$ 1,459
Deferred tax liability	395	—
Deferred rent and other deferred expense	104	147
Capital lease obligations	19	77
Liability related to the Cooperative Endeavor Agreement with the State of Louisiana	—	248
Foreign tax contingencies	1,086	1,435
Total other non-current liabilities	\$ 3,071	\$ 3,366

Asset retirement obligations reflect the estimated liability arising from legal obligations associated with the retirement of certain long-lived assets; for further discussion refer to Note 1: Summary of Significant Accounting Policies.

Foreign tax contingencies reflect primarily amounts owed by the Company's Brazilian subsidiary pursuant to refinancing programs in country as well as certain pre-acquisition tax liabilities arising from the Company's acquisition of the former IGO in Brazil in 2008.

The Company relocated its headquarters to Louisiana in 2010. In connection with its relocation, the Company entered into a Cooperative Endeavor Agreement with the LED, which expired on December 31, 2019, whereby the Company was reimbursed for certain qualified relocation costs and annual lease expenses. Under the terms of the agreement, since its relocation in 2010, the Company was reimbursed a total of \$5.8 million for qualifying relocation and lease expenses and \$1.3 million for facility improvements and replacement equipment in connection with the relocation through December 31, 2019.

12. RELATED PARTY TRANSACTIONS

Payables to Thermo and other affiliates related to normal purchase transactions were \$0.3 million and \$0.7 million as of December 31, 2019 and 2018, respectively. This decrease is related to the timing of expenses incurred by Thermo on behalf of the Company related to the shareholder litigation discussed in Note 10: Contingencies.

Transactions with Thermo

Certain general and administrative expenses are incurred by Thermo on behalf of the Company. These expenses, which include non-cash expenses that the Company accounts for as a contribution to capital, related to services provided by certain executive officers of Thermo and expenses incurred by Thermo on behalf of the Company which are charged to the Company. The expenses charged are based on actual amounts (with no mark-up) incurred by Thermo or upon allocated employee time. The expenses charged to the Company were \$0.5 million, \$1.5 million, and \$0.8 million for the periods ended December 31, 2019, 2018 and 2017, respectively; 2018 included approximately \$0.7 million of expenses incurred by Thermo on behalf of the Company related to the shareholder litigation that did not recur in 2019.

In February 2019, the Company entered into a lease agreement with Thermo Covington, LLC for the Company's new headquarters office. Annual lease payments for the new location are \$1.4 million per year, increasing at a rate of 2.5% per year, for a lease term of ten years. During the twelve months ended December 31, 2019, the Company incurred lease expense of \$1.5 million due to Thermo under this lease agreement.

As of December 31, 2019, the principal amount outstanding under the Loan Agreement with Thermo was \$135.1 million, and the fair value of the compound embedded derivative liability associated with the Loan Agreement was \$1.3 million. During 2019 and 2018, interest accrued on the Loan Agreement was approximately \$15.4 million and \$13.6 million, respectively. As previously disclosed, Thermo committed to convert the total principal balance outstanding under the Loan Agreement by March 31, 2020; on February 19, 2020, Thermo converted the entire principal balance outstanding resulting in the issuance of 200.1 million shares of common stock.

In July 2019, the Company entered into a Subordinated Loan Agreement, effective June 28, 2019, with Thermo and certain unaffiliated parties. Thermo's participation in the Subordinated Loan Agreement was \$53.8 million and \$3.4 million of interest had accrued prior to its pay down. In November 2019, the Company entered into the Second Lien Term Loan Facility which was used in part to repay the entire balance of the Subordinated Loan Agreement. Thermo's participation in the Second Lien Term Loan Facility was \$95.1 million. This principal balance earns paid-in-kind interest at a rate of 13% per annum. During 2019, interest accrued with respect to Thermo's portion of the debt outstanding on the Second Lien Term Loan Facility was approximately \$1.2 million. In connection with the issuance of the Second Lien Term Loan Facility, the holders received warrants to purchase shares of voting common stock, of which Thermo received 59.5 million warrants with an exercise price of \$0.38 per share. In December 2019, Thermo exercised 9.5 million warrants resulting in cash proceeds to the Company of \$3.6 million. See Note 6: Long-Term Debt and Other Financing Arrangements for further discussion of the Company's debt and financing transactions with Thermo.

In April 2018, Globalstar entered into a merger agreement with certain Thermo entities, which are controlled by James Monroe III, Executive Chairman of the Board of Directors of Globalstar and former Chief Executive Officer of Globalstar. The transaction was unanimously recommended by the Special Committee of the Board of Directors of Globalstar, consisting entirely of disinterested independent directors, and unanimously approved by the full Board of Directors. On July 31, 2018, Globalstar, following the unanimous recommendation of its Special Committee of independent directors and Thermo, terminated the merger agreement by mutual written agreement.

The Facility Agreement requires Thermo to maintain minimum and maximum ownership levels in the Company's common stock.

As previously disclosed, in connection with the Settlement Agreement discussed in Note 10: Contingencies, the Company formed a Strategic Review Committee that is required to remain in existence for as long as Thermo and its affiliates beneficially own forty-five percent (45%) or more of Globalstar's outstanding common stock. To the extent permitted by applicable law, the Strategic Review Committee will have exclusive responsibility for the oversight, review and approval of, among other things and subject to certain exceptions, any acquisition by Thermo and its affiliates of additional newly-issued securities of the Company and any transaction between the Company and Thermo and its affiliates with a value in excess of \$250,000. The approval of any of the foregoing transactions will require the vote of at least a majority of the Strategic Review Committee.

13. PENSIONS AND OTHER EMPLOYEE BENEFITS

Defined Benefit Plan

Until June 1, 2004, substantially all Old and New Globalstar employees and retirees who participated and/or met the vesting criteria for the plan were participants in the Retirement Plan of Space Systems/Loral (the "Loral Plan"), a defined benefit pension plan. The accrual of benefits in the Old Globalstar segment of the Loral Plan was curtailed, or frozen, by the administrator of the Loral Plan in 2003. Prior to 2003, benefits for the Loral Plan were generally based upon contributions, length of service with the Company and age of the participant. On June 1, 2004, the assets and frozen pension obligations of the Globalstar Segment of the Loral Plan were transferred into a new Globalstar Retirement Plan (the "Globalstar Plan"). The Globalstar Plan remains frozen and participants are not currently accruing benefits beyond those accrued as of October 23, 2003. The Company's funding policy is to fund the Globalstar Plan in accordance with the Internal Revenue Code and regulations.

In December 2019, the Company settled a portion of the pension liability related to terminated vested employees in the Globalstar Plan as a de-risking strategy. The total settlement of \$1.7 million was paid out through the assets held in the Globalstar Plan. The settlement resulted in a reduction to the projected benefit obligation and a corresponding decrease to plan assets as of December 31, 2019. Additionally, in accordance with ASC 715 *Compensation — Retirement Benefits*, the Company recognized a loss of \$0.5 million in its consolidated statement of operations during the twelve-month period ended December 31, 2019 associated with this settlement. This loss represents the pro rata portion of actuarial losses that were previously deferred in other comprehensive income.

Defined Benefit Pension Obligation and Funded Status

Below is a reconciliation of projected benefit obligation, plan assets and the funded status of the Company's defined benefit plan (in thousands):

	Year Ended December 31,	
	2019	2018
Change in projected benefit obligation:		
Projected benefit obligation, beginning of year	\$ 17,150	\$ 18,637
Service cost	195	194
Interest cost	706	663
Actuarial (gain) loss	1,147	(1,332)
Settlement	(1,660)	—
Benefits paid	(1,029)	(1,012)
Projected benefit obligation, end of year	<u>\$ 16,509</u>	<u>\$ 17,150</u>
Change in fair value of plan assets:		
Fair value of plan assets, beginning of year	\$ 12,661	\$ 14,248
Return on plan assets	2,179	(870)
Employer contributions	230	295
Settlement	(1,660)	—
Benefits paid	(1,029)	(1,012)
Fair value of plan assets, end of year	<u>\$ 12,381</u>	<u>\$ 12,661</u>
Funded status, end of year-net liability	<u>\$ (4,128)</u>	<u>\$ (4,489)</u>

Net Benefit Cost and Amounts Recognized

Components of the net periodic benefit cost of the Company's defined benefit pension plan were as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Net periodic benefit cost:			
Service cost	\$ 195	\$ 194	\$ 195
Interest cost	706	663	722
Expected return on plan assets	(794)	(901)	(825)
Amortization of unrecognized net actuarial loss	404	374	443
Settlement	455	—	—
Total net periodic benefit cost	\$ 966	\$ 330	\$ 535

Amounts recognized in the consolidated balance sheet were as follows (in thousands):

	December 31,	
	2019	2018
Amounts recognized:		
Funded status recognized in other non-current liabilities	\$ (4,128)	\$ (4,489)
Net actuarial loss recognized in accumulated other comprehensive loss	4,525	5,622
Net amount recognized in retained deficit	\$ 397	\$ 1,133

The estimated net actuarial loss that will be amortized from accumulated other comprehensive loss into net periodic benefit cost in 2020 is \$0.3 million. No amounts are expected to be amortized from accumulated other comprehensive loss into net periodic benefit cost in 2020 related to prior service costs or net transition obligations.

Assumptions

The weighted-average assumptions used to determine the benefit obligation and net periodic benefit cost were as follows:

	For the Year Ended December 31,		
	2019	2018	2017
Benefit obligation assumptions:			
Discount rate	3.28%	4.25%	3.63%
Rate of compensation increase	N/A	N/A	N/A
Net periodic benefit cost assumptions:			
Discount rate	4.25%	3.63%	4.15%
Expected rate of return on plan assets	6.50%	6.50%	6.50%
Rate of compensation increase	N/A	N/A	N/A

The assumptions, investment policies and strategies for the Globalstar Plan are determined by the Globalstar Plan Committee. The Globalstar Plan Committee is responsible for ensuring the investments of the plans are managed in a prudent and effective manner. Amounts related to the pension plan are derived from actuarial and other assumptions, including discount rates, mortality, expected rate of return, participant data and termination. The Company reviews assumptions on an annual basis and makes adjustments as considered necessary.

The expected long-term rate of return on pension plan assets is selected by taking into account the expected duration of the projected benefit obligation for the plan, the asset mix of the plan and the fact that the plan assets are actively managed to mitigate risk. Discount rates are determined annually based on the Plan administrator's yield curve index, which considers expected benefit payments and is discounted with rates from the yield curve to determine a single equivalent discount rate.

Plan Assets and Investment Policies and Strategies

The plan assets are invested in various mutual funds which have quoted prices. The plan has a target allocation. On a weighted-average basis, target allocations for equity securities range from 50% to 60%, for debt securities 25% to 50% and for other investments 0% to 15%. The defined benefit pension plan asset allocations as of the measurement date presented as a percentage of total plan assets were as follows:

	December 31,	
	2019	2018
Equity securities	55%	54%
Debt securities	45	46
Total	100%	100%

The fair values of the Company's pension plan assets by asset category were as follows (in thousands):

December 31, 2019				
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
United States equity securities	\$ 5,501	\$ —	\$ 5,501	\$ —
International equity securities	1,366	—	1,366	—
Fixed income securities	3,725	—	3,725	—
Other	1,789	—	1,789	—
Total	\$ 12,381	\$ —	\$ 12,381	\$ —

December 31, 2018				
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
United States equity securities	\$ 5,509	\$ —	\$ 5,509	\$ —
International equity securities	1,288	—	1,288	—
Fixed income securities	4,158	—	4,158	—
Other	1,706	—	1,706	—
Total	\$ 12,661	\$ —	\$ 12,661	\$ —

Accumulated Benefit Obligation

The accumulated benefit obligation of the defined benefit pension plan was \$16.5 million and \$17.2 million at December 31, 2019 and 2018, respectively.

Benefits Payments and Contributions

The benefit payments to retirees over the next ten years are expected to be paid as follows (in thousands):

2020	\$	1,023
2021		1,024
2022		1,041
2023		1,026
2024		1,037
2025 - 2029		5,101

For 2019 and 2018, the Company contributed \$0.2 million and \$0.3 million, respectively, to the Globalstar Plan. For 2020, the Company's expected contributions to the Globalstar Plan will be \$0.8 million.

401(k) Plan

The Company has a defined contribution employee savings plan, or "401(k)," which provides that the Company may match the contributions of participating employees up to a designated level. Under this plan, the matching contributions were approximately \$0.6 million, \$0.6 million and \$0.4 million for 2019, 2018, and 2017, respectively. The increase in matching contributions during 2018 was due to increased headcount as well as an increase to the matching contribution percentage by the Company during 2018.

14. TAXES

The components of income tax expense (benefit) were as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Current:			
Federal tax	\$ —	\$ —	\$ —
State tax	56	30	25
Foreign tax	94	95	165
Total	<u>150</u>	<u>125</u>	<u>190</u>
Deferred:			
Federal and state tax	395	—	—
Foreign tax	—	—	—
Total	<u>395</u>	<u>—</u>	<u>—</u>
Income tax expense	<u>\$ 545</u>	<u>\$ 125</u>	<u>\$ 190</u>

U.S. and foreign components of income (loss) before income taxes are presented below (in thousands):

	Year Ended December 31,		
	2019	2018	2017
U.S. income (loss)	\$ 47,545	\$ 28,699	\$ (60,964)
Foreign income (loss), net	(31,676)	(35,090)	(27,920)
Total income (loss) before income taxes	<u>\$ 15,869</u>	<u>\$ (6,391)</u>	<u>\$ (88,884)</u>

As of December 31, 2019, the Company had cumulative U.S. and foreign net operating loss carryforwards for income tax reporting purposes of approximately \$1.8 billion and \$242.0 million, respectively. As of December 31, 2018, the Company had cumulative U.S. and foreign net operating loss carryforwards for income tax reporting purposes of approximately \$1.8 billion and \$228.9 million, respectively. The current net operating loss carryforwards expire from 2020 through 2039, with less than 1% expiring prior to 2025.

The components of net deferred income tax assets were as follows (in thousands):

	December 31,	
	2019	2018
Federal and foreign net operating loss, interest limitation and credit carryforwards	\$ 475,171	\$ 489,815
Property and equipment and other long-term assets	(153,049)	(80,830)
Accruals and reserves	2,310	7,152
Deferred tax assets before valuation allowance	324,432	416,137
Valuation allowance	(324,827)	(416,137)
Net deferred income tax asset (liability)	<u>\$ (395)</u>	<u>\$ —</u>

The change in the valuation allowance during 2019 of \$91.3 million was due to the Company providing valuation allowances against all of the tax benefit generated from its consolidated net losses. Due to the remeasurement of the state impact on U.S. deferred tax assets and the Company's reconciliation of various deferred tax assets to reflect the remaining cumulative differences, the Company has remeasured all U.S. deferred tax assets resulting in a decrease in both the deferred tax asset and the associated valuation allowance. Due to the limitation on utilization of state net operating losses, the Company recorded a deferred tax liability and income tax expense during 2019. The change in property and equipment and other long-term assets was driven primarily by depreciation due to the difference between tax and book depreciable lives.

The actual provision for income taxes differs from the statutory U.S. federal income tax rate as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Provision at U.S. statutory rate of 21% for each of 2019 and 2018 and 35% for 2017	\$ 3,333	\$ (1,349)	\$ (31,118)
State income taxes, net of federal benefit	1,055	890	(1,804)
Change in valuation allowance (excluding impact of foreign exchange rates)	(89,998)	(8,228)	(245,304)
Effect of foreign income tax at various rates	(84)	(237)	3,739
Permanent differences	7,942	7,031	11,166
Net change in permanent items due to provision to tax return	2,475	1,813	(3,565)
Adjustment to reserved deferred assets	62,085	—	—
Remeasurement of U.S. deferred tax assets (Federal and State)	—	—	266,864
Adjustment to state deferred rate	13,639	—	—
Other (including amounts related to prior year tax matters)	98	205	212
Total	<u>\$ 545</u>	<u>\$ 125</u>	<u>\$ 190</u>

Tax Audits

The Company operates in various U.S. and foreign tax jurisdictions. The process of determining its anticipated tax liabilities involves many calculations and estimates which are inherently complex. The Company believes that it has complied in all material respects with its obligations to pay taxes in these jurisdictions. However, its position is subject to review and possible challenge by the taxing authorities of these jurisdictions. If the applicable taxing authorities were to challenge successfully its current tax positions, or if there were changes in the manner in which the Company conducts its activities, the Company could become subject to material unanticipated tax liabilities. It may also become subject to additional tax liabilities as a result of changes in tax laws, which could in certain circumstances have a retroactive effect.

In July 2018, the Company's Canadian subsidiary was notified that its income tax returns for the years ended October 31, 2015 and 2016 had been selected for audit. The Company has provided all requested information to the Canada Revenue Agency ("CRA") and is working with the CRA to complete the audit.

Except for the audit noted above, neither the Company nor any of its subsidiaries is currently under audit by the IRS or by any state income tax jurisdiction in the United States. The Company's corporate U.S. tax returns for 2016 and subsequent years remain subject to examination by tax authorities. State income tax returns are generally subject to examination for a period of three to five years after filing of the respective return. The state impact of any federal changes remains subject to examination by various states for a period of up to one year after formal notification to the states.

In the Company's international tax jurisdictions, numerous tax years remain subject to examination by tax authorities, including tax returns for 2011 and subsequent years in most of the Company's international tax jurisdictions.

There are no unrecognized tax benefits as of December 31, 2019 and December 31, 2018.

Other

As of December 31, 2019, the Company had not provided foreign withholding taxes on approximately \$2.4 million of undistributed earnings from certain foreign subsidiaries indefinitely invested outside the U.S.

On December 22, 2017, the United States ("U.S.") enacted significant changes to the U.S. tax law following the passage and signing of the Tax Act. The Tax Act included significant changes to existing tax law substantially effective January 1, 2018, including a permanent reduction to the U.S. federal corporate income tax rate from 35% to 21%, changes to the NOL utilization regulations, repeal of alternative minimum tax, a one-time deemed repatriation tax on deferred foreign income ("Transition Tax"), implementation of a territorial tax system, implementation of anti-deferral and anti-base erosion provisions, and provisions to both accelerate and limit certain deductions. The Company has revalued its deferred tax assets and liabilities based on the new corporate tax rate. As the Company's deferred tax assets have a full valuation allowance, the Company has not recorded any income statement impact as a result of the remeasurement of net deferred tax assets. Accordingly, the tax law changes did not have a material impact to the financial statements of the Company.

Also, on December 22, 2017, the SEC staff issued Staff Accounting Bulletin (SAB) 118 to provide guidance for companies that are not able to complete their accounting for the income tax effects of the Tax Act in the period of enactment. SAB 118 provides for a measurement period of up to one year from the date of enactment. During the measurement period, companies need to reflect adjustments to any provisional amounts if it obtains, prepares or analyzes additional information about facts and circumstances that existed as of the enactment date that, if known, would have affected the income tax effects initially reported as provisional amounts. The Company completed its analysis of the Tax Act and no adjustments were made to the provisional amounts recorded in the Company's financial statements for the period ending on December 31, 2017.

In January 2018, the FASB released guidance on the accounting for tax on the global intangible low-taxed income ("GILTI") provisions of the Tax Act. The GILTI provisions impose a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. The guidance indicates that either accounting for deferred taxes related to GILTI inclusions or treating any taxes on GILTI inclusions as period costs are both acceptable methods subject to an accounting policy election. The Company has elected to account for GILTI tax in the period in which it is incurred, and therefore has not provided any deferred tax impacts of GILTI in its consolidated financial statements for the years ended December 31, 2019 and December 31, 2018.

15. EARNINGS (LOSS) PER SHARE

Basic earnings (loss) per share is computed by dividing income (loss) available to common stockholders by the weighted average number of shares of common stock outstanding during the period. The numerator used to calculate diluted EPS includes the effect of dilutive securities, including interest expense, net, and derivative gains or losses reflected in net income (loss). Common stock equivalents are included in the calculation of diluted earnings per share only when the effect of their inclusion would be dilutive. Potentially dilutive securities include primarily outstanding stock-based awards, convertible notes, warrants and shares issuable pursuant to the Company's Employee Stock Purchase Plan.

The following table sets forth the calculation of basic and diluted earnings (loss) per share and reconciles basic weighted average shares to diluted weighted average shares of common stock outstanding for the periods indicated (in thousands):

	Year ended December 31,		
	2019	2018	2017
Net income (loss)	\$ 15,324	\$ (6,516)	\$ (89,074)
Effect of dilutive securities:			
2013 8.00% Notes	(127)	—	—
Loan Agreement with Thermo	(125,880)	—	—
Loss to common stockholders plus assumed conversions	<u>\$ (110,683)</u>	<u>\$ (6,516)</u>	<u>\$ (89,074)</u>
Weighted average common shares outstanding:			
Basic shares outstanding	1,450,768	1,269,548	1,166,581
Incremental shares from assumed exercises, conversions and other issuance of:			
Stock options, restricted stock, restricted stock units and ESPP	4,743	—	—
2013 8.00% Notes	2,044	—	—
Loan Agreement with Thermo	195,805	—	—
Warrants issued in connection with Second Lien Term Loan Facility	1,831	—	—
Diluted shares outstanding	<u>1,655,191</u>	<u>1,269,548</u>	<u>1,166,581</u>
Income (loss) per share:			
Basic	\$ 0.01	\$ (0.01)	\$ (0.08)
Diluted	\$ (0.07)	\$ (0.01)	\$ (0.08)

For the years ended December 31, 2018, and 2017, 201.7 million and 176.5 million shares of potential common stock, respectively, were excluded from diluted shares outstanding because the effects of potentially dilutive securities would be anti-dilutive.

In connection with the Second Lien Term Loan Facility entered into in November 2019, the Company issued 124.5 million warrants to purchase the Company's common stock to the debt holders as consideration for the loan. As of December 31, 2019, approximately 115.0 million warrants remain outstanding. Refer to Note 6: Long-Term Debt and Other Financing Arrangements for further discussion on these warrants.

16. STOCK COMPENSATION

The Company's 2006 Equity Incentive Plan ("Equity Plan") provides long-term incentives to the Company's key employees, including officers, directors, consultants and advisers ("Eligible Participants"), and is designed to align stockholder and employee interests. Under the Equity Plan, the Company may grant incentive stock options, nonstatutory stock options, restricted stock awards, restricted stock units, and other stock based awards or any combination thereof to Eligible Participants. The Compensation Committee of the Company's Board of Directors establishes the terms and conditions of any awards granted under the plans. As of December 31, 2019, and 2018, the number of shares of common stock that was authorized and remained available for issuance under the Equity Plan was 34.4 million and 11.4 million, respectively. In 2019, the stockholders of Globalstar approved amendments to the Company's Equity Plan; key changes included the authorization of an additional 28.9 million shares for future issuance as well as extension of the term of the Equity Plan through February 2029.

Stock Options

The Company has granted incentive stock options under the Equity Plan. These options have various vesting terms, but generally vest in equal installments over three or four years and expire in ten years. Non-vested options are generally forfeited upon termination of employment.

The Company recognizes compensation expense for stock option grants based on the fair value at the date of grant using the Black-Scholes option pricing model. The Company uses historical data, among other factors, to estimate the expected stock price volatility, the expected option life and the expected forfeiture rate. The market price of common stock has been volatile at times in recent years. The Company makes judgmental adjustments to project volatility during the expected term of the options, considering, among other things, historical volatility of the share prices of its peer group and expectations with regard to business conditions that may impact stock price fluctuations or stability. The Company estimates the expected term considering factors such as historical exercise patterns and the recipients of the options granted. The risk-free rate is based on the United States Treasury Department yield curve in effect at the time of grant for the expected life of the option. The Company assumes an expected dividend yield of zero for all periods. The table below summarizes the assumptions for the indicated periods:

	Year Ended December 31,		
	2019	2018	2017
Risk-free interest rate	2.5%	2 - 3%	2%
Expected term of options (years)	5	5	5
Volatility	63%	63%	67%
Weighted average grant-date fair value per share	\$ 0.29	\$ 0.26	\$ 0.85

The following table represents the Company's stock option activity for the year ended December 31, 2019:

	Shares	Weighted Average Exercise Price
Outstanding at January 1, 2019	8,215,230	\$ 1.45
Exercised	(95,000)	0.38
Forfeited or expired	(292,766)	2.66
Outstanding at December 31, 2019	<u>7,827,464</u>	1.42
Exercisable at December 31, 2019	<u>7,135,678</u>	\$ 1.47

The Company did not grant any stock options during 2019, accordingly, no amounts are shown in the table above.

The following table summarizes the aggregate intrinsic value of stock options exercised during the years indicated below (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Intrinsic value of stock options exercised	\$ 17	\$ 35	\$ 94

The intrinsic value of a stock option is the amount by which the market value of the underlying stock exceeds the exercise price of the option. Net cash proceeds during the year ended December 31, 2019 from the exercise of stock options was less than \$0.1 million. The aggregate intrinsic value of all outstanding stock options at December 31, 2019 was \$0.1 million with a remaining contractual life of 6.5 years. The aggregate intrinsic value of all vested stock options at December 31, 2019 was \$0.1 million with a remaining contractual life of 6.5 years.

The following table presents compensation expense related to stock options for the years indicated below (in millions):

	Year Ended December 31,		
	2019	2018	2017
Total compensation expense	\$ 0.3	\$ 1.1	\$ 1.2

In recent years, the Company has adjusted its philosophy related to equity compensation and has increased the volume of grants of restricted stock award and units (shown in more detail below) and has decreased the volume of grants of stock options. This change in compensation philosophy has resulted in lower compensation cost recognized during 2019. As of December 31, 2019, unrecognized compensation expense related to nonvested stock options outstanding was approximately \$0.4 million to be recognized over a weighted-average period of 1.8 years.

The Company adjusts its estimates of expected forfeitures of equity awards based upon its review of recent forfeiture activity and expected future employee turnover. The Company considers the impact of both pre-vesting forfeitures and post-vesting cancellations for purposes of evaluating forfeiture estimates. The effect of adjusting the forfeiture rate is recognized in the period in which the forfeiture estimate is changed.

Restricted Stock

Shares of restricted stock generally vest immediately, one year from the grant date, in equal annual installments over three years or based on performance criteria. Non-vested shares are generally forfeited upon the termination of employment. Holders of restricted stock awards are entitled to all rights of a stockholder of the Company with respect to the restricted stock, including the right to vote the shares and receive any dividends or other distributions. Compensation expense associated with restricted stock is measured based on the grant date fair value of the common stock and is recognized on a straight line basis over the vesting period. The table below summarizes the weighted average grant date fair value of restricted stock for the indicated periods:

	Year Ended December 31,		
	2019	2018	2017
Weighted average grant date fair value	\$ 0.46	\$ 0.49	\$ 1.37

The following is a rollforward of the activity in restricted stock for the year ended December 31, 2019:

	Shares	Weighted Average Grant Date Fair Value
Nonvested at January 1, 2019	12,811,016	\$ 0.61
Granted	5,034,986	0.46
Vested	(8,007,290)	0.58
Forfeited	(545,912)	0.54
Nonvested at December 31, 2019	<u>9,292,800</u>	\$ 0.56

Approximately 2.0 million performance-based restricted stock awards are reflected in the nonvested balance at January 1, 2019 and December 31, 2019.

The following table represents the compensation expense related to restricted stock for the years indicated below (in millions):

	Year Ended December 31,		
	2019	2018	2017
Total compensation expense	\$ 4.3	\$ 3.9	\$ 2.3

The total fair value, as calculated on the day of vesting, of restricted stock awards that vested during 2019, 2018 and 2017 was \$4.1 million, \$3.1 million, and \$3.4 million, respectively. As of December 31, 2019, unrecognized compensation expense related to unvested restricted stock outstanding was approximately \$4.0 million to be recognized over a weighted-average period of 1.8 years.

Key Employee Bonus Plan

The Company has an annual bonus plan designed to reward designated key employees' efforts to exceed the Company's financial performance goals for the designated calendar year ("Plan Year"). The bonus pool available for distribution is determined based on the Company's adjusted EBITDA performance during the Plan Year. The bonus may be paid in cash or the Company's common stock, as determined by the Compensation Committee and with the consent of our Lenders if paid cash.

For the 2019 Plan Year, the Company's adjusted EBITDA performance was within the bonus payout threshold according to the plan document. As of December 31, 2019, \$0.9 million was accrued on the Company's consolidated balance sheet related to this bonus payment, which is expected to be made in the form of common stock during the first quarter of 2020.

Employee Stock Purchase Plan

The Company has an Employee Stock Purchase Plan (the "Plan") which provides eligible employees of the Company and its subsidiaries with an opportunity to acquire shares of its common stock at a discount. The maximum aggregate number of shares of common stock that may be purchased through the Plan is 14.0 million shares. The number of shares that may be purchased through the Plan will be subject to proportionate adjustments to reflect stock splits, stock dividends, or other changes in the Company's capital stock. In 2019, the stockholders of Globalstar approved an amendment to the Company's Equity Plan; key changes included the authorization of an additional 7.0 million shares for future issuance as well as a 2% annual increase to the maximum aggregate number of shares available for grant in future years.

The Plan permits eligible employees to purchase shares of common stock during two semi-annual offering periods beginning on June 15 and December 15 (the "Offering Periods"), unless adjusted by the Company's Board of Directors or one of its designated committees. Eligible employees may purchase shares of up to 15% of their total compensation per pay period, but may purchase in any calendar year no more than the lesser of \$25,000 in fair market value of common stock or 500,000 shares of common stock, as measured as of the first day of each applicable Offering Period. The price an employee pays is 85% of the fair market value of common stock. Fair market value is equal to the lesser of the closing price of a share of common stock on either the first day or the last day of the Offering Period.

For the years ended December 31, 2019 and 2018, the Company received \$0.6 million and \$0.5 million, respectively, related to shares issued under this plan. For each of 2019 and 2018, the Company recorded compensation expense of approximately \$0.5 million, which is reflected in marketing, general and administrative expenses. Additionally, the Company has issued approximately 8.2 million shares through December 31, 2019 related to the Plan.

The fair value of the employees' stock purchase rights granted under the ESPP was estimated using the Black-Scholes option pricing model with the following assumptions for the following years:

	Year Ended December 31,	
	2019	2018
Risk-free interest rate	2.00%	2.00%
Expected term (months)	6	6
Volatility	128%	104%
Weighted average grant-date fair value per share	\$ 0.20	\$ 0.35

17. ACCUMULATED OTHER COMPREHENSIVE LOSS

Accumulated other comprehensive loss includes all changes in equity during a period from non-owner sources. The change in accumulated other comprehensive loss for all periods presented resulted from foreign currency translation adjustments and minimum pension liability adjustments.

The components of accumulated other comprehensive loss were as follows (in thousands):

	December 31,	
	2019	2018
Accumulated minimum pension liability adjustment	\$ (4,525)	\$ (5,622)
Accumulated net foreign currency translation adjustment	1,076	1,783
Total accumulated other comprehensive loss	<u>\$ (3,449)</u>	<u>\$ (3,839)</u>

The minimum pension liability adjustment in the table above includes a settlement loss of \$0.5 million. In December 2019, the Company settled a portion of its pension liability related to terminated vested employees in the Globalstar Plan as a de-risking strategy. The settlement resulted in a reduction to the projected benefit obligation and a corresponding decrease to plan assets as of December 31, 2019. In accordance with ASC 715 *Compensation — Retirement Benefits*, the Company recognized a loss of \$0.5 million in other comprehensive income and non-operating expense during 2019 associated with this settlement. This loss represents the pro rata portion of actuarial losses that were previously deferred in other comprehensive income.

No amounts were reclassified out of accumulated other comprehensive loss for the periods shown above.

18. QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

The following is a summary of consolidated quarterly financial information (amounts in thousands, except per share data):

2019	Quarter Ended			
	March 31	June 30	Sept. 30	Dec. 31
Total revenue	\$ 30,078	\$ 31,191	\$ 38,614	\$ 31,835
Loss from operations	\$ (18,331)	\$ (16,656)	\$ (12,005)	\$ (17,054)
Net income (loss)	\$ 25,771	\$ 6,189	\$ 21,111	\$ (37,747)
Basic income (loss) per common share	\$ 0.02	\$ 0.00	\$ 0.01	\$ (0.03)
Diluted loss per common share	\$ (0.02)	\$ (0.01)	\$ (0.01)	\$ (0.03)
Shares used in basic per share calculations	1,448,318	1,450,380	1,451,703	1,452,614
Shares used in diluted per share calculations	1,632,257	1,640,442	1,647,734	1,452,614

2018	Quarter Ended			
	March 31	June 30	Sept. 30	Dec. 31
Total revenue	\$ 28,749	\$ 33,726	\$ 35,692	\$ 31,946
Operating income (loss)	\$ (12,958)	\$ 1,948	\$ (17,962)	\$ (18,407)
Net income (loss)	\$ 87,930	\$ (7,012)	\$ 9,019	\$ (96,453)
Basic income (loss) per common share	\$ 0.07	\$ (0.01)	\$ 0.01	\$ (0.07)
Diluted loss per common share	\$ (0.01)	\$ (0.01)	\$ (0.02)	\$ (0.07)
Shares used in basic per share calculations	1,262,336	1,263,372	1,264,516	1,287,742
Shares used in diluted per share calculations	1,437,328	1,263,372	1,427,800	1,287,742

During the third quarter of 2019, the Company identified a misapplication of GAAP in the previously reported calculation of net income (loss) attributable to common stockholders in the numerator of diluted EPS for certain prior periods. The correction of this calculation had no impact on net income (loss), retained deficit or any other financial statement line items. For comparative purposes, prior period calculations of diluted EPS have been adjusted to conform to current period presentation, as necessary, throughout this filing.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

Not applicable.

Item 9A. Controls and Procedures

(a) Evaluation of disclosure controls and procedures

Our management, with the participation of our Principal Executive Officer and Principal Financial Officer, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15(b) under the Securities Exchange Act of 1934 as of December 31, 2019, the end of the period covered by this Report. This evaluation was based on the guidelines established in *Internal Control - Integrated Framework* issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives.

Based on this evaluation, each of our Principal Executive Officer and Principal Financial Officer concluded that as of December 31, 2019 our disclosure controls and procedures were effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and that such information is accumulated and communicated to our management, including our Principal Executive Officer and Principal Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

We believe that the Consolidated Financial Statements included in this Report fairly present, in all material respects, our consolidated financial position and results of operations as of and for the year ended December 31, 2019.

(b) Changes in internal control over financial reporting

As of December 31, 2019, our management, with the participation of our Principal Executive Officer and Principal Financial Officer, evaluated our internal control over financial reporting. Based on that evaluation, our Principal Executive Officer and Principal Financial Officer concluded that no changes in our internal control over financial reporting occurred during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Annual Report on Internal Control over Financial Reporting

Management of the Company, including our Principal Executive Officer and Principal Financial Officer, is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) of the Securities Exchange Act of 1934, as amended. The Company's internal controls were designed to provide reasonable assurance as to the reliability of our financial reporting and the preparation and presentation of the Consolidated Financial Statements for external purposes in accordance with accounting principles generally accepted in the United States and includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) 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 (3) 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.

The Company conducted an evaluation of the effectiveness of its internal control over financial reporting based on the criteria in *Internal Control - Integrated Framework* issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission. This evaluation included review of the documentation of controls, evaluation of the design effectiveness of controls, testing of the operating effectiveness of controls and a conclusion on this evaluation. Through this evaluation, management did not identify any material weakness in the Company's internal control over financial reporting. There are inherent limitations in the effectiveness of any system of internal control over financial reporting; however, based on the evaluation, management has concluded the Company's internal control over financial reporting was effective as of December 31, 2019.

The Company's internal control over financial reporting as of December 31, 2019 has been audited by Crowe LLP, an independent registered public accounting firm, as stated in their report, which appears herein.

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item is incorporated by reference from the applicable information set forth in "Executive Officers," "Election of Directors," "Information about the Board of Directors and its Committees," and "Security Ownership of Directors and Executive Officers - Section 16(a) Beneficial Ownership Reporting Requirements" which will be included in our definitive Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC, and Part I, Item 1. Business - Additional Information in this Report.

Item 11. Executive Compensation

The information required by this item is incorporated by reference from the applicable information set forth in "Compensation of Executive Officers," "Compensation of Directors" and "2019 Pay Ratio" which will be included in our definitive Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item is incorporated by reference from the applicable information set forth in "Security Ownership of Principal Stockholders and Management" and "Equity Compensation Plan Information" which will be included in our definitive Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated by reference from the applicable information set forth in "Other Information - Related Person Transactions" and "Information about the Board of Directors and its Committees" which will be included in our definitive Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC.

Item 14. Principal Accounting Fees and Services

The information required by this item is incorporated by reference from the applicable information set forth in "Other Information - Globalstar's Independent Registered Accounting Firm" which will be included in our definitive Proxy Statement for our 2020 Annual Meeting of Stockholders to be filed with the SEC.

PART IV

Item 15. Exhibits, Financial Statement Schedules

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

(1) Financial Statements and Report of Independent Registered Public Accounting Firm

Report of Independent Registered Public Accounting Firm

Consolidated balance sheets at December 31, 2019 and 2018

Consolidated statements of operations for the years ended December 31, 2019, 2018 and 2017

Consolidated statements of comprehensive income (loss) for the years ended December 31, 2019, 2018 and 2017

Consolidated statements of stockholders' equity for the years ended December 31, 2019, 2018 and 2017

Consolidated statements of cash flows for the years ended December 31, 2019, 2018 and 2017

Notes to Consolidated Financial Statements

(2) Financial Statement Schedules

All schedules are omitted because they are not applicable or the required information is in the financial statements or notes thereto.

(3) Exhibits

See Exhibit Index

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

GLOBALSTAR, INC.

By: /s/ David B. Kagan

David B. Kagan

Chief Executive Officer

Date: February 28, 2020

POWER OF ATTORNEY

KNOW BY ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints David B. Kagan and Rebecca S. Clary, jointly and severally, his or her attorney-in-fact, with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes, may do or cause to be done by virtue hereof.

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 as of February 28, 2020.

<u>Signature</u>	<u>Title</u>
<u>/s/ David B. Kagan</u> David B. Kagan	Chief Executive Officer (Principal Executive Officer)
<u>/s/ Rebecca S. Clary</u> Rebecca S. Clary	Chief Financial Officer (Principal Financial and Accounting Officer)
<u>/s/ James Monroe III</u> James Monroe III	Director
<u>/s/ William A. Hasler</u> William A. Hasler	Director
<u>/s/ James F. Lynch</u> James F. Lynch	Director
<u>/s/ Michael J. Lovett</u> Michael J. Lovett	Director
<u>/s/ Keith O. Cowan</u> Keith O. Cowan	Director
<u>/s/ Benjamin G. Wolff</u> Benjamin G. Wolff	Director
<u>/s/ Timothy E. Taylor</u> Timothy E. Taylor	Director

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EXHIBIT INDEX

Exhibit Number	Description
2.1*	Agreement and Plan of Merger dated as of April 24, 2018 by and among Globalstar, Inc., GBS Acquisitions, Inc., Thermo Acquisitions, Inc., Stockholders of Thermo Acquisitions, Inc. and Thermo Development, Inc. (Exhibit 2.1 to Form 8-K filed April 25, 2018)
3.1*	Corrected Second Amended and Restated Certificate of Incorporation of Globalstar, Inc. (Exhibit 3.1 to Form 8-K filed June 19, 2019)
3.2*	Fourth Amended and Restated Bylaws of Globalstar, Inc. (Exhibit 3.1 to Form 8-K filed on April 15, 2019)
4.1*	Indenture between Globalstar, Inc. and U.S. Bank, National Association as Trustee dated as of April 15, 2008 (Exhibit 4.1 to Form 8-K filed April 16, 2008)
4.2*	Fourth Supplemental Indenture between Globalstar, Inc. and U.S. Bank, National Association as Trustee dated as of May 20, 2013, including Form of Global 8% Convertible Senior Note due 2028 (Exhibit 4.1 to Form 8-K filed May 20, 2013)
4.3	Description of Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934
10.1*†	Contract between Globalstar, Inc. and Hughes Network Systems LLC dated May 1, 2008 (Exhibit 10.1 to Form 10-Q filed August 11, 2008)
10.2*	Amendment No.2 to Contract between Globalstar, Inc. and Hughes Network Systems LLC effective as of August 28, 2009 (Amendment No. 1 Superseded.) (Exhibit 10.2 to Form 10-Q filed November 6, 2009)
10.3*	Amendment No.3 to Contract between Globalstar, Inc. and Hughes Network Systems LLC effective as of September 21, 2009 (Exhibit 10.3 to Form 10-Q filed November 6, 2009)
10.4*†	Amendment No.4 to Contract between Globalstar, Inc. and Hughes Network Systems LLC dated as of March 24, 2010 (Exhibit 10.2 to Form 10-Q filed May 7, 2010)
10.5* †	Amendment No.5 to Contract between Globalstar, Inc. and Hughes Network Systems LLC dated as of April 5, 2011 (Exhibit 10.24 to Form 10-K filed March 13, 2012)
10.6* †	Amendment No.6 to Contract between Globalstar, Inc. and Hughes Network Systems LLC dated as of November 4, 2011 (Exhibit 10.25 to Form 10-K/A filed June 25, 2012)
10.7 *†	Amendment No. 7 to Contract between Globalstar and Hughes Network Systems LLC dated as of February 1, 2012 (Exhibit 10.1 to Form 10-Q filed May 10, 2012)
10.8*†	Letter Agreement dated March 30, 2012 between Globalstar, Inc. and Hughes Network Systems, LLC (Exhibit 10.2 to Form 10-Q filed May 10, 2012)
10.9*†	Letter Agreement dated June 26, 2012 between Globalstar, Inc. and Hughes Network Systems, LLC (Exhibit 10.1 to Form 10-Q filed August 9, 2012)
10.10*†	Letter Agreement by and between Globalstar, Inc. and Hughes Network Systems, LLC dated September 27, 2012 (Exhibit 10.2 to Form 10-Q filed November 14, 2012)
10.11*†	Letter Agreement by and between Globalstar, Inc. and Hughes Network Systems, LLC dated December 20, 2012 (Exhibit 10.30 to Form 10-K filed March 15, 2013)
10.12*†	Amendment No. 9 to Contract between Globalstar and Hughes Network Systems LLC dated as of January 13, 2013 (Exhibit 10.1 to Form 10-Q filed May 10, 2013)
10.13*†	Letter Agreement by and between Globalstar, Inc. and Hughes Network Systems, LLC dated March 26, 2013 (Exhibit 10.4 to Form 10-Q filed May 10, 2013)
10.14*†	Letter Agreement by and between Globalstar, Inc. and Hughes Network Systems, LLC dated June 28, 2013 (Exhibit 10.2 to Form 10-Q filed August 14, 2013)
10.15*	Letter Agreement by and between Globalstar, Inc. and Hughes Network Systems, LLC dated August 7, 2013 (Exhibit 10.8 to Form 10-Q filed November 14, 2013)
10.16*†	Amendment No. 10 to Contract between Globalstar and Hughes Network Systems LLC dated as of August 7, 2013 (Exhibit 10.9 to Form 10-Q filed November 14, 2013)
10.17*	Amendment No. 11 to Contract between Globalstar and Hughes Network Systems LLC dated as of December 17, 2013 (Exhibit 10.37 to Form 10-K filed March 11, 2014)

- 10.18*† Letter Agreement by and between Globalstar, Inc. and Hughes Network Systems, LLC dated as of May 30, 2014 (Exhibit 10.1 to Form 10-Q filed August 11, 2014)
- 10.19* Letter Agreement regarding equity payment by and between Globalstar, Inc. and Hughes Network Systems, LLC dated as of May 30, 2014 (Exhibit 10.2 to Form 10-Q filed August 11, 2014)
- 10.20*† Amendment No.12 to Contract between Globalstar, Inc. and Hughes Network Systems LLC dated as of October 16, 2014 (Exhibit 10.2 to Form 10-Q filed November 6, 2014)
- 10.21*† Amendment No.13 to Contract between Globalstar, Inc. and Hughes Network Systems LLC dated as of July 16, 2015 (Exhibit 10.1 to Form 10-Q filed August 10, 2015)
- 10.22† Amendment No.14 to Contract between Globalstar, Inc. and Hughes Network Systems LLC dated as of December 16, 2016 (Exhibit 10.22 to Form 10-K filed February 23, 2017)
- 10.23* Amendment to Letter Agreement regarding equity payment by and between Globalstar, Inc. and Hughes Network Systems, LLC dated as of December 3, 2015 (Exhibit 10.22 to Form 10-K filed February 26, 2016)
- 10.24* Amendment to Letter Agreement regarding equity payment by and between Globalstar, Inc. and Hughes Network Systems, LLC dated as of March 7, 2016 (Exhibit 10.1 to Form 10-Q filed May 5, 2016)
- 10.25* Amendment to Letter Agreement regarding equity payment by and between Globalstar, Inc. and Hughes Network Systems, LLC dated as of June 14, 2016 (Exhibit 10.1 to Form 10-Q filed August 4, 2016)
- 10.26* Amendment to Letter Agreement regarding equity payment by and between Globalstar, Inc. and Hughes Network Systems, LLC dated as of September 21, 2016 (Exhibit 10.1 to Form 10-Q filed November 3, 2016)
- 10.27* Amendment to Letter Agreement regarding equity payment by and between Globalstar, Inc. and Hughes Network Systems, LLC dated as of December 6, 2016 (Exhibit 10.27 to Form 10-K filed February 23, 2017)
- 10.28*† Amendment #15 to Contract between Globalstar, Inc. and Hughes Network Systems, LLC dated as of June 1, 2017 (Exhibit 10.1 to Form 10-Q filed August 3, 2017)
- 10.29* Amended and Restated Loan Agreement between Globalstar, Inc., and Thermo Funding Company LLC dated as of July 31, 2013 (Exhibit 10.4 to Form 8-K filed August 22, 2013)
- 10.30* Common Stock Purchase Agreement dated as of June 30, 2017 between Globalstar, Inc. and Thermo Funding II LLC (Exhibit 10.3 to Current Report on Form 8-K filed July 7, 2017)
- 10.31* Voting Agreement dated as of April 24, 2018 (Exhibit 10.1 to Form 8-K filed on April 25, 2018)
- 10.32* Termination of Agreement and Plan of Merger dated as of July 31, 2018 (Exhibit 10.1 to Form 8-K filed on August 1, 2018)
- 10.33* Settlement Agreement dated December 14, 2018 (Exhibit 10.1 to form 8-K filed December 17, 2018)
- 10.34* Lease Agreement by and between Globalstar, Inc. and Thermo Covington, LLC dated February 1, 2019 (Exhibit 10.1 to Form 10-Q filed May 2, 2019)
- 10.35* Form of Indemnification Agreement between Globalstar, Inc. and its Directors dated February 26, 2019 (Exhibit 10.50 to Form 10-K filed February 28, 2019)
- 10.36* Subordinated Loan Agreement Dated as of July 2, 2019 by and among Globalstar, Inc. and Other Lenders (Exhibit 10.1 to Form 10-Q filed August 9, 2019)
- 10.37 Fourth Global Amendment and Restatement Agreement dated as of November 26, 2019 between Globalstar, Inc., Thermo Funding Company LLC, BNP Paribas and the other lenders thereto
- 10.38 Fourth Amended and Restated Facility Agreement dated as of November 26, 2019 between Globalstar, Inc., BNP Paribas and the other lenders party thereto
- 10.39 Second Lien Facility Agreement dated as of November 26, 2019 between Globalstar, Inc., Global Loan Agency Services Limited, GLAS Trust Corporation Limited and other lenders thereto
- 10.40 Form of Common Stock Purchase Warrant dated November 27, 2019 between Globalstar, Inc. and other lenders thereto
- 10.41 Registration Rights Agreement dated November 26, 2019 between Globalstar, Inc. and other lenders thereto
- 10.42 Intercreditor Agreement dated November 26, 2019 between BNP Paribas, Global Loan Agency Services Limited, The Senior Lenders, The Second Lien Lenders, Globalstar, Inc., BNP Paribas, GLAS Trust Corporation Limited and other lenders thereto

Executive Compensation Plans and Agreements

- 10.43* Third Amended and Restated Globalstar, Inc. 2006 Equity Incentive Plan (Appendix A to Definitive Proxy Statement filed April 16, 2019)
- 10.44* Amended and Restated Employee Stock Purchase Plan (Appendix B to Definitive Proxy Statement filed April 16, 2019)
- 10.45* Form of Restricted Stock Units Agreement for Non-U.S. Designated Executives under the Globalstar, Inc. 2006 Equity Incentive Plan (Exhibit 10.2 to Form 10-Q filed August 14, 2007)
- 10.46* Form of Notice of Grant and Restricted Stock Agreement under the Globalstar, Inc. 2006 Equity Incentive Plan (Exhibit 10.29 to Form 10-K filed March 17, 2008)
- 10.47* Form of Non-Qualified Stock Option Award Agreement for Members of the Board of Directors under the Globalstar, Inc. 2006 Equity Incentive Plan (Exhibit 10.1 to Form 8-K filed November 20, 2008)
- 10.48* Form of Stock Option Award Agreement for use with executive officers (Exhibit 10.45 to Form 10-K filed March 31, 2011)
- 10.49*† 2016 Key Employee Cash Bonus Plan (Exhibit 10.53 to Form 10-K filed February 26, 2016)
- 10.50*† 2017 Key Employee Cash Bonus Plan (Exhibit 10.59 to Form 10-K filed February 23, 2017)
- 10.51*† 2018 Key Employee Cash Bonus Plan (Exhibit 10.54 to Form 10-K filed February 23, 2018)
- 10.52† 2019 Key Employee Cash Bonus Plan
- 10.53* Letter Agreement with David Kagan dated November 27, 2017 (Exhibit 10.55 to Form 10-K filed February 23, 2018)
- 10.54* Letter Agreement with David Kagan dated September 4, 2018 (Exhibit 10.59 to Form 10-K filed February 28, 2019)

- 21.1 Subsidiaries of Globalstar, Inc.
- 23.1 Consent of Crowe LLP
- 24.1 Power of Attorney (included as part of page titled "Signatures")
- 31.1 Section 302 Certification of Principal Executive Officer of Globalstar, Inc.
- 31.2 Section 302 Certification of Principal Financial Officer of Globalstar, Inc.
- 32.1 Section 906 Certification of Principal Executive Officer of Globalstar, Inc.
- 32.2 Section 906 Certification of Principal Financial Officer of Globalstar, Inc.

- 101.INS XBRL Instance Document
- 101.SCH XBRL Taxonomy Extension Schema Document
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase Document
- 101.DEF XBRL Taxonomy Extension Definition Linkbase Document
- 101.PRE XBRL Taxonomy Extension Presentation Linkbase Document
- 101.LAB XBRL Taxonomy Extension Label Linkbase Document

- * Incorporated by reference.

- † Portions of the exhibit have been omitted pursuant to a request for confidential treatment filed with the Commission. The omitted portions have been filed with the Commission.

**Certification of Principal Executive Officer of Globalstar, Inc.
Pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended**

I, David B. Kagan, certify that:

1. I have reviewed this annual report on Form 10-K of Globalstar, 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. I am responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15(d)-15(e)) and internal control over financial reporting (as defined in Exchange Act Rule 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 my supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to me 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 my 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 my conclusion 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. I have disclosed, based on my most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2020

By: /s/ David B. Kagan

David B. Kagan
Chief Executive Officer (Principal Executive Officer)

**Certification of Principal Financial Officer of Globalstar, Inc.
Pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended**

I, Rebecca S. Clary, certify that:

1. I have reviewed this annual report on Form 10-K of Globalstar, 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. I am responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15(d)-15(e)) and internal control over financial reporting (as defined in Exchange Act Rule 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 my supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to me 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 my 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 my conclusion 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. I have disclosed, based on my most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2020

By: /s/ Rebecca S. Clary

Rebecca S. Clary
Chief Financial Officer (Principal Financial Officer)

Certification of Principal Executive Officer Under Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), the undersigned officer of Globalstar, Inc. (the “Company”), does hereby certify that:

This annual report on Form 10-K for the year ended December 31, 2019 of the Company fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 and the information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 28, 2020

By: /s/ David B. Kagan

David B. Kagan

Chief Executive Officer (Principal Executive Officer)

Certification of Principal Financial Officer Under Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), the undersigned officer of Globalstar, Inc. (the "Company"), does hereby certify that:

This annual report on Form 10-K for the year ended December 31, 2019 of the Company fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 and the information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 28, 2020

By: /s/ Rebecca S. Clary

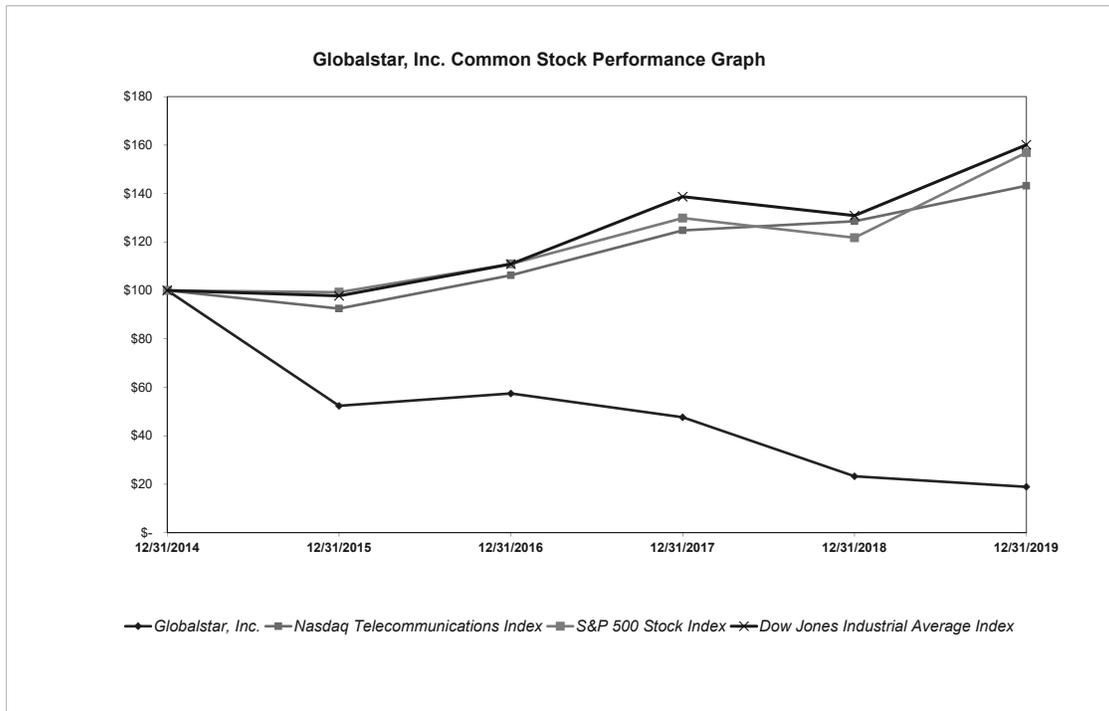
Rebecca S. Clary

Chief Financial Officer (Principal Financial Officer)

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Stock Performance Graph

The following graph shows a comparison from December 31, 2014 through December 31, 2019 of cumulative total return for our Common Stock, the NASDAQ Telecommunications Index, the S&P 500 Stock Index and the Dow Jones Industrial Average Index, assuming \$100 had been invested in each on December 31, 2014. Such returns are based on historical results and are not intended to suggest future performance. The calculation of cumulative total return is based on the change in stock price and assumes reinvestment of dividends for the NASDAQ Telecommunications Index and the Dow Jones Industrial Average Index. We have never paid dividends on our Common Stock and have no present plans to do so.



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Executive Office

Globalstar, Inc.
1351 Holiday Square Blvd.
Covington, LA 70433
USA
(985) 335-1500

Company Home Page

www.globalstar.com

Stockholder Information

For further information about the Company, hard copies of this Report, SEC filings, and other published corporate information, please visit the Company's website noted above.

Transfer Agent

Computershare
PO BOX 505000
Louisville, KY 40233-5000
(800) 962-4284
www.computershare.com

Independent Auditors

Ernst & Young, LLP
New Orleans, LA

Legal Counsel

Taft Stettinius & Hollister LLP
Cincinnati, OH

Investor Relations

Denise Davila
*Corporate Communications
Manager*

Board of Directors

James Monroe III
*Executive Chairman
of the Board
Thermo Companies*

James F. Lynch
*Director
Thermo Companies
FiberLight LLC*

William A. Hasler
*Director
Ataraxis Biosciences and
Rubicon Ltd.*

Benjamin G. Wolff
*Director
Sarcos Robotics*

Keith O. Cowan
*Director
Cowan Consulting
Corporation LLC*

Timothy E. Taylor
*Director
Globalstar, Inc.
Thermo Companies*

Michael J. Lovett
*Director
Eagle River Partners LLC*

Executive Officers

David B. Kagan
Chief Executive Officer

Rebecca S. Clary
*Vice President, Chief Financial
Officer*

L. Barbee Ponder IV
*General Counsel and Vice
President, Regulatory Affairs*

Corporate Secretary

Richard S. Roberts
Corporate Secretary

Common Stock

The Company's voting common stock is traded on the NYSE American under the symbol "GSAT." As of April 21, 2020, the Company had 1,668,622,083 voting shares outstanding and 225 holders of record.



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GLOBALSTAR.COM