

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

**FORM 10-K**

(Mark One)

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

For the fiscal year ended December 31, 2019

OR

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

Commission file number: 001-35878

**INTELSAT S.A.**

(Exact name of registrant as specified in its charter)

**Grand Duchy of Luxembourg**

(State or Other Jurisdiction of Incorporation or Organization)

**98-1009418**

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

**4 rue Albert Borschette L-1246 Luxembourg**

(Address of principal executive offices, including zip code)

**+352 27 84 1600**

(Registrant's telephone number, including area code)

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common Shares, nominal value \$0.01 per share	I	New York Stock Exchange

**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 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated Filer	<input 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 in Rule 12b-2 of the Act). Yes  No

As of June 30, 2019, the aggregate market value of the registrant's common shares held by non-affiliates of the registrant was approximately \$1.6 billion.

As of February 18, 2020, 141,164,372 common shares, with a nominal value of \$0.01 per share, were outstanding.

**Documents incorporated by reference:** Specified portions of the registrant's proxy statement with respect to the registrant's 2020 Annual Meeting of Shareholders, which is to be filed pursuant to Regulation 14A within 120 days after the end of the registrant's fiscal year ended December 31, 2019, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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## FORWARD-LOOKING STATEMENTS

Some of the statements in this Annual Report on Form 10-K, or Annual Report, and oral statements made from time to time by our representatives constitute forward-looking statements that do not directly or exclusively relate to historical facts. The Private Securities Litigation Reform Act of 1995 provides a “safe harbor” for certain forward-looking statements as long as they are identified as forward-looking and are accompanied by meaningful cautionary statements identifying important factors that could cause actual results to differ materially from the expectations expressed or implied in the forward-looking statements.

When used in this Annual Report, the words “may,” “will,” “might,” “should,” “expect,” “plan,” “anticipate,” “project,” “believe,” “estimate,” “predict,” “intend,” “potential,” “outlook” and “continue,” and the negative of these terms, and other similar expressions are intended to identify forward-looking statements and information. Examples of these forward-looking statements include, but are not limited to, statements regarding the following: our belief that the growing worldwide demand for reliable broadband connectivity everywhere at all times, together with our leadership position in our attractive sector, global scale, efficient operating and financial profile, diversified customer sets and sizeable contracted backlog, provide us with a platform for long-term success; our belief that the new and differentiated capacity of our next generation Intelsat Epic satellites will provide inventory to help offset recent trends of pricing pressure, new capacity from other satellite operators, and improved access to fiber links in our network services business; our outlook that the increased volume of services provided by our Intelsat Epic fleet is expected to stabilize the level of business activity in the network services sector; our expectation that over time incremental demand for capacity to support the new 4K format, also known as ultra-high definition, could offset some of the reductions in demand related to use of new compression technologies in our media business; our expectation that our new services and technologies will open new sectors that are much larger and faster growing than those we support today; our belief that selectively investing, employing a disciplined yield management approach, and emphasizing the development of strong distribution channels for our four primary customer sets will drive stability in our core business; our expectation that developing and scaling our differentiated managed service offerings in targeted verticals, leveraging the global footprint, higher performance and better economics of our Intelsat Epic fleet, in addition to the flexibility of our innovative terrestrial network, will drive revenue growth; our belief that completing targeted investments and partnerships in differentiated space and ground infrastructure will provide a seamless interface with the broader telecommunications ecosystem; our ability to incorporate new technologies into our network that could change the types of applications we can serve and increase our share of the global demand for broadband connectivity; our projection that our government business will benefit from the increasing demands for mobility services from the U.S. government for aeronautical and ground mobile requirements; our intention to maximize the value of our spectrum rights; our expectations as to the timing and content of a final FCC ruling with respect to the C-band proceeding; our expectations as to the timing of any related auction and our receipt of proceeds in connection with any such auction; our belief that developing differentiated services and investing in related software- and standards-based technology will allow us to unlock opportunities that are essential to providing global broadband connectivity; the trends that we believe will impact our revenue and operating expenses in the future; our assessments regarding how long satellites that have experienced anomalies in the past should be able to provide service on their transponders; our belief as to the likelihood of the cause of the failure of Intelsat 29e occurring on our other satellites; our assessment of the risks of future anomalies occurring on our satellites; our plans for satellite launches in the near-term; our expected capital expenditures in 2020 and during the next several years; our belief that the diversity of our revenue allows us to benefit from changing market conditions and lowers our risk from revenue fluctuations in our service applications and geographic regions; our belief that the scale of our fleet can reduce the financial impact of any satellite anomalies or launch failures and protect against service interruptions; and the impact on our financial position or results of operations of pending legal proceedings.

Forward-looking statements reflect our intentions, plans, expectations, anticipations, projections, estimations, predictions, outlook, assumptions and beliefs about future events. These forward-looking statements speak only as of their dates and are not guarantees of future performance or results and are subject to risks, uncertainties and other factors, many of which are outside of our control. These factors could cause actual results or developments to differ materially from the expectations expressed or implied in the forward-looking statements and include known and unknown risks. Known risks include, among others, the risks discussed in Item 1A—Risk Factors, the political, economic, regulatory and legal conditions in the markets we are targeting for communications services or in which we operate and other risks and uncertainties inherent in the telecommunications business in general and the satellite communications business in particular.

Other factors that may cause results or developments to differ materially from historical results or developments or the forward-looking statements made in this Annual Report include, but are not limited to:

- risks associated with operating our in-orbit satellites;
- satellite launch failures, satellite launch and construction delays and in-orbit failures or reduced satellite performance;

- potential changes in the number of companies offering commercial satellite launch services and the number of commercial satellite launch opportunities available in any given time period that could impact our ability to timely schedule future launches and the prices we pay for such launches;
- our ability to obtain new satellite insurance policies with financially viable insurance carriers on commercially reasonable terms or at all, as well as the ability of our insurance carriers to fulfill their obligations;
- possible future losses on satellites that are not adequately covered by insurance;
- U.S. and other government regulation;
- changes in our contracted backlog or expected contracted backlog for future services;
- pricing pressure and overcapacity in the markets in which we compete;
- our ability to access capital markets for debt or equity;
- the competitive environment in which we operate;
- customer defaults on their obligations to us;
- our international operations and other uncertainties associated with doing business internationally;
- litigation; and
- other risks discussed under Item 1A—Risk Factors.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee our future results, level of activity, performance or achievements. Because actual results could differ materially from our intentions, plans, expectations, anticipations, projections, estimations, predictions, outlook, assumptions and beliefs about the future, you are urged not to rely on forward-looking statements in this Annual Report and to view all forward-looking statements made in this Annual Report with caution. We do not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

## **INDUSTRY AND MARKET DATA**

This Annual Report includes information with respect to regional and sector share and industry conditions from third-party sources, public filings and based upon our estimates using such sources when available. While we believe that such information and estimates are reasonable and reliable, we have not independently verified the data from third-party sources, including *Euroconsult Satellite Connectivity and Video Markets Survey (September 2019)*, *NSR Government & Military Satellite Communications, 16th Edition (November 2019)*, *Seradata Spacetrak, NSR Global Satellite Capacity Supply and Demand Study, 16th Edition (June 2019)*, *Euroconsult FSS Operators: Benchmarks & Performance Review, 11th Edition (November 2019)*, *GSMA The Mobile Economy 2019*, *World Bank Group, NSR Wireless Backhaul via Satellite, 12th Edition (April 2019)*, *Euroconsult Prospects for In-Flight Entertainment and Connectivity, 7th Edition (September 2019)*, *Prospects for Maritime Satellite Communications, 7th Edition (June 2019)*, *Cruise Market Watch, NSR VSAT and Broadband Satellite Markets, 18th Edition (November 2019)*, *NSR M2M and IoT via Satellite, 9th Edition (September 2018)*, *NSR Aero Satcom Markets, 6th Edition (June 2018)*, and *NSR Maritime SATCOM Markets, 7th Edition (May 2019)*. Unless otherwise specified, all references contained in this Annual Report to these third-party sources are as of the dates of these sources stated above. Similarly, our internal research is based upon our understanding of industry conditions, and such information has not been verified by independent sources. Specifically, when we refer to the relative size, regions served, number of customers contracted, experience and financial performance of our business as compared to other companies in our sector, our assertions are based upon public filings of other operators and comparisons provided by third-party sources, as outlined above.

Throughout this Annual Report, unless otherwise indicated, references to market positions are based on third-party market research. If a regional position or statement as to industry conditions is based on internal research, it is identified as management's belief. Throughout this Annual Report, unless otherwise indicated, statements as to our relative positions as a provider of services to customers and regions are based upon our relative share. For additional information regarding our regional share with respect to our customer sets, services and regions, and the bases upon which we determine our share, see Item 1—Business.

## PART I

### Item 1. Business

#### Key Information

In this Annual Report unless otherwise indicated or the context otherwise requires, (1) the terms “we,” “us,” “our,” “the Company” and “Intelsat” refer to Intelsat S.A., and its subsidiaries on a consolidated basis, (2) the term “Intelsat Holdings” refers to our indirect subsidiary, Intelsat Holdings S.A., (3) the term “Intelsat Investments” refers to Intelsat Investments S.A., Intelsat Holdings’ direct wholly-owned subsidiary, (4) the term “Intelsat Luxembourg” refers to Intelsat (Luxembourg) S.A., Intelsat Investments’ direct wholly-owned subsidiary, (5) the term “Intelsat Envision” refers to Intelsat Envision Holdings LLC, Intelsat Luxembourg’s direct wholly-owned subsidiary, (6) the terms “Intelsat Connect” and “ICF” refer to Intelsat Connect Finance S.A., Intelsat Envision’s direct wholly-owned subsidiary, (7) the term “Intelsat Jackson” refers to Intelsat Jackson Holdings S.A., Intelsat Connect’s direct wholly-owned subsidiary, and (8) the term “Intelsat” refers to specific Intelsat-satellites. We refer to Intelsat General Communications LLC, one of our subsidiaries, as “Intelsat General.” In this Annual Report, unless the context otherwise requires, all references to transponder capacity or demand refer to transponder capacity or demand in the C-band and Ku-band only.

#### Business Overview

##### Overview

We operate one of the world’s largest satellite services businesses, providing a critical layer in the global communications infrastructure.

As the foundational architects of satellite technology, Intelsat operates the largest, most advanced satellite fleet and connectivity infrastructure in the world. We apply our unparalleled expertise and global scale to reliably and seamlessly connect people, devices and networks in even the most challenging and remote locations. We provide diversified communications services to the world’s leading media companies, fixed and wireless telecommunications operators, data networking service providers for enterprise and mobile applications in the air and on the seas, multinational corporations and Internet Service Providers (“ISPs”). We are also the leading provider of commercial satellite communication services to the U.S. government and other select military organizations and their contractors. Our network solutions are a critical component of our customers’ infrastructures and business models. Generally, our customers need the specialized connectivity that satellites provide so long as they are in business or pursuing their mission. In recent years, mobility services providers have contracted for services on our fleet that support broadband connections for passengers on commercial flights, cruise ships and commercial shipping, connectivity that in some cases is only available through our network. In addition, our satellite neighborhoods provide our media customers with efficient and reliable broadcast distribution that maximizes audience reach, a technical and economic benefit that is difficult for terrestrial services to match. In developing regions, our satellite solutions often provide higher reliability than is available from local terrestrial telecommunications services and allow our wireless and enterprise customers to reach geographies that they would otherwise be unable to serve.

In the future, we expect our network to be an integral part of machine-to-machine networks, especially those requiring massive software updates best delivered via broadcast, such as networks connecting cars and other vehicles. As we invest in new constellations, such as our Intelsat Epic high-throughput satellite (“HTS”) platform, partner on new earth observation technology, and invest in new ground technologies, such as electronic antennas and standards-based modems, we are creating a portfolio of solutions that will be interoperable with other telecommunications technologies and seamlessly integrated with other telecommunications solutions to address the immense connectivity requirements of a fully-connected and converged landscape.

We hold the largest collection of rights to well-placed orbital slots in the most valuable C- and Ku-band spectrums. From these locations, our satellites offer services in the established regions historically using the most satellite capacity, as well as the higher growth oceanic regions, supporting mobility services, and emerging regions, where approximately 73% of our capacity is currently focused.

We believe our global scale, high-performing network, leadership position and valuable customer relationships enable us to benefit from growing demand for reliable broadband connectivity, resulting from trends such as:

- Global distribution of television entertainment and news programming to fixed and mobile devices;
- Completion and extension of international, national and regional data networks, fixed and wireless, notably in emerging and developed regions, and the upgrade of those networks to 3G/4G/5G as content is increasingly consumed on mobile devices;
- Universal access to broadband connectivity through fixed and mobile networks for consumers, corporations, government and other organizations;
- Increasing deployment of in-flight and on-board broadband access for consumer and business applications in the commercial, business aviation and maritime sectors;
- Requirements for cost-efficient space-based network solutions for fixed and mobile government and military applications; and
- Global demand for services which enable connected devices, such as machine-to-machine communications and the Internet of Things (“IoT”), particularly with respect to connected car applications.

We believe that we have the largest, most reliable and most technologically advanced commercial communications network in the world. Our global communications system featured a fleet of 54 geosynchronous satellites as of December 31, 2019, covering more than 99% of the world’s populated regions. Our satellites primarily provide services in the C- and Ku-band frequencies, which form the largest part of the fixed satellite services (“FSS”) sector.

Our next generation fleet of five HTS, known as Intelsat Epic, is designed specifically to reduce cost of service by optimizing performance and efficiency to the user. With Intelsat Epic, we are offering our commercial customers broadband services that allow them to innovate, in turn transforming their businesses and expanding the territories and applications that they can profitably serve. Our new Intelsat Epic fleet is designed to commercial-grade standards. This allows us to offer committed information rates for our service provider customers, as compared to satellite networks designed primarily to provide consumer “best effort”-grade services.

Our satellite capacity is complemented by our IntelsatOne terrestrial network and a growing suite of managed services optimized to the requirements of attractive vertical applications, including the enterprise, maritime and commercial and government aeronautical sectors. Recently we introduced fully-managed services under the Intelsat Flex brand for enterprise and commercial and government mobility applications. We also introduced Mobile Reach managed services for the telecommunications sector. Our managed services combine satellite services with network management, access to our terrestrial network comprised of leased fiber optic cable, access to Internet points of presence (“PoPs”), as well as multiplexed video and data platforms. Our satellite-based networking solutions offer distinct technical and economic benefits to our target customers and provide a number of advantages over terrestrial communications systems, including the following:

- Fast, scalable, secure and high-performance infrastructure deployments;
- Superior end-to-end network availability as compared to the availability of terrestrial networks, due to fewer potential points of failure;
- Highly reliable bandwidth and consistent application performance, as satellite beams effectively blanket service regions;
- Ability to extend beyond terrestrial network end points or to provide an alternative path to terrestrial infrastructure;
- Efficient content distribution through the ability to broadcast high quality signals from a single location to many locations simultaneously;
- Maximizing potential distribution of television programming, video neighborhoods, or capacity at orbital locations with a large number of consumer dishes or cable headend dishes pointed to them; and
- Rapidly deployable communications infrastructure for disaster recovery.

We believe that our hybrid satellite-terrestrial network, combined with the world’s largest collection of FSS spectrum rights, is a unique and valuable asset.

Our network architecture is flexible and, coupled with our global scale, provides strong capital and operating efficiency. In certain circumstances we are able to re-deploy capacity, moving satellites or repositioning beams to capture demand. In early 2019, the final first generation HTS, Horizons 3e, was placed into service. Our technology has utility across a number of requirements with minimal customization to address diverse applications.

We have a reputation for operational and engineering excellence, built on our experience of over 50 years in the communications sector. Our network delivered 99.999% network availability to our customers on our operational satellites in 2019. We operate our global network from a fully-integrated, centralized satellite operations facility, with regional sales and marketing offices located close to our customers. The operational flexibility of our network is an important element of our differentiation and our ability to grow.

As of December 31, 2019, our contracted backlog, which is our expected future revenue under existing customer contracts, was approximately \$7.0 billion, roughly three and a half times our 2019 annual revenue. For the year ended December 31, 2019, we generated revenue of \$2.1 billion and net loss attributable to Intelsat S.A. of \$913.6 million. Our Adjusted EBITDA, which consists of EBITDA as adjusted to exclude or include certain unusual items, certain other operating expense items and certain other adjustments, was \$1.5 billion, or 72% of revenue, for the year ended December 31, 2019.

In 2019, our financial results reflected the loss of our Intelsat 29e satellite in April 2019, as well as lower volume of services due to non-renewals of certain contracts. The effect of lower prices in 2019 was muted as compared to prior years. Overall, we believe we benefit from a number of characteristics that allow us to effectively manage our business despite these competitive and geo-economic pressures:

- Significant long-term contracted backlog, providing a foundation for predictable revenue streams;
- Entry into service of our next generation Intelsat Epic platform that was designed to support new services representing \$4.4 billion of potential incremental growth by 2024 from expanded enterprise, wireless infrastructure, mobility, IoT and government applications;
- High operating leverage, which has allowed us to generate an average Adjusted EBITDA margin of 76% in the past three years; and
- A stable, efficient and sustainable tax profile for our global business.

We believe that our leadership position in our attractive sector, global scale, efficient operating and financial profile, diversified customer sets and sizeable contracted backlog, together with the growing worldwide demand for reliable broadband connectivity everywhere at all times, provide us with a platform for long-term success.

## **Our Sector**

Satellite services are an integral and growing part of the global communications infrastructure. Through unique capabilities, such as the ability to effectively blanket service regions, to offer point-to-multipoint distribution and to provide a flexible architecture, satellite services complement, and for certain applications are preferable to, terrestrial telecommunications services, including fiber and wireless technologies. The FSS sector, excluding all consumer broadband, is expected to generate revenues of approximately \$11.7 billion in 2020, and transponder service revenue is expected to grow by a compound annual growth rate ("CAGR") of 2.7% from 2019 to 2024 according to a study issued in 2019 by Northern Sky Research ("NSR"), a leading international market research and consulting firm specializing in satellite and wireless technology and applications.

In recent years, the addressable market for FSS has expanded to include mobile applications because of satellite's ability to provide the broadband access required by high bandwidth mobile platforms, such as for consumer broadband services on commercial ships and aircraft, as well as military mobility applications, including unmanned aerial vehicles.

Satellite services provide secure bandwidth capacity ideal for global in-theater communications since military operations often occur in locations without reliable communications infrastructure. According to a study by NSR, global revenue from FSS used for government and military applications is expected to grow at a CAGR of 6.7% from 2019 to 2024.

Our sector is noted for having favorable operating characteristics, including long-term contracts, high renewal rates and strong cash flows. The fundamentals of the sector are attractive, given the global need for connectivity everywhere and explosion of global content. The expected growth in demand for satellite-based solutions, combined with the high operating margins which are characteristic of the sector, provides a resilient business model.

There is a finite number of geostationary orbital slots in which FSS satellites can be located, and many orbital locations are already occupied by operational satellites pursuant to complex regulatory processes involving many international and national governmental bodies. These satellites typically are operated under coordination agreements designed to avoid interference with other operators' satellites. See—Regulation below for a more detailed discussion of regulatory processes relating to the operation of satellites.

A resurgence of interest in low earth orbit ("LEO") and mid-earth orbit constellations is resulting in the potential for new satellite-based solutions that will complement and, in some cases, compete with our services. We believe that the ability of our geostationary orbit ("GEO") satellites to offer highly efficient point-to-multipoint services, and to concentrate throughput over areas of highest demand, provides us with competitive benefits that will be sustained even as new services come to market.

Today, there are only four FSS operators, including us, providing global services, which is important as multinationals and governments seek a one-stop solution for obtaining global connectivity. In addition, there are a number of operators with

fewer satellites that provide regional and/or national services. We currently hold the largest number of rights to orbital slots in the most valuable C- and Ku-band spectrums.

We believe a number of fundamental trends in our sector are creating increasing demand for satellite services:

- *Connectivity and broadband access* are essential elements of infrastructure supporting the rapid economic growth of developing nations. Globally dispersed organizations and regional businesses often turn to satellite-based infrastructure to provide better access, reliability and control of broadband services. Penetration of broadband connectivity in less developed regions has been growing rapidly and is expected to continue. Over the past 10 years, broadband penetration, including satellite connectivity, in the East Asia & Pacific Ocean regions grew at a 13% CAGR, in the Latin America & Caribbean region at a 11% CAGR, in the Middle East & North Africa regions at a 21% CAGR, and in Sub-Saharan Africa at a 18% CAGR according to the World Bank.
- *Wireless infrastructure in the global race to 5G* represents a potentially generational opportunity for satellite technology. Wireless telecommunications companies often use satellite-based solutions to extend networks into areas where geographic or low population density makes it economically unfeasible to deploy other technology. Further deployments of wireless telecom infrastructure and the migration from 2G to 3G, 4G and 5G networks, which adds content and data to basic voice communications, create demand for satellite bandwidth. We believe that the emergence of 5G networks will result in a new growth vector for satellite connectivity. Satellite technology is uniquely responsive to the 5G requirement of ubiquitous coverage and fast deployments. We believe satellite systems will complement terrestrial networks and enable reliable and consistent global 5G user experience in a cost-effective manner. In 2018, 3GPP, the telecommunications standard development organization, approved work item studies to incorporate satellite systems in 5G standards to demonstrate key satellites attributes, including broadcasting, multicasting, and ubiquity and global mobile connectivity. According to the Global System for Mobile Communications Association, 4G & 5G mobile connections are expected to increase from 43% to 74% of total connections for the period from 2018 to 2025.
- *Mobility applications*, such as maritime communications and aeronautical broadband services for commercial and government applications, are fueling demand for mobile connectivity. Commercial applications, such as broadband services for consumer air flights and cruise ships, as well as broadband requirements from the maritime commercial shipping and oil and gas sectors, provide increased demand for satellite-based services. The increasing demand for global broadband connectivity on commercial airlines is a key driver of satellite connectivity and services. 80% of North American aircraft provide in-flight entertainment and Wi-Fi services, while about 17% of European, African, Asian-Pacific and South American aircraft were connected in 2019, according to Valour Consultancy and Boeing. Global satellite services revenue related to demand for broadband mobility applications from land, aeronautical and maritime is expected to grow at a CAGR of 13% for the period from 2019 to 2024, according to NSR.
- *Globalization* of economic activities is increasing the geographic expansion of corporations and the communications networks that support them, while creating new audiences for content. Globalization also increases the communications requirements for governments supporting embassy and military applications.
- *The emergence of new content consumers resulting from economic growth in developing regions* leads to increased demand for free-to-air and pay-TV content. According to NSR, the highest expected growth in television channels is from developing regions, including Latin America at a CAGR of 1.8%, the Middle East and North Africa at 2.7%, Sub-Saharan Africa at 4.1%, and Asia-Pacific at 2.3% for the period from 2019 to 2024, respectively.
- *Proliferation of formats and new sources of entertainment content* result in increased bandwidth requirements, as content owners seek to maximize distribution to multiple viewing audiences across multiple technologies. HDTV, the introduction of ultra-high definition (“UHD”) television, internet distribution of traditional television programming known as “Over the Top” or “OTT”, and video to mobile devices are all examples of the expanding format and distribution requirements of media programmers, the implementation of which varies greatly from developed to emerging regions. In its 2019 study, NSR forecasted that the aggregate number of standard definition (“SD”), high definition (“HD”), and UHD television channels distributed worldwide for cable, broadcast and direct-to-home (“DTH”) is expected to grow at a CAGR of 2% for the period from 2019 to 2024.
- *Connected Devices and vehicles*, such as those contemplated by machine-to-machine communications, the IoT and other future technology trends, will require ubiquitous coverage that might be best provided by satellite technology for certain applications in certain regions, and also for applications where ubiquitous, global access is required, such as enabling software downloads for connected cars marketed by the automotive sector or for the operations of connected vehicles, such as in agriculture applications. This represents an important potential source of longer-term demand.

In total, GEO FSS transponder service revenue (excluding consumer broadband) is expected to grow at a CAGR of 2.7% for the period from 2019 to 2024, according to NSR.



## Our Customer Sets and Growing Applications

We focus on business-to-business services that indirectly enable enterprise, government and consumer applications through our customers. Our customer contracts offer four different service types: transponder services, managed services, channel services and mobile satellite services and other. See Item 7—Management's Discussion and Analysis—Revenue for further discussion of our service types. Characteristics of our customer sets are summarized below:

Customer Set	Representative Customers	Year	Annual Revenue (1) (2)	% of 2019 Total Revenue (2)	% of 2019 Total Backlog (1) (2)	Backlog to 2019 Revenue Multiple
<b>Media</b>	AT&T, MultiChoice, The Walt Disney Company, Discovery Communications, Telefonica, Sentech, Corporacion de Radio Television del Norte	2017	\$ 910			
		2018 <sup>(3)</sup>	\$ 938			
		2019	\$ 883	43%	61%	4.8x
<b>Network Services</b>	Marlink, KVH Industries, Speedcast, Global Eagle, Gogo, Verizon, SoftBank, Orange, Telecom Italia, Ministry of Transport and Communications of Myanmar	2017	\$ 852			
		2018 <sup>(4)</sup>	\$ 798			
		2019	\$ 770	37%	25%	2.3x
<b>Government</b>	Australian Defence Force, U.S. Department of Defense, U.S. Department of State, Leonardo	2017	\$ 353			
		2018 <sup>(5)</sup>	\$ 392			
		2019	\$ 378	18%	11%	2.0x

(1) Dollars in millions; backlog as of December 31, 2019.

(2) Does not include satellite-related services and other.

(3) Includes \$67 million of ASC 606 adjustments.

(4) Includes \$3 million of ASC 606 adjustments.

(5) Includes \$33 million of ASC 606 adjustments.

We provide satellite capacity and related communications services for the transmission of video, data and voice signals. Our customer contracts cover on- and off-network capacity with primarily three different service types:

### On-Network:

- Transponder services
- Managed services

### Off-Network:

- Transponder services
- Mobile satellite services and other

We also perform satellite-related consulting services and technical services for various third parties, such as operating satellites for other satellite owners. We no longer proactively market a fourth service, known as channel services, although we still earn modest revenues from this type of on-network service.

## Media

Media customers are our largest customer set and accounted for 43% of our revenue for the year ended December 31, 2019 and \$4.3 billion of our contracted backlog as of December 31, 2019. Our business generated from the media sector is generally characterized by non-cancellable, long-term contracts with terms of up to 15 years with premier customers, including national and global broadcasters, content providers and distributors, television programmers and DTH platform operators.

We are the world's largest provider of satellite capacity for media services, according to Euroconsult, with a 19% global share. We have delivered television programming to the world since the launch of our first satellite, Early Bird, in 1965. We provide satellite capacity for the transmission of entertainment, news, sports and educational programming for over 300 broadcasters, content providers and DTH platform operators worldwide. We have well-established relationships with our media customers, and in some cases, have distributed their content on our satellites for over 30 years.

Broadcasters, content providers and television programmers seek efficient distribution of their content to make it easily obtainable by affiliates, cable operators and DTH platforms; satellites' point-to-multipoint capability is difficult to replicate via terrestrial alternatives. Our strong cable distribution neighborhoods offer media customers high penetration of regional and national audiences.

Broadcasters, content providers and television programmers also select us because our global capabilities enable the distribution or retrieval of content to or from virtually any point on earth. For instance, we regularly provide fully integrated global distribution networks for content providers that need to distribute their products across multiple continents. DTH platform operators use our services because of our attractive orbital locations and because the scale and flexibility of our fleet can improve speed to market and lower their operating risk, as we have multiple satellites serving every region.

We believe that we enjoy a strong reputation for delivering the high network reliability required to serve the demanding media sector. As our media customers add additional distribution platforms and adopt new business models, such as OTT internet-delivered content, our goal is to deliver value beyond our cost-efficient linear distribution solutions to include cloud-based services that streamline multi-format content delivery.

Our fully integrated satellite, fiber and teleport facilities provide enhanced quality control for programmers. In addition to basic satellite services, we offer bundled, value-added services under our IntelsatOne brand that include managed fiber services, digital encoding of video channels and up-linking and down-linking services to and from our satellites and teleport facilities. Our IntelsatOne bundled services address programmers' interests in delivering content to multiple distribution channels, such as television and Internet, and their needs for launching programs to new regions in a cost-efficient manner.

Highlights of our media business include the following:

- Our fleet hosts 34 premium video neighborhoods, offering programmers superior audience penetration, with eight serving North America, nine serving Latin America, seven serving Africa and the Middle East, six serving Asia and four serving Europe;
- We are a leading provider of services used in global content distribution to media customers, according to Euroconsult. Our top 10 video distribution customers buy services on our network, on average, across three geographic regions, demonstrating the value provided by the global reach of our network;
- We believe that we are the leading provider of satellite service capacity for the distribution of cable television programming in North America, with thousands of cable headends pointed to our satellites. Our Galaxy 13 satellite provided the first HD neighborhood in North America, and today, our Galaxy fleet distributes over 380 HD channels; globally, we distribute over 5,500 TV channels, including approximately 1,600 HD channels;
- We are a leading provider of satellite services for DTH providers, supporting 29 DTH platforms around the world with over 50 million subscribers, including DIRECTV in Latin America, Telefonica in Brazil, MultiChoice in Africa, and Canal+ in multiple regions;
- We are a leading provider of services used in video contribution managed occasional use services, supporting coverage of major events for news and sports organizations, according to Euroconsult. For instance, we have carried programming on a global basis for every Olympiad since 1968; and
- In its 2019 study, NSR forecasted that the number of SD, HD, and UHD television channels distributed worldwide for cable, broadcast and DTH is expected to grow at a CAGR of 2% for the period from 2019 to 2024. According to NSR, the highest expected growth in television channels is from developing regions, including Latin America at a CAGR of 1.8%, the Middle East and North Africa at 2.7%, Sub-Saharan Africa at 4.1%, and Asia-Pacific at 2.3% for the period from 2019 to 2024, respectively.

In 2019, several non-renewals and contract adjustments, the largest of which were in the Latin America, North America and Europe regions, caused our media business to underperform our expectations for the year. In 2020, we expect continuing pressure on our media business. Broadly, our global media customers increasingly seek to economize due to the need to support expanding infrastructure requirements. We expect customers to use compression, the elimination of distribution of standard definition feeds, and reduced commitments for contribution and ad hoc requirements, which will result in reduced volume for our business. In time, we expect some incremental demand for capacity to support the new 4K format, also known as UHD, which could offset some of the reductions in demand related to compression.

### ***Network Services***

Network services is our second largest customer set and accounted for 37% of our revenue for the year ended December 31, 2019 and \$1.8 billion of our contracted backlog as of December 31, 2019. Our business generated from the network services sector is generally characterized by non-cancellable contracts, up to five years in length, with many of the world's leading communications providers. This includes fixed and wireless telecommunications companies, such as global carriers and regional and national providers in emerging regions, corporate network service providers, such as very-small-aperture terminal ("VSAT") services providers to vertical markets including banks, value-added services providers, such as those serving the aeronautical and maritime industries, as well as multinational corporations and other organizations operating globally.

According to Euroconsult, we are the world's largest provider of satellite capacity for network services, with a 27% global share. Our satellite services, comprised of satellite capacity, and terrestrial network comprised of leased fiber, teleports and data networking platforms, enable the transmission of video and data to and from virtually any point on the surface of the earth. Basic communications and broadband connectivity in developed and emerging regions are meaningful contributors to economic growth. We provide an essential element of the communications infrastructure, enabling the rapid expansion of wireless services that support businesses, communities and governments in many emerging regions.

Our network services offerings are an essential component of our customers' services, providing backbone infrastructure, expanded service areas and connectivity where reliability or geography is a challenge. We believe that we are a preferred provider because of our global service capability and our expertise in delivering services with enterprise-grade network availability and efficient network control.

Furthermore, as mobile communications have become essential to global networking and internet use, our satellite solutions, such as those provided by the Intelsat Epic platform, are being used for mobility applications. This includes services ranging from maritime enterprise VSAT data services to consumer broadband connectivity for cruise ships. In addition to maritime applications, Intelsat's satellite solutions are used by service providers to deliver broadband connectivity for in-flight entertainment and Wi-Fi services for the aeronautical industry.

Our managed services provide regional shared data networking platforms at our teleports that are connected to approximately 40 of our satellites, with network transmissions managed by our operations team. In 2018, we introduced new platform as a service (PaaS) cloud-based offerings under the AgileCore brand, combining our satellite services with shared data platforms and our fiber network. As a result, our customers can quickly establish highly reliable services across multiple regions, yet operate them on a centralized basis. Our satellite-based solutions allow customers to rapidly expand their service territories, flexibly customize the access speed and capabilities for their existing networks and efficiently address new customer and end-user requirements. Since 2017, we have offered fully-managed services, called Flex, which address commercial and government aeronautical, maritime and land mobile applications.

Our leading position in network services has been pressured by new capacity from other satellite operators and improved access to fiber links, changing the competitive environment in certain regions and resulting in lower prices, although the rate of declines in pricing has slowed in the past two years. Intelsat Epic satellites provide differentiated inventory to help offset these recent trends, targeting wireless infrastructure, mobility and enterprise applications. In 2018, we successfully added new distribution channels in the maritime, business jet and wireless infrastructure verticals. As the volume of services sold on our Intelsat Epic fleet increases over time, we believe that the level of business activity in this sector will stabilize.

Highlights of our network services business include the following:

- Our largest network services customer type is enterprise networking. We are the world's largest provider of satellite capacity for satellite-based private data networks, including VSAT networks, according to Euroconsult;
- The fastest growing customer type in our network services business is mobility services for the aeronautical and maritime sectors. We believe we hold a leading share of the aeronautical broadband services powering in-flight passenger connectivity. FSS revenue growth related to capacity demand for broadband aeronautical services is expected to grow from approximately \$300 million to just over \$1 billion annually, for the period from 2019 to 2024, at a CAGR of 28% according to Euroconsult. In addition, Euroconsult forecasts growth in FSS aeronautical terminals (excluding mobile satellite services ("MSS") and air-to-ground technology) at a CAGR of 17% for the period from 2019 to 2024;
- We are the leader in the provision of FSS bandwidth for maritime broadband connectivity. 14% of our 2019 total Company revenues were derived from commercial mobility services, the largest segment of which was maritime. The number of FSS VSATs related to capacity demand for maritime broadband services (excluding MSS) is expected to grow at a CAGR of 12% for the period from 2019 to 2024 according to Euroconsult. Of the world's largest cruise vessels, Intelsat's services are incorporated in the broadband infrastructure for a majority of ships, in substantially all cases as the exclusive or primary source of satellite services;
- Infrastructure for wireless operator services represents our third largest network services customer type. We believe we are the leading provider of satellite capacity for cellular backhaul applications in emerging regions, connecting cellular towers to the global telecommunications network, a global sector expected to generate over \$900 million in revenue in 2020, according to NSR. Approximately 85 of our customers use our satellite-based backhaul services as a core component of their network infrastructure due to unreliable or non-existent terrestrial infrastructure. Our cellular backhaul customers include five of the top ten mobile groups worldwide, which serve a fifth of the world's subscribers, excluding China;

- Approximately 130 value-added network operators use our IntelsatOne broadband hybrid infrastructure to deliver their regional and global services. Applications for these services include corporate networks for multinationals, internet access and broadband for maritime and commercial aeronautical applications. C-, Ku- and Ka-band and HTS revenue from capacity demand for mobility applications is expected to grow at a CAGR of 13.5% for the period from 2019 to 2024, according to NSR; and
- The fixed enterprise VSAT sector (excluding all non-GEO HTS bandwidth) is expected to generate capacity revenues of approximately \$2.7 billion in 2020, and capacity revenues are expected to grow at a CAGR of 7% from 2019 to 2024, according to NSR.

## ***Government***

We are the leading provider of commercial satellite services to the government sector, according to NSR, with a 24% share of military and government use of commercial satellite capacity worldwide. With more than 50 years of experience serving this customer set, we have built a reputation as a trusted partner for the provision of highly customized, secure and mission critical satellite-based solutions. The government sector accounted for 18% of our revenue for the year ended December 31, 2019 and \$738 million of our contracted backlog as of December 31, 2019.

Our satellite communication services business generated from the U.S. government sector is generally characterized by single year contracts that are cancellable by the customer upon payment of termination for convenience charges, and include annual options to renew for periods of up to four additional years. In addition to communication services, our backlog includes some longer-term services, such as hosted payloads, which are characterized by contracts with originally contracted service periods extending up to the 15-year life of the satellite, cancellable upon payment of termination penalties defined by the respective contracts.

Our customer base includes the U.S. government's military and civilian agencies, global government militaries, and commercial customers serving the defense sector. We consider each party within the U.S. Department of Defense and other U.S. government agencies that has the ability to initiate a purchase requisition and select a contractor to provide services to be a separate customer, although such party may not be the party that awards us the contract for the services.

We attribute our strength in serving U.S. military and government users to our global infrastructure of satellites, including the addition of the high-performance Intelsat Epic fleet, and our IntelsatOne network of teleports and fiber that complement the U.S. government's own communications networks. Our fleet provides flexible, secure and resilient global network capacity, and critical surge capabilities. Our Intelsat Epic satellites provide high-throughput and performance that is highly attractive for aeronautical surveillance applications, offering HD video from small antennas, enabling use of a smaller airframe. In some instances, we provide our U.S. government customers managed, end-to-end secure networks, combining our resources in space and on the ground, for fixed and mobile applications.

In responding to certain unique customer requirements, we also procure and integrate satellite services provided by other satellite operators, either to supplement our capacity or to obtain capacity in frequencies not available on our fleet, such as L-band, X-band and other spectrums not available on our network. These off-network services are generally low risk in nature, typically with the terms and conditions of the third-party capacity and services we procure matched to contractual commitments from our customer. We are an attractive supplier to the government sector because of our ability to leverage not only our assets but also other space-based solutions, providing a single contracting source for multiple, integrated technologies.

Highlights of our government business include the following:

- Our government business is fully engaged in the Intelsat managed services strategy, simplifying the use of high-throughput services. In 2019, we introduced FlexGround, a global end-to-end managed service providing cost-effective, high-performance connectivity for small land mobility applications, including airline checkable manpack terminals. FlexGround leverages the Intelsat Epic HTS network, which has high-powered spot beams, enabling high data rate services to small antennas. Operating in the Ku-band, these terminals are designed to be set up and connected in minutes by non-technical users operating in remote environs, enabling communications across a wide spectrum of scenarios.
- The reliability and scale of our fleet and planned launches of new and replacement satellites allow us to address changing demand for satellite coverage and to provide mission-critical communications capabilities. For example, in 2019, we were awarded a key supplier contract by DRS Technologies to support their \$977 million eight-year award to provide the United States Special Operations Command with worldwide satellite communications and support. We are providing significant on-net capacity on our newest satellites, as well as off-network capacity.

- The U.S. government and military is one of the largest users of commercial satellites for U.S. government and military applications on a global basis. In 2019, we served approximately 80 customers consisting of U.S. government customers, resellers to U.S. government customers or integrators.
- According to a study by NSR, global revenue from FSS used for U.S. government and military applications is expected to grow at a CAGR of 6.7% for the period from 2019 to 2024.

Overall, business activity in this customer set reflects the current tempo of our end-customers’ operations and the budgetary constraints of the U.S. government; visibility into the U.S. government’s planned contract awards remains low and the pace of new business and subsequent awards remains flat.

Over the mid-term, we believe our reputation as a provider of secure solutions, our global fleet including our new high-performance Intelsat Epic platform and affiliated FlexAir managed service, our well-established customer relationships, our ability to provide turn-key services and our demonstrated willingness to reposition or procure capacity to support specific requirements position us to successfully compete for commercial satellite solutions for bandwidth-intensive military and civilian applications. We expect our government business to benefit over time from the increasing demands for mobility services from the U.S. government for aeronautical and ground mobile requirements.

### Our Diverse Business

Our revenue and backlog diversity spans customer sets and applications, as discussed above, as well as geographic regions and satellites. We believe our diversity allows us to recognize trends to capture new growth opportunities, and gain experience that can be transferred to customers in different regions. For further details regarding geographic distribution of our revenue, see Note 3—Revenue to our consolidated financial statements included in Item 8—Financial Statements and Supplementary Data of this Annual Report.

We believe we are the sector leader by transponder share in three of the geographic regions covered by our network. We are generally ranked first or second in the regions identified by industry analysts as those that either purchase the most satellite capacity or are regions with high growth prospects, such as North America and the Asia-Pacific.

## Well-Positioned in Attractive and Growing Regions (HTS & Regular Capacity)

(\$ in millions)

Region	FSS Industry Forecast 2019-2024 Revenue CAGR	2018 FSS Industry Wholesale Revenue	Intelsat Rank <sup>1</sup>
Asia Pacific	6.7%	\$2,368	#2
Russia and Central Asia	4.2%	\$466	#2
Latin America	3.6%	\$1,259	#1
North America	3.1%	\$2,138	#1
Middle East & Africa	2.2%	\$1,675	#1
Europe	-0.2%	\$2,038	#3

<sup>1</sup>

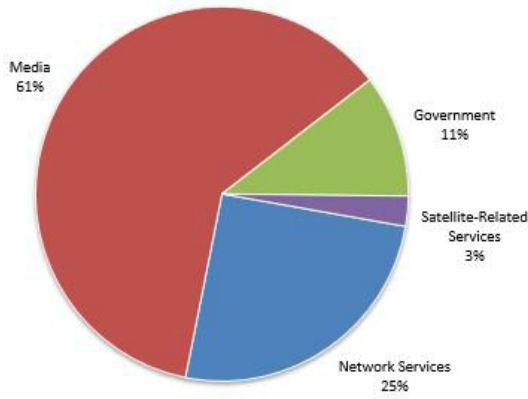
Source: Euroconsult: 2019 – Satellite Connectivity and Video Markets Survey; includes both traditional and HTS capacity  
<sup>2</sup> For each region, ranking is determined by Euroconsult’s estimated 2017 revenues and supporting company annual filings



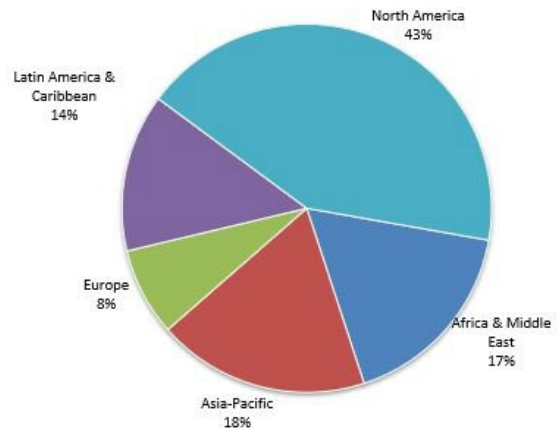
The scale of our fleet can also reduce the financial impact of satellite failures and protect against service interruption. No single satellite generated more than 7% of our revenue and no single customer accounted for more than 15% of our revenue for the year ended December 31, 2019.

The following chart shows the geographic diversity of our contracted backlog as of December 31, 2019 by region and service sector, based upon the billing address of the customer.

**Contracted Backlog by Service Sector**

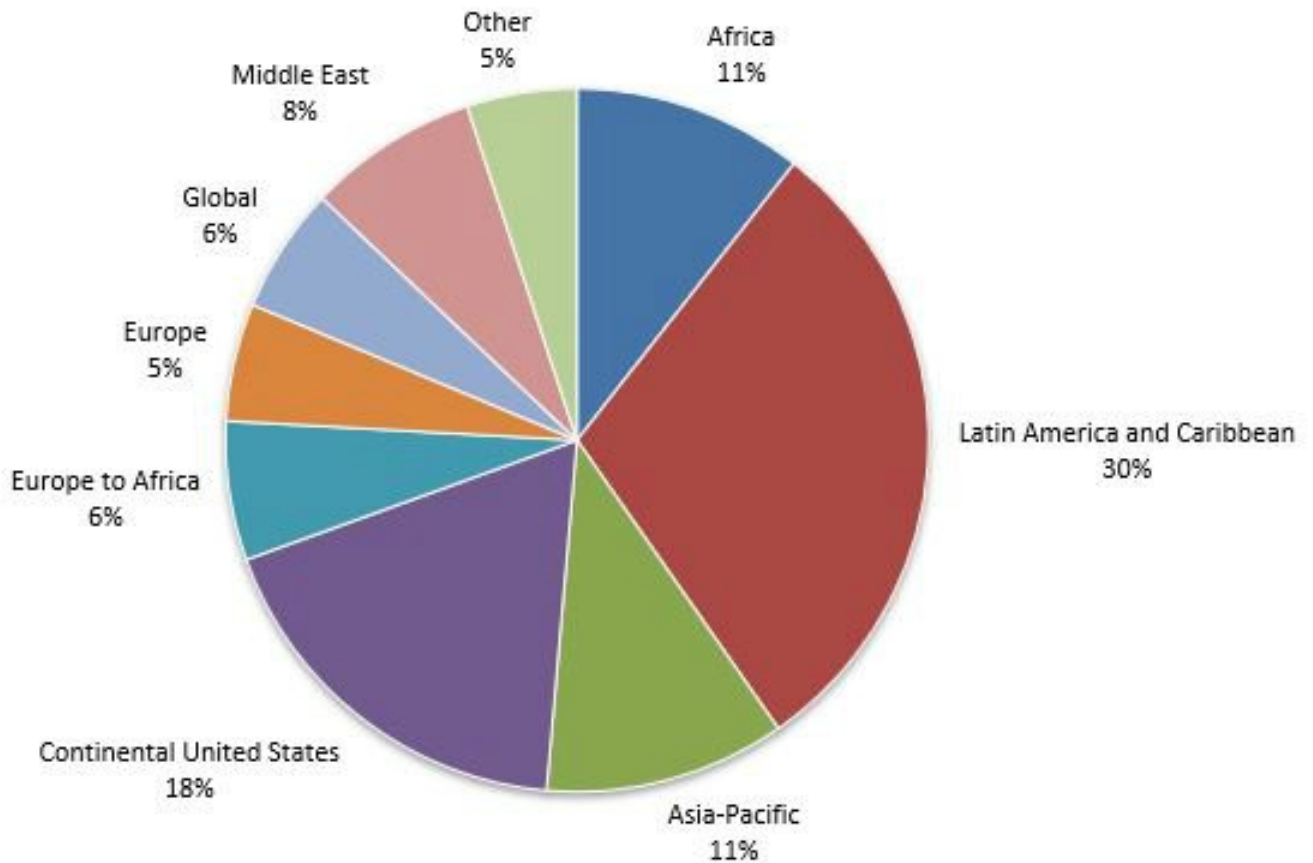


**Contracted Backlog by Billing Region**



The majority of our on-network revenue aligns to emerging regions, based upon the position of our satellites and beams. The following chart shows the breakdown of our on-network revenue by the region in which the service was delivered as of December 31, 2019.

**On-Network Revenue by Service Delivery Region**



## **Our Strategy: Transforming Our Business and Our Sector**

We are transforming our business and sector, investing in and deploying innovative new technologies that will change the types of applications that we can serve and increase our share of the global demand for broadband connectivity everywhere—for all communities and for all devices.

Our strategy is built around four competitive advantages that strengthen our ability to reach our goals:

- Our global footprint, which is essential given that the fastest growing applications, such as mobility and upcoming 5G deployments, require ubiquitous, consistent network performance;
- Operating scale, with service delivery in approximately 200 countries and territories, which is important to new opportunities, such as connected car, machine-to-machine, land mobility and government applications, where service providers will look for global access. We believe the ability to serve these and other applications on a global basis creates new satellite-based communication solutions with multi-billion dollar revenue potential;
- Our innovative technology, especially our high-throughput fleet that is already in-orbit, and that we will continue to evolve with satellites and other technologies that complement the high performance capabilities of our global network, provides our customers first-to-market advantage and experience; and
- Our portfolio of spectrum rights, which provides unmatched flexibility and agility as we look at new opportunities.

Our strategy is to seek revenue growth with the following actions:

- Drive stability in our core business;
- Selectively invest, employ a disciplined yield management approach and emphasize the development of strong distribution channels for our four primary customer sets of broadband, mobility, media and government;
- Scale our differentiated managed service offerings in targeted growth verticals in broadband, mobility, media and government, leveraging the global footprint, higher performance and better economics of our Intelsat Epic fleet and the flexibility of our innovative terrestrial network;
- Complete targeted investments and partnerships in differentiated space and ground infrastructure to develop a standards-based ecosystem that will provide a seamless interface with the broader telecommunications ecosystem; and
- Seek partnerships and investments for vertical expansion in the growing mobility sector and in adjacent space-based businesses to position for longer-term growth.

We believe that developing differentiated managed services and investing in related software- and standards-based technology will allow us to increase our relevance within the broader telecommunications landscape, unlocking opportunities that are essential to providing global broadband.

Our new services and technologies will also open new sectors that are much larger, and growing much faster, than the sectors we support today. Examples include:

- Providing network infrastructure for 2G/3G/4G/5G wireless in developing regions;
- Providing signal ubiquity in support of 5G services globally;
- Providing flexible broadband services for enterprise networks and for commercial and government-related aeronautical, maritime and other mobile applications, and using our high-throughput platform and global footprint to provide differentiated services;
- Optimizing content distribution networks to support cloud-based media applications, UHD, OTT programming and other multiscreen viewing applications; and
- Providing ubiquitous broadband for global deployment of connected devices, such as the connected car, and the continuing formation of the IoT.

Our strategy with respect to capital investment and spectrum is expected to lead to longer-term outcomes, achieving the transformation of our business as we take the following actions:

- Lower overall capital intensity and improve cost effectiveness through innovation emphasis on software-defined infrastructure and encourage a standards-based ecosystem built on widely adopted technologies, including the 3GPP standards. We will enhance our space and terrestrial infrastructure with platforms that are software-defined and less expensive to manufacture resulting in faster deployments and mission flexibility; and
- Maximize the value of our spectrum rights. Leverage our sizeable portfolio of spectrum rights in the C-, Ku- and Ka-bands that provides the foundation of our ability to provide communications services over 99% of the Earth's populated regions. Continue to participate in the FCC C-band proceeding, proposing solutions that address the need

for C-band spectrum in the U.S. to fuel adoption of 5G, while also protecting and maintaining the essential services we provide in the mid-band today.

In advancing our spectrum rights strategy, we have worked since 2017 with other satellite operators and collaborated with customer groups, associations and other stakeholders to propose a market-based solution to a Notice of Proposed Rule Making (“NPRM”) issued by the FCC. The NPRM explored clearing spectrum currently licensed to satellite operators in order to accommodate the deployment of 5G wireless services in the United States. The proposal put forth by Intelsat and certain other satellite operators supported the FCC’s stated goals of clearing a large portion of spectrum quickly, while also protecting incumbent services.

On November 18, 2019, the FCC announced a decision to pursue a public auction of the C-band spectrum currently licensed to Intelsat and other satellite operators, a change from the private market solution for which Intelsat had been advocating over the past two years.

Subsequent to year-end 2019, on February 7, 2020, the FCC issued its draft order in the C-band proceeding. The draft order sets forth proposed acceleration incentive payments to certain C-band satellite operators of \$9.7 billion, of which Intelsat would receive \$4.85 billion, payable in two tranches over a period of 42 months. The draft order also outlines a cost reimbursement framework that would apply to the various stakeholders in the proceeding, as well as technical specifications and other elements.

Our near-term focus is on successfully improving the draft order proposed by the FCC while preserving all of our rights. There can be no assurance that the FCC will accept any of our proposed changes to the order. The next major event in this proceeding is the vote of the FCC on a final order, which is currently scheduled to occur on February 28, 2020. The final order could be issued later that day.

## **Competition**

We compete in the communications market for the provision of video, data and voice connectivity worldwide. Communications services are provided using various communications technologies, including satellite networks, which provide services as a substitute for, or as a complement to, the capabilities of terrestrial networks. We also face competition from suppliers of terrestrial communications capacity.

We operate on a global scale. Our competition includes national, regional and global providers of traditional and high-throughput FSS. We also compete with providers of MSS for broadband services delivered for aeronautical and maritime applications.

We also compete with providers of terrestrial fiber optic cable capacity on certain routes and networks, principally for point-to-point services. The primary use of fiber optic cable is carrying high-volume communications traffic from point-to-point, and fiber capacity is available at substantially lower prices than satellite capacity once operational. Consequently, the growth in fiber optic cable capacity has led voice, data and video contribution customers that require service between major city hubs to migrate from satellite to fiber optic cable.

In recent years, increased availability of fiber in metropolitan regions of developing countries, and the oversupply of satellite services in certain regions, have resulted in increased competition in some of the regions we serve. The effect of these two trends has been significant price reductions for both fiber and satellite connectivity, primarily impacting our commercial and government data applications. As a result, Intelsat’s revenues have been reduced as services were terminated by customers moving to fiber alternatives, and also as contracts were renewed at lower prices.

## **Sales, Marketing and Distribution Channels**

We strive to maintain a close working relationship with our customers. Our primary sales and marketing operations are located in the United Kingdom and the United States. In addition, we have established local sales and marketing support offices in the following countries around the world:



- Australia
- Brazil
- China
- France
- Germany
- India
- Israel
- Kenya
- Russia
- Senegal
- Singapore
- South Africa
- United Arab Emirates
- Japan

By establishing local offices closer to our customers and staffing those offices with experienced personnel, we believe that we are able to provide flexible and responsive service and technical support to our customers. Our sales and marketing organization reflects our corporate focus on our three principal customer sets of network services, media and government. Our sales team includes technical marketing and sales engineering application expertise and a sales approach focused on creating integrated solutions for our customers' communications requirements.

We use a range of direct and wholesale distribution methods to sell our services, depending upon the region, the vertical application, regulatory requirements and customer application.

### Our Network

Our global network is currently comprised of 53 satellites following the January 2020 deorbiting of IS-805, as well as ground facilities, including teleports, access to internet PoPs and leased fiber that support our commercial services and the operation and control of our satellites.

Our customers depend on our global communications network and our operational and engineering leadership. Highlights of our network include:

- Prime orbital locations, reflecting a valuable portfolio of coordinated fixed satellite spectrum rights;
- Highly reliable services, including transponder availability of 99.999% on all operational satellites for the year ended December 31, 2019;
- Flexibility to relocate satellites to other orbital locations as we manage fleet replacement, demand patterns change or in response to new customer requirements;
- Design features and steerable beams on many of our satellites enable us to reconfigure capacity to provide different areas of coverage; and
- Resilience, with multiple satellites serving each region, allows for improved restoration alternatives should a satellite anomaly occur.

As we design our new satellites, we work closely with our strategic customers to incorporate technology and service coverage that provide them with a cost-effective platform for their respective requirements.

The table below provides a summary of our satellite fleet as of December 31, 2019, except where noted.

Satellite	Manufacturer	Orbital Location	Launch Date	Estimated End of Service Life <sup>(1)</sup>
Station Kept Satellites:				
Intelsat 26	BSS <sup>(2)</sup>	63.65°E	Feb-97	2022
Galaxy 25	SSL <sup>(3)</sup>	32.9°E	May-97	2023
Intelsat 5	BSS	137°W	Aug-97	2024
Intelsat 805	LM <sup>(4)</sup>	169.1°E	Jun-98	2020
Galaxy 11	BSS	93.1°W	Dec-99	2024
Intelsat 9	BSS	DRIFT	Jul-00	2022
Intelsat 12	SSL	64.25°E	Oct-00	2021
Intelsat 1R	BSS	157.1°E	Nov-00	2023
Intelsat 10	BSS	47.5°E	May-01	2026
Intelsat 901	SSL	DRIFT	Jun-01	2024

Satellite	Manufacturer	Orbital Location	Launch Date	Estimated End of Service Life <sup>(1)</sup>
Intelsat 902	SSL	DRIFT	Aug-01	2024
Intelsat 904	SSL	29.5°W	Feb-02	2025
Intelsat 903	SSL	31.5°W	Mar-02	2030
Intelsat 905	SSL	24.5°W	Jun-02	2032
Galaxy 3C	BSS	95.05°W	Jun-02	2023
Intelsat 906	SSL	64.15°E	Sep-02	2020
Intelsat 907	SSL	27.5°W	Feb-03	2020
Galaxy 12	NGIS <sup>(5)</sup>	129°W	Apr-03	2025
Galaxy 23 <sup>(6)</sup>	SSL	121°W	Aug-03	2023
Galaxy 13/Horizons 1 <sup>(7)</sup>	BSS	127°W	Oct-03	2025
Intelsat 1002 <sup>(8)</sup>	Airbus	1°W	Jun-04	2021
Galaxy 28	SSL	89°W	Jun-05	2023
Galaxy 14	NGIS	125°W	Aug-05	2021
Galaxy 15	NGIS	133°W	Oct-05	2024
Galaxy 16	SSL	99°W	Jun-06	2027
Galaxy 17	Thales <sup>(9)</sup>	91°W	May-07	2024
Intelsat 11	NGIS	42.99°W	Oct-07	2022
Horizons 2 <sup>(10)</sup>	NGIS	84.85°E	Dec-07	2024
Galaxy 18	SSL	123°W	May-08	2028
Intelsat 25	SSL	31.5°W	Jul-08	2024
Galaxy 19	SSL	97°W	Sep-08	2028
Intelsat 14	SSL	45°W	Nov-09	2027
Intelsat 15	NGIS	85.15°E	Nov-09	2027
Intelsat 16	NGIS	76.2°W	Feb-10	2028
Intelsat 17	SSL	66°E	Nov-10	2027
Intelsat 28 <sup>(11)</sup>	NGIS	32.8°E	Apr-11	2025
Intelsat 18	NGIS	180°E	Oct-11	2028
Intelsat 22 <sup>(12)</sup>	BSS	72.1°E	Mar-12	2028
Intelsat 19	SSL	166°E	Jun-12	2028
Intelsat 20	SSL	68.5°E	Aug-12	2030
Intelsat 21	BSS	58°W	Aug-12	2030
Intelsat 23	NGIS	53°W	Oct-12	2030
Intelsat 30	SSL	95.05°W	Oct-14	2032
Intelsat 34	SSL	55.5°W	Aug-15	2033
Intelsat 31	SSL	95.05°W	Jun-16	2034
Intelsat 36	SSL	68.5°E	Aug-16	2032
Intelsat 33e	BSS	60°E	Aug-16	2028
Intelsat 35e	BSS	34.5°W	Jul-17	2033
Intelsat 37e	BSS	18°W	Sep-17	2030
Horizons 3e <sup>(13)</sup>	BSS	169°E	Sep-18	2036
Intelsat 39	SSL	61.95°E	Aug-19	2037
Payload Hosted on Third-Party Satellites:				
Intelsat 1W <sup>(14)</sup>	Thales	0.8°W	Oct-09	2025
Intelsat 32e <sup>(15)</sup>	Airbus	43.0°W	Feb-17	2033
Intelsat 38 <sup>(16)</sup>	SSL	45.1°E	Sep-18	2036

(1) Engineering estimates of the service life as of December 31, 2019 as determined by remaining fuel levels, consumption rates and other considerations (including power) and assuming no relocation of the satellite. Such estimates are subject to change based upon a number of factors, including updated operating data from manufacturers.

(2) Boeing Satellite Systems, Inc. ("BSS"), formerly Hughes Aircraft Company.

(3) Space Systems/Loral, LLC ("SSL").

(4) Lockheed Martin Corporation ("LM").

- (5) Northrop Grumman Innovation Systems ("NGIS").
- (6) EchoStar Communications Corporation owns all of this satellite's Ku-band transponders and a portion of the common elements of the satellite.
- (7) Horizons Satellite Holdings LLC ("Horizons Holdings"), a joint venture with JSAT International, Inc. ("JSAT"), owns and operates the Ku-band payload on this satellite. We are the exclusive owner of the C-band payload.
- (8) Telenor owns 18 Ku-band transponders (measured in equivalent 36 MHz transponders) on this satellite. EADS Astrium was renamed AIRBUS Defence & Space.
- (9) Thales Alenia Space ("Thales").
- (10) Horizons Holdings owns the payload on this satellite and we operate the payload for the joint venture.
- (11) Intelsat 28 was formerly known as Intelsat New Dawn.
- (12) Intelsat 22 includes an ultra high-frequency payload owned by the Australian Defence Force.
- (13) Horizons-3 Satellite LLC, a joint venture with JSAT, owns and operates this satellite. Horizons 3e entered into service in Q1 2019.
- (14) Intelsat 1W refers to a Ku-band payload on Thor 6, a satellite operated by Telenor.
- (15) Intelsat 32e refers to a HTS Ku-band payload we operate on a satellite also known as Sky Brasil 1.
- (16) Intelsat 38 refers to a Ku-band payload on Azerspace-2, a satellite operated by Azercosmos. Intelsat 38 entered into service in Q1 2019.

### ***Satellite Systems***

There are three primary types of commercial communications satellite systems: LEO systems, medium-earth orbit systems and GEO systems. All of our satellites are geosynchronous satellites and are located approximately 22,200 miles, or 35,800 kilometers, above the equator. These satellites can receive radio frequency communications from an origination point, relay those signals over great distances and distribute those signals to a single receiver or multiple receivers within the coverage areas of the satellites' transmission beams.

Geosynchronous satellites send these signals using various parts of the radio frequency spectrum. The spectrum available for use at each orbital location includes the following frequency bands in which most commercial satellite services are offered today:

- C-band-low power, broad beams requiring use of relatively larger antennae, valued as spectrum least susceptible to transmission impairments such as rain;
- Ku-band-high power, narrow to medium size beams facilitating use of smaller antennae favored by businesses; and
- Ka-band-very high power, very narrow beams facilitating use of very small transmit/receive antennae, but somewhat less reliable due to high transmission weather-related impairments. The Ka-band is utilized for various applications, including consumer broadband services.

Substantially all of the station-kept satellites in our fleet are designed to provide capacity using the C- and/or Ku-bands of this spectrum.

A geosynchronous satellite is referred to as geostationary, or station-kept, when it is operated within an assigned orbital control, or station-keeping box, which is defined by a specific range of latitudes and longitudes. Geostationary satellites revolve around the earth with a speed that corresponds to that of the earth's rotation and appear to remain above a fixed point on the earth's surface at all times. Geosynchronous satellites that are not station-kept are in inclined orbit. The daily north-south motion of a satellite in inclined orbit exceeds the specified range of latitudes of its assigned station-keeping box, and the satellite appears to oscillate slowly, moving above and below the equator every day. An operator will typically operate a satellite in inclined orbit toward the end of its service life because the operator is able to save significant amounts of fuel by not controlling the north-south position of the satellite and is thereby able to substantially extend the service life of the satellite. The types of services and customers that can access an inclined orbit satellite have traditionally been limited due to the movement of the satellite relative to a fixed ground antenna. However, recent technological innovations now allow the use of inclined orbit capacity for certain applications. As a result, we anticipate demand for inclined orbit capacity may increase over the next few years if these applications are successfully introduced. As of December 31, 2019, 15 of our satellites were operating in an inclined orbit, with most continuing to earn revenue beyond our original estimated life for each of these satellites.

### ***In-Orbit Satellites***

We believe that our strong operational performance is due primarily to our satellite procurement and operations philosophy. Our operations and engineering staff is involved from the design through the decommissioning of each satellite that

we procure. Our staff works at the manufacturers' and launchers' sites to monitor progress, allowing us to maintain close technical collaboration with our contractors during the process of designing, manufacturing and launching a satellite. We continue our engineering involvement throughout the operating lifetime of each satellite. Extensive monitoring of earth station operations, around-the-clock satellite control and network operations support ensure our consistent operational quality, as well as timely corrections when problems occur. In addition, we have in place contingency plans for technical problems that may occur during the lifetime of a satellite.

These features also contribute to the resilience of our network, which enables us to ensure the continuity of service that is important for our customers and to retain revenue in the event that we need to move customers to alternative capacity. The design flexibility of some of our satellites enables us to meet customer demand and respond to changing market conditions.

As of December 31, 2019, we had approximately 1,805 station-kept transponders on our traditional wide beam fleet, for which the average fill rate was 79%. The HTS Intelsat Epic transponder unit count was approximately 1,220, reflecting an increase from 2018 as a result of the entry into service of Horizons 3e.

The design life of a satellite is the length of time that the satellite's hardware is designed by the manufacturer to remain operational under normal operating conditions. In contrast, a satellite's orbital maneuver life is the length of time the satellite has enough fuel to remain operational. A satellite's service life is based upon fuel levels and other considerations, including power. Satellites launched in the recent past are generally expected to remain in service for the lesser of maneuver life and 16 years. Satellites typically have enough fuel to maintain between 16 and 18 years of station-kept operations. The average remaining service life of our satellites was approximately 7.7 years as of December 31, 2019, weighted on the basis of nominally available capacity for the station-kept satellites we own.

#### *Satellites on Order*

As of December 31, 2019, we had one satellite under contract for construction and launch.

<b>Satellite</b>	<b>Manufacturer</b>	<b>Role</b>	<b>Earliest Launch Date</b>	<b>Expected Launch Provider</b>
Galaxy 30	NGIS	Next generation North American video distribution platform	2020	Arianespace

#### *Future Satellites*

We would expect to replace other existing satellites, as necessary, with satellites that meet customer needs and that have a compelling economic rationale. We periodically conduct evaluations to determine the current and projected strategic and economic value of our existing and any planned satellites and to guide us in redeploying satellite resources as appropriate. In early 2020, Intelsat selected SSL to manufacture Intelsat 40e, a next generation Intelsat Epic geostationary communications satellite that is scheduled to launch in 2022.

#### ***Network Operations and Current Ground Facilities***

We control and operate each of our satellites and manage the communications services for which each satellite is used from the time of its initial deployment through the end of its operational life, and we believe that our technical skill in performing these critical operations differentiates us from our competition. We provide most of these services from our satellite operations centers in McLean, Virginia and Long Beach, California, and our customer service center in Ellenwood, Georgia. In the event of a natural disaster or other situation disabling one of the facilities, each satellite operations center has the functional ability to provide instantaneous restoration of services on behalf of the other, demonstrating the efficiency and effectiveness of our network. Utilizing state of the art satellite command and control hardware and software, our satellite operations centers analyze telemetry from our satellites in order to monitor their status and track their location.

Our satellite operations centers use a network of ground facilities to perform their functions. This network includes 15 earth stations that provide tracking, telemetry and commanding ("TT&C") services for our satellites and various other earth stations worldwide. Through our ground facilities, we constantly monitor signal quality, protect bandwidth from piracy or other interference and maintain customer installed equipment.

Our customer service center located in Ellenwood, Georgia includes a Radio Frequency Operations Center, a Managed Services Operations Center and an Intelsat Secured Operations Center. This facility is responsible for managing the communications services that we provide to our customers and is the first point of contact for customers needing assistance in

using our network. We also maintain a back-up operations facility and data center a relatively short distance from our McLean, Virginia facility in Hagerstown, Maryland. This facility provides back-up emergency operational services in the event that our Ellenwood, Georgia customer service center experiences an interruption.

We have invested heavily in our fully integrated IntelsatOne terrestrial network which complements our satellite network. Our network includes teleport, leased fiber and network performance monitoring systems and enables us to provide end-to-end managed solutions to our customers. In addition to leased fiber connecting high-density routes, our ground network also features strategically located PoPs, which are drop-off points for our customers' traffic that are close to major interconnection hubs for telecommunications applications, video transmissions and trunking to the internet backbone. Our terrestrial network is an all-IP network environment that results in improved ground support of high bandwidth applications such as HD video. The network architecture allows us to converge our media and network services terrestrial network infrastructures, resulting in reduced costs, and provides opportunities for generating additional revenue from existing and new customers by bundling combinations of media and network services products that can be offered through a single access circuit into our network.

### ***Capacity Sparing and Backup and General Satellite Risk Management***

As part of our satellite risk management, we continually evaluate, and design plans to mitigate, the areas of greatest risk within our fleet, especially for those satellites with known technical risks. We believe that the availability of spare transponder services capacity, together with the overlapping coverage areas of our satellites and flexible satellite design features described in—Our Network—Satellite Systems above, are important aspects of our ability to provide reliable service to our customers. In addition, these factors could help us to mitigate the financial impact to our operations attributable to the occurrence of a major satellite anomaly, including the loss of a satellite. Although we do not maintain backup for all of our transponder services operating capacity, we generally maintain some form of backup capacity for each satellite designated as being in primary operating service. Our restoration backup capacity may include any one or more of the following:

- designated reserve transponders on the satellite or other on-board backup systems or designed-in redundancies;
- an in-orbit spare satellite; or
- interim restoration capacity on other satellites.

In addition, we provide some capacity on a preemptible basis and could preempt the use of this capacity to provide backup capacity in the event of a loss of a satellite.

We typically obtain launch insurance for our satellites before launch and will decide whether or not to obtain such insurance taking into consideration launch insurance rates, terms of available coverage and alternative risk management strategies, including the availability of backup satellites and transponders in the event of a launch failure. Launch insurance coverage is typically in an amount equal to the fully capitalized cost of the satellite, which generally includes the construction costs, the portion of the insurance premium related to launch, the cost of the launch services and capitalized interest (but may exclude any unpaid incentive payments to the manufacturer).

As of December 31, 2019, five of the satellites in our fleet were covered by in-orbit insurance. In-orbit insurance coverage may initially be for an amount comparable to launch insurance levels, generally decreases over time and is typically based on the declining book value of the satellite. We do not currently insure against lost revenue in the event of a total or partial loss of a satellite.

### **Satellite Health and Technology**

Our satellite fleet is diversified by manufacturer and satellite type, and is generally healthy, with 99.999% transponder availability on all operational satellites during the year ended December 31, 2019. We have experienced some technical problems with our current fleet but have been able to minimize the impact of these problems on our customers, our operations and our business in recent years. Many of these problems have been component failures and anomalies that have had little long-term impact to date on the overall transponder availability in our satellite fleet. All of our satellites have been designed to accommodate an anticipated rate of equipment failures with adequate redundancy to meet or exceed their orbital design lives, and to date, this redundancy design scheme has proven effective. After each anomaly we have generally restored services for our customers on the affected satellite, provided alternative capacity on other satellites in our fleet, or provided capacity that we purchased from other satellite operators.

## ***Significant Anomalies***

On January 14, 2005, our Intelsat 804 satellite experienced a sudden and unexpected electrical power system anomaly that resulted in the total loss of the satellite. Intelsat 804 was a Lockheed Martin 7000 series (the “LM 7000 series”) satellite, and as of December 31, 2019 we operated one other satellite in the LM 7000 series, Intelsat 805, which was decommissioned in early 2020.

On April 5, 2010, our Galaxy 15 satellite experienced an anomaly resulting in our inability to command the satellite. Galaxy 15 is a Star-2 satellite manufactured by Orbital Sciences Corporation. On December 23, 2010, we recovered command of the spacecraft and we have since uploaded flight software code to protect against future anomalies of this type. As of December 31, 2019, Galaxy 15 continued to provide normal service.

On April 22, 2011, our Intelsat 28 satellite, formerly known as the Intelsat New Dawn satellite, was launched into orbit. Subsequent to the launch, the satellite experienced an anomaly during the deployment of its west antenna reflector, which controls communications in the C-band frequency. The anomaly had not been experienced previously on other STAR satellites manufactured by Orbital Sciences Corporation, including those in our fleet. The New Dawn joint venture filed a partial loss claim with its insurers relating to the C-band antenna reflector anomaly and all of the insurance proceeds from the partial loss claim were received in 2011. The Ku-band antenna reflector deployed and that portion of the satellite is operating as planned, entering service in June 2011. A Failure Review Board established to determine the cause of the anomaly completed its investigation in July 2011 and concluded that the deployment anomaly of the C-band reflector was most likely due to a malfunction of the reflector sunshield. As a result, the sunshield interfered with the ejection release mechanism, and prevented the deployment of the C-band antenna. The Failure Review Board also recommended corrective actions for Orbital Sciences Corporation satellites not yet launched to prevent reoccurrence of the anomaly. Appropriate corrective actions were implemented on Intelsat 18, which was successfully launched in October 2011, and on Intelsat 23, which was launched in October 2012.

During launch operations of Intelsat 19 on June 1, 2012, the satellite experienced damage to its south solar array. Although both solar arrays are deployed, the power available to the satellite is less than is required to operate 100% of the payload capacity. An Independent Oversight Board (“IOB”) was formed by SSL and Sea Launch to investigate the solar array deployment anomaly. The IOB concluded that the anomaly occurred before the spacecraft separated from the launch vehicle, during the ascent phase of the launch, and originated in one of the satellite’s two solar array wings due to a rare combination of factors in the panel fabrication and was unrelated to the launch vehicle. While the satellite is operational, the anomaly resulted in structural and electrical damage to one solar array wing, which reduced the amount of power available for payload operation. Additionally, we filed a partial loss claim with our insurers relating to the solar array anomaly. We received \$84.8 million of insurance proceeds related to the claim in 2013. As planned, Intelsat 19 replaced Intelsat 8 at 166°E, in August 2012.

On February 1, 2013, the launch vehicle for our Intelsat 27 satellite failed shortly after liftoff and the satellite was completely destroyed. A Failure Review Board was established and subsequently concluded that the launch failed due to the mechanical failure of one of the first stage engine’s thrust control components. The satellite and launch vehicle were fully insured, and we received \$406.2 million of insurance proceeds in 2013.

During orbit raising of Intelsat 33e in September 2016, the satellite experienced a malfunction of the main satellite thruster. Orbit raising was subsequently completed using a different set of satellite thrusters. The anomaly resulted in a delay of approximately three months in reaching the geostationary orbit, as well as a reduction in the projected lifetime of the satellite. Intelsat 33e entered service in January 2017. In addition, in February 2017, measurements indicated higher than expected fuel use while performing stationkeeping maneuvers. There is no evidence of any impact to the communications payload. A Failure Review Board completed its investigation of the primary thruster failure and the fuel use anomalies and identified several design, build and screening improvements that are being implemented by the satellite manufacturer for future satellites using the same engine. In addition, the manufacturer has adapted its propellant estimation software for both anomalies, which we take into account in making our end of life prediction. We filed a loss claim with our insurers in March 2017 relating to the reduction of life. As of December 31, 2018, we settled with all insurers and received total collection and settlement payments of \$70 million in cash.

In April 2019, the Intelsat 29e satellite (in service since 2016) experienced an anomaly that resulted in a total loss of the satellite. A Failure Review Board comprised of the satellite’s manufacturer, Boeing Satellite Systems, Inc., the Company and external independent experts was convened to complete a comprehensive analysis of the cause of the anomaly. The board concluded that the anomaly was either caused by a harness flaw in conjunction with an electrostatic discharge event related to solar weather activity, or the impact of a micrometeoroid. As we have other similar spacecraft on-orbit of the same Boeing series, we extended the investigation by conducting a thorough analysis of other Boeing-manufactured satellites in our fleet.

Based on our findings, we believe that the Intelsat 29e anomaly is an isolated incident and that other similar spacecraft are at a very low risk of experiencing the same sequence of events. We are also incorporating information gleaned from the investigation into future design and manufacturing plans to mitigate the conditions that may have caused the incident.

### ***Other Anomalies***

We have also identified four other types of common anomalies among the satellite models in our fleet, which have had an operational impact in the past and could, if they materialize, have an impact in the future. These are:

- failure of the on-board satellite control processor ("SCP") in Boeing 601 ("BSS 601") satellites;
- failure of the on-board Xenon-Ion Propulsion System ("XIPS") used to maintain the in-orbit position of Boeing 601 High Power Series ("BSS 601 HP") satellites;
- accelerated solar array degradation in early Boeing 702 High Power Series ("BSS 702 HP") satellites; and
- failure of gyroscopes on certain SSL satellites.

*SCP Failures.* Many of our satellites use an on-board SCP to provide automatic on-board control of many operational functions. SCPs are a critical component in the operation of such satellites. Each such satellite has a backup SCP, which is available in the event of a failure of the primary SCP. Certain BSS 601 satellites have experienced SCP failures. The risk of SCP failure appears to decline as these satellites age.

As of December 31, 2019, we operated one BSS 601 satellite, Intelsat 26. This satellite was identified as having heightened susceptibility to the SCP problem. Intelsat 26 has been in continuous operation since 1997. Both primary and backup SCPs on this satellite are monitored regularly and remain fully functional. Accordingly, we believe it is unlikely that additional SCP failures will occur. Intelsat 26 is currently planned to be decommissioned in 2022.

*BSS 601 HP XIPS.* The BSS 601 HP satellite uses XIPS as its primary propulsion system. There are two separate XIPS on each satellite, each one of which is capable of maintaining the satellite in its orbital position. The BSS 601 HP satellite also has a completely independent chemical propulsion system as a backup to the XIPS. As a result, the failure of a XIPS on a BSS 601 HP satellite typically would have no effect on the satellite's performance or its operating life. However, the failure of both XIPS would require the use of the backup chemical propulsion system, which could result in a shorter operating life for the satellite depending on the amount of chemical fuel remaining. XIPS failures do not typically result in a catastrophic failure of the satellite or affect the communications capability of the satellite.

As of December 31, 2019, we operated four BSS 601 HP satellites, Intelsat 5, Intelsat 9, and Intelsat 10, which are now in inclined orbit, and Galaxy 13/Horizons 1. Galaxy 13/Horizons 1 has one XIPS thruster available as its primary propulsion system. Intelsat 5, Intelsat 9 and Intelsat 10 have experienced the failure of both XIPS and are operating on their backup chemical propulsion systems. Intelsat 5 was redeployed in 2012 following its replacement by Intelsat 8, which was subsequently replaced by Intelsat 19. Also in 2012, Intelsat 9 and Intelsat 10 were redeployed following their replacements by Intelsat 21 and Intelsat 20, respectively. No assurance can be given that we will not have further XIPS failures that result in shortened satellite lives. We have decommissioned three satellites that had experienced failure of both XIPS. Intelsat 6B was replaced by Intelsat 11 during the first quarter of 2008, Galaxy 10R was replaced by Galaxy 18 during the second quarter of 2008, and Galaxy 4R was decommissioned in March 2009.

*BSS 702 HP Solar Arrays.* All of our satellites have solar arrays that power their operating systems and transponders and recharge the batteries used when solar power is not available. Solar array performance typically degrades over time in a predictable manner. Additional power margins and other operational flexibility are designed into satellites to allow for such degradation without loss of performance or operating life. Certain BSS 702 HP satellites have experienced greater than anticipated degradation of their solar arrays resulting from the design of the solar arrays. Such degradation, if continued, will likely result in a shortened operating life of a satellite or the need to reduce the use of the communications payload.

As of December 31, 2019, we operated three BSS 702 HP satellites, two of which are affected by accelerated solar array degradation, Galaxy 11 and Intelsat 1R. Service to customers has not been affected, and we expect that both of these satellites will continue to serve customers until we replace or supplement them with new satellites. Along with the manufacturer, we continually monitor the problem to determine its cause and its expected effect. Due to this continued degradation, Galaxy 11 was redeployed following its replacement by Intelsat 34. Intelsat 1R was redeployed following its replacement by Intelsat 14. The third BSS 702 HP satellite that we operated as of December 31, 2019, Galaxy 3C, was launched after the solar array anomaly was identified, and it has a substantially different solar array design intended to eliminate the problem. This satellite has been in service since September 2002 and has not experienced similar degradation problems.

*SSL gyroscopes.* Some of our satellites use gyroscopes to provide 3-axes attitude information during orbit inclination maneuvers. Certain SSL satellites use gyroscopes that have been identified as having a higher probability of failing. There are four gyroscopes on each of these SSL satellites, three of which are needed for normal operation, and the fourth is a spare. The failure of a single gyroscope on a given satellite would have no effect on the satellite's performance or its operating life. A failure of two or more gyroscopes on a given satellite would require us to use an alternative method for inclination control. This alternative method would likely result in a reduction in the remaining life of the satellite. As of December 31, 2019, we operated 11 SSL satellites that use these gyroscopes, seven of which are in inclined orbit. While in inclined orbit, inclination maneuvers are no longer required.

## **Regulation**

As an operator of a privately-owned global satellite system, we are subject to U.S. government regulation, regulation by foreign national telecommunications authorities and the International Telecommunication Union ("ITU") frequency coordination process and regulations.

### ***U.S. Government Regulation***

*FCC Regulation.* The majority of the satellites in our current constellation are licensed and regulated by the FCC. We have final or temporary FCC authorization for all of our U.S.-licensed operating satellites. The special temporary authorizations ("STAs") in effect relating to our satellites cover various time periods, and thus the number held at any given time varies. In some cases, we have sought STAs because we needed temporary operational authority while we are awaiting grant of identical permanent authority. In others, we sought STAs because the activity was temporary in nature, and thus no permanent authority was needed. Historically, we have been able to obtain the STAs that we have needed on a timely basis. FCC satellite licenses have a fifteen-year term. At the end of a license term, we can request an extension to continue operating a satellite. In addition, our FCC satellite licenses that relate to use of those orbital locations and associated frequencies that were transferred to the United States at the time of our privatization in July 2001 are conditioned on our remaining a signatory to the Public Services Agreement among the International Telecommunications Satellite Organization ("ITSO"), Intelsat, Ltd. and certain of our subsidiaries (the "Public Services Agreement"). Furthermore, any transfer of these licenses by us to a successor-in-interest is only permitted if such successor-in-interest has undertaken to perform our obligations under the Public Services Agreement. Some of our authorizations contain waivers of technical regulations. Many of our technical waivers were required when our satellites were initially licensed by the United States at privatization in 2001 because, as satellites previously operated by an intergovernmental entity, they had not been built in compliance with certain U.S. regulations. Since privatization, several replacement satellites for satellites licensed at privatization also have needed technical waivers as they are technically similar to the satellites they are replacing.

Changes to our satellite system generally require prior FCC approval. From time to time, we have pending applications for permanent or temporary changes in orbital locations, frequencies and technical design. From time to time, we also file applications for replacement or additional satellites. Replacement satellite applications are eligible for streamlined processing if they seek authority for the same orbital location, frequency bands and coverage area as an existing satellite and will be brought into use at approximately the same time, but no later than, the existing satellite is retired. The FCC processes satellite applications for new orbital locations or frequencies on a first come, first served basis. The FCC requires licensees of new, non-replacement, geostationary satellites to post a bond and to comply with a milestone to launch and operate the satellite within five years of the license grant. The bond starts at \$1 million and increases, pro rata, in proportion to the time that has elapsed since the license was granted to the time of the launch and operate milestone. At the end of the five-year period, the bond amount will be \$3 million. A satellite licensee that does not satisfy the launch and operate milestone will lose its license and must forfeit the bond absent circumstances warranting a milestone extension under the FCC's rules and policies. An operator that elects to relinquish its license prior to the five-year launch and operate milestone will forfeit the amount of accrued bond as of the date the license is relinquished. We hold other FCC licenses, including earth station licenses associated with technical facilities located in several states and licenses for terminals. We must pay FCC filing fees in connection with our space station and earth station applications, and we must also pay annual regulatory fees to the FCC. Violations of the FCC's rules can result in various sanctions including fines, loss of authorizations or the denial of applications for new authorizations or the renewal of existing authorizations.

One of our subsidiaries holds a Section 214 authorization. However, we currently do not sell services as a common carrier. Therefore, we are not subject to rate regulation or the obligation not to discriminate among customers.

*U.S. Export Control Requirements and Sanctions Regulation.* Intelsat must comply with U.S. export control and trade sanctions laws and regulations as follows:



The Export Administration Act/International Emergency Economic Powers Act, implemented by the Export Administration Regulations (“EAR”) and administered by the U.S. Department of Commerce’s Bureau of Industry and Security (“BIS”), regulates exports of dual-use controlled items, which includes commercial communications satellites, associated ground equipment, related software, and technology. The EAR also controls dual-use equipment exported to earth stations in our ground network located outside of the United States and to customers as needed. Intelsat uses EAR approved licensing exceptions for many of our export-controlled programs, and EAR licenses as required. It is our practice to obtain all licenses necessary, or correctly document the license exception authorized, for the furnishing of original or spare equipment for the operation of our TT&C ground stations, other network stations, and customer locations in a timely manner to facilitate the shipment of this equipment when needed.

The Arms Export Control Act, implemented by the International Traffic in Arms Regulations (“ITAR”) and administered by the U.S. Department of State’s Directorate of Defense Trade Controls, regulates the export of items on the U.S. Munitions List, including the export of certain satellites and/or payloads with defined military and/or government end use capabilities and characteristics, certain associated hardware, defense services, and technical information relating to satellites to non-U.S. persons (including satellite manufacturers, component suppliers, launch services providers, insurers, customers, Intelsat employees, and other non-U.S. persons). A small portion of Intelsat’s controlled technology remains under ITAR. Intelsat does not currently have any active ITAR licenses.

Certain of Intelsat’s contracts for consulting, manufacture, launch, and insurance of Intelsat’s and third-party satellites involve the export to non-U.S. persons of technology and/or hardware; currently these exports are regulated under the EAR. We do not currently need any ITAR authorizations to fulfill our obligations under contracts with non-U.S. entities.

Trade sanctions laws and regulations administered by the U.S. Department of Treasury’s Office of Foreign Assets Control regulate the provision of services to certain countries subject to U.S. trade sanctions. As required, Intelsat holds the authorizations needed to provide satellite capacity and related administrative services to U.S.-sanctioned countries.

*U.S. Department of Defense Security Clearances.* To participate in classified U.S. government programs, we entered into a proxy agreement with the U.S. government that allows one of our subsidiaries to obtain security clearances from the U.S. Department of Defense as required under the national security laws and regulations of the United States. Such a proxy agreement is required to insulate the subsidiary performing this work from inappropriate foreign influence and control by Intelsat S.A., a Luxembourg company with significant non-U.S. investments and employees. Security clearances are subject to ongoing scrutiny by the issuing agency, as well as renewal every five years. Intelsat must maintain the security clearances obtained from the U.S. Department of Defense, or else lose the ability to perform our obligations under any classified U.S. government contracts to which our subsidiary is a party. Under those circumstances, the U.S. government would have the right to terminate our contracts requiring access to classified information and we would not be able to enter into new classified contracts. Compliance with the proxy agreement is regularly monitored by the U.S. Department of Defense and reviewed at least annually, and if we materially violate the terms of the proxy agreement, the subsidiary holding the security clearances may be suspended or debarred from performing any U.S. government contracts, whether classified or unclassified. Our current proxy agreement is subject to extension every five years with the agreement of the U.S. Department of Defense.

### ***Regulation by Non-U.S. National Telecommunications Authorities***

*U.K. Regulation.* The United Kingdom is the licensing jurisdiction for the Intelsat 12 and Intelsat 26 satellites. Satellite operators in the United Kingdom are regulated by the U.K. Office of Communications (“Ofcom”) and the U.K. Space Agency (“UKSA”). Additionally, Ofcom regulates the use of certain spectrum and orbital resources associated with some of our satellites. Specifically, the following satellites were operated under the regulation of Ofcom for the year ended December 31, 2019: Intelsat 33e, Intelsat 37e, and Intelsat 1R.

*Papua New Guinea Regulation.* The National Information & Communications Technology Authority of Papua New Guinea (“NICTA”) regulates the use of certain spectrum and orbital resources associated with some of our satellites. Specifically, the following satellites were operated under the regulation of NICTA for all or part of the year ended December 31, 2019: Galaxy 23, Intelsat 26, Intelsat 30, Intelsat 31, Intelsat 33e, Intelsat 36 and Intelsat 39. We are required to pay annual fees to NICTA in connection with the spectrum and orbital resources utilized by these satellites, as well as for other satellite network filings we have the right to use. In 2003, the FCC added the C-band payload of the Galaxy 23 satellite, which is licensed by NICTA, to its “Permitted Space Station List,” enabling use of the payload to provide non-DTH services in the United States.

*German Regulation.* We hold licenses from the Federal Network Agency (“Bundesnetzagentur” or “BNetzA”) for several earth stations in Germany, as well as authorizations to use spectrum and orbital resources associated with the operation of the

Intelsat 10, Intelsat 38, and Intelsat 904 satellites and with future satellites. We are required to pay annual fees to BNetzA in connection with the spectrum and orbital resources utilized by these satellites, as well as for other satellite network filings we have the right to use.

*Australian Regulation.* We hold licenses from the Australian Communications and Media Authority (“ACMA”) for several earth stations in Australia, as well as a Nominated Carrier Declaration.

*Japanese Regulation.* We hold licenses from the Ministry of Internal Affairs and Communications for several earth stations in Japan, terminals, as well as carrier registrations. We and JSAT are the sole members of Horizons Holdings, and in 2002 the Japanese telecommunications ministry authorized Horizons Holdings to operate the Ku-band payload on the Galaxy 13/Horizons 1 satellite. In 2003, the FCC added this Ku-band payload to its “Permitted Space Station List,” enabling Horizons Holdings to use the payload to provide non-DTH services in the United States. In May 2004, the FCC expanded this authority to include one-way DTH services. We are the exclusive owner of the C-band payload on Galaxy 13/Horizons 1, which the FCC has licensed us to operate.

*Other National Telecommunications Authorities.* As a provider of satellite capacity and services, we are also subject to the national communications and broadcasting laws and regulations of many other countries in which we operate. In addition, in some cases our ability to operate a satellite in a non-U.S. jurisdiction also arises from a contractual arrangement with a third party. Some countries require us to obtain a license or other form of written authorization from the regulator prior to offering satellite capacity services, operating terminals or providing managed services. We have obtained these licenses or written authorizations, or are in the process of doing so, in all countries that have required us to obtain them. As satellites are launched or relocated, we determine whether such licenses or written authorizations are required and, if so, we obtain them. Most countries allow authorized telecommunications providers to own their own transmission facilities and to purchase satellite capacity without restriction, facilitating customer access to our services. Other countries maintain strict monopoly regimes or otherwise regulate the provision of our services. In order to provide services in these countries, we may need to negotiate an operating agreement with a monopoly entity that covers the types of services to be offered by each party, the contractual terms for service and each party’s rates. As we have developed our ground network and expanded our service offerings, we have been required to obtain additional licenses and authorizations. To date, we believe that we have identified and complied with all of the regulatory requirements applicable to us in connection with our ground network and expanded services.

### ***The International Telecommunication Union Frequency Coordination Process and Associated Regulations***

Only nation states have full standing as ITU members. Therefore, we must rely on governments to represent our interests before the ITU, including obtaining new rights to use orbital locations and resolving disputes relating to the ITU’s regulations. We primarily rely upon the United States, the United Kingdom, Germany, and Papua New Guinea to file for orbital slots at the ITU. Our use of orbital locations is subject to the frequency coordination and recording process of the ITU. In order to protect satellite networks from harmful radio frequency interference from other satellite networks, the ITU maintains a Master International Frequency Register (“MIFR”) of radio frequency assignments and their associated orbital locations. Each ITU notifying administration is required by treaty to give notice of, coordinate and record its proposed use of radio frequency assignments and associated orbital locations with the ITU’s Radiocommunication Bureau.

When a frequency assignment is recorded in the MIFR, the ITU publishes this information so that all potential users of frequencies and orbital locations are aware of the need to protect the recorded assignments associated with a given orbital location from subsequent or nonconforming interfering uses by member states of the ITU. The ITU’s Radio Regulations do not contain mandatory dispute resolution or enforcement mechanisms. Rather, the ITU relies on technical rules as a basis for coordination and consultations between member states for matters related to spectrum disputes. Given the lack of enforcement mechanisms within the ITU treaty, neither the ITU specifically, nor international law generally, provide clear remedies if this voluntary process fails.

In the U.S. regulatory process, an operator may submit an ITU satellite network filing to the FCC for forwarding to the ITU prior to the operator filing a complete FCC license application. Submission of such an ITU filing will reserve for the operator a place in the FCC’s first come, first served licensing queue provided the operator posts a \$500,000 bond. If the operator fails within two years to file a complete FCC license application for the orbital location, frequencies and polarization proposed in the ITU satellite network filing, the bond will be forfeited.

### **Environmental Matters**

Intelsat aims to provide leadership in the identification and promotion of sustainable practices and services that reduce the company’s environmental impact, educate and engage staff and create a more environmentally sustainable organization. Our

operations are subject to various laws and regulations relating to the protection of the environment, including those governing the management, storage and disposal of hazardous materials and the cleanup of contamination should it arise. As an owner or operator of property and in connection with current and historical operations at some of our sites, we could incur significant costs, including cleanup costs, fines, sanctions and third-party claims, as a result of violations of or liabilities under environmental laws and regulations. For instance, some of our operations require continuous power supply, and, as a result, current and past operations at our teleports and other technical facilities include fuel storage and batteries for back-up power generators. We believe, however, that our operations are in substantial compliance with applicable environmental laws and regulations. Moreover, Intelsat's properties generally operate pursuant to a Conditional Use Permit. In order to obtain such a permit, Intelsat must demonstrate compliance with all applicable environmental laws and must maintain programs to prevent or minimize damage to public health, safety and the environment, from, for example, a release or threatened release of hazardous materials, including but not limited to ground water, air, offsets and storage. Intelsat also complies with community right-to-know laws and has undertaken compliance with International Organization for Standardization (ISO) 45001:2018, which specifies requirements for an occupational health and safety management system, and is seeking certification at this time.

## **Employees**

As of December 31, 2019, we had 1,195 full-time regular employees. These employees consisted of:

- 611 employees in engineering, operations and related information systems;
- 193 employees in finance, legal and other administrative functions;
- 305 employees in sales, marketing and strategy; and
- 86 employees in support of government sales and marketing.

We believe that our relations with our employees are good. None of our employees is represented by a union or covered by a collective bargaining agreement.

## **History and Development of the Company**

### **The Company**

Our legal and commercial name is Intelsat S.A. The Company was organized as a public limited liability company (*société anonyme*) under the laws of the Grand-Duchy of Luxembourg on July 8, 2011. Our principal executive office is located at 4, rue Albert Borschette, L-1246, Luxembourg, telephone number +352 27 84 1600. The Company is registered with the Luxembourg *Registre de Commerce et des Sociétés* under number B162135.

### **Our History**

Intelsat, Ltd., a Bermuda company, was the successor entity to the International Telecommunications Satellite Organization (the "IGO"). The IGO was a public intergovernmental organization created on an interim basis by its initial member states in 1964 and formally established in February 1973 upon entry into force of an intergovernmental agreement. The member states that were party to the treaty governing the IGO designated certain entities to market and use the IGO's communications system within their territories and to hold investment share in the IGO.

### **The Privatization**

In November 2000, the IGO's Assembly of Parties unanimously approved our management's specific plan for our privatization and set the date of privatization for July 18, 2001. On July 18, 2001, substantially all of the assets and liabilities of the IGO were transferred to Intelsat, Ltd., which was domiciled as a Bermuda company.

The IGO, referred to post-privatization as the International Telecommunications Satellite Organization ("ITSO"), was established and was to exist as an intergovernmental organization for a period of at least 12 years after July 18, 2001, and then could be terminated by a decision of a governing body of ITSO called the Assembly of Parties. The Assembly of Parties voted in 2012 to continue ITSO until at least 2021. Pursuant to a Public Services Agreement among ITSO and Intelsat, Ltd. and certain of our subsidiaries, we have an obligation to provide our services in a manner consistent with the core principles of global coverage and connectivity, lifeline connectivity and non-discriminatory access, and ITSO monitors our implementation of this obligation.

### ***The Luxembourg Migration***

On December 15, 2009, Intelsat, Ltd. and certain of its parent holding companies and subsidiaries migrated their jurisdiction of organization from Bermuda to Luxembourg (the “Migration”). As a result of the Migration, our headquarters are located in Luxembourg.

### ***The Initial Public Offering***

On April 23, 2013, we completed our initial public offering, in which we issued 22,222,222 common shares, and a concurrent public offering, in which we issued 3,450,000 5.75% Series A mandatory convertible junior non-voting preferred shares (the “Series A Preferred Shares”), at public offering prices of \$18.00 and \$50.00 per share, respectively (the initial public offering together with the concurrent public offering, the “IPO”). In May 2016, all of the outstanding Series A Preferred Shares were converted in accordance with their terms into common shares.

### **Available Information**

We file annual, quarterly, and current reports, proxy statements, and other documents with the SEC under the Securities Exchange Act of 1934, as amended. You may obtain any reports, proxy and information statements, and other information that we file electronically with the SEC at [www.sec.gov](http://www.sec.gov).

You also may view and download copies of our SEC filings free of charge at our website, [www.intelsat.com](http://www.intelsat.com), as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and is not considered part of, this Annual Report on Form 10-K. Investors should also note that we use our website, as well as SEC filings, press releases, and public conference calls, to announce financial information and other material developments regarding our business. We use these channels, as well as social media, to communicate with investors and members of the public about our business. It is possible that the information that we post on our social media channels could be deemed material information. We encourage investors, the media and others interested in our Company to review the information that we post on our social media channels.

### **Item 1A. Risk Factors**

*The risks described below are not the only ones that we may face. Additional risks that are not currently known to us or that we currently consider immaterial may also impair our business, financial condition or results of operations.*

#### **Risk Factors Relating to Our Business**

***We are subject to significant competition from within the FSS sector, from alternative satellite service providers and from other providers of communications capacity, such as fiber optic cable capacity. Competition from other telecommunications providers could have a material adverse effect on our business and could prevent us from implementing our business strategy and expanding our operations as planned.***

We face significant competition in the FSS sector in different regions around the world. We compete against other satellite operators and against suppliers of ground-based communications capacity. The increasing availability of satellite capacity and capacity from other forms of communications technology has historically created an excess supply of telecommunications capacity in certain regions from time to time. We believe such an imbalance could again occur in certain regions, particularly as we and other operators begin to introduce next generation HTS technology on our fleets. Additionally, there is emerging interest from new entrants to launch new constellations in different orbits that could potentially compete with portions of our business. Increased competition in the FSS sector could lower prices, which could reduce our operating margins and the cash available to fund our operations and service our debt obligations. In addition, there has been a trend toward consolidation of major FSS providers as customers increasingly demand more robust distribution platforms with network redundancies and worldwide reach, and we expect to face increased competition as a result of this trend. Our direct competitors are likely to continue developing and launching satellites with greater power and more transponders, which may create satellite capacity at lower costs. In order to compete effectively, we invest in similar technology.

We also believe that there are many companies that are seeking ways to improve the ability of existing land-based infrastructure, such as fiber optic cable, to transmit signals. Any significant improvement or increase in the amount of land-based capacity, particularly with respect to the existing fiber optic cable infrastructure and point-to-point applications, may cause our video and network services customers to shift their transmissions to land-based capacity or make it more difficult for

us to obtain new customers. If fiber optic cable networks or other ground-based high-capacity transmission systems are available to service a particular point, that capacity, when available, is generally less expensive than satellite capacity. As land-based telecommunications services expand, demand for some satellite-based services may be reduced.

In addition, we face challenges to our business apart from these industry trends that our competition may not face. A portion of our revenue has historically been derived from channel services, and from other point-to-point services which comprise a portion of our transponder services. Because fiber optic cable capacity is generally available at lower prices than satellite capacity, competition from fiber optic cable providers has historically caused a migration of our point-to-point customers from satellite to fiber optic cable on certain routes, resulting in erosion in our revenue from point-to-point services over the last ten years. Some other FSS operators have service mixes that are less weighted towards point-to-point connectivity than our current service mix. We have been addressing this erosion and sustaining our business by expanding our customer base in point-to-multipoint services, such as video, and growing our presence in serving wireless communications providers and the mobility sector.

Failure to compete effectively with other FSS operators and to adapt to new competition and new technologies or failure to implement our business strategy while maintaining our existing business could result in a loss of revenue and a decline in profitability, a decrease in the value of our business and a downgrade of our credit ratings, which could restrict our access to the capital markets.

***The market for FSS may not grow or may shrink, and therefore we may not be able to attract new customers, retain our existing customers or implement our strategies to grow our business. In addition, pricing pressures may have an adverse impact on FSS sector revenue.***

The FSS sector, as a whole, has experienced growth over the past few years. However, the future market for FSS may not grow or may shrink. Competing technologies, such as fiber optic cable, continue to adversely affect the point-to-point segment of the FSS sector. In the point-to-multipoint segment, economic downturns, the transition of video traffic from analog to digital and continuing improvements in compression technology, which allow for improved transmission efficiency, have negatively impacted demand for certain fixed satellite services. Developments that we expect to support the growth of the satellite services industry, such as continued growth in data traffic and the proliferation of DTH platforms, high-definition television (“HDTV”) and niche programming, may fail to materialize or may not occur in the manner or to the extent we anticipate. Any of these industry dynamics could negatively affect our operations and financial condition.

Because the market for FSS may not grow or may shrink, we may not be able to attract customers for the services that we are providing as part of our strategy to sustain and grow our business. Reduced growth in the FSS sector may also adversely affect our ability to retain our existing customers. A shrinking market could reduce the number and value of our customer contracts and would have a material adverse effect on our business and results of operations. In addition, there could be a substantial negative impact on our credit ratings and our ability to access the capital markets.

The FSS sector has in the past experienced periods of pricing pressures that have resulted in reduced revenues of FSS operators. Current pricing pressures and potential pricing pressures in the future could have a significant negative impact on our revenues and financial condition.

***We have a substantial amount of indebtedness, which may adversely affect our cash flow and our ability to operate our business, remain in compliance with debt covenants and make payments on our indebtedness.***

As of December 31, 2019, on a consolidated basis, we had approximately \$14.7 billion principal amount of third-party indebtedness outstanding, approximately \$4.9 billion of which was secured debt. Our subsidiaries were the issuers or borrowers of portions of this debt as follows: (a) Intelsat (Luxembourg) S.A. (“Intelsat Luxembourg”), had approximately \$14.3 billion principal amount of total third-party indebtedness outstanding on a consolidated basis, approximately \$4.9 billion of which was secured debt, (b) Intelsat Connect Finance S.A. (“ICF”), had approximately \$1.25 billion principal amount of total third-party indebtedness outstanding on a stand-alone basis, and (c) Intelsat Jackson Holdings S.A. (“Intelsat Jackson”), had approximately \$11.8 billion principal amount of total third-party indebtedness outstanding on a consolidated basis, approximately \$4.9 billion of which was secured debt. Intelsat Luxembourg debt, ICF debt and Intelsat Jackson debt are included in our consolidated debt.

The indentures and credit agreements governing a substantial portion of the outstanding debt of Intelsat Luxembourg, ICF and Intelsat Jackson and their respective subsidiaries permit each of these companies to make payments to their respective direct and indirect parent companies to fund the cash interest payments on such indebtedness, so long as no default or event of default shall have occurred and be continuing or would occur as a consequence thereof.

Our substantial indebtedness could have important consequences. For example, it could:

- make it more difficult for us to satisfy obligations with respect to indebtedness, and any failure to comply with the obligations of any of our debt instruments, including financial and other restrictive covenants, could result in an event of default under the indentures governing our notes and the agreements governing such other indebtedness;
- require us to dedicate a substantial portion of available cash flow to pay principal and interest on our outstanding debt, which will reduce the funds available for working capital, capital expenditures, acquisitions and other general corporate purposes;
- limit flexibility in planning for and reacting to changes in our business and in the industry in which we operate;
- increase our vulnerability to general adverse economic and industry conditions and to deterioration in operating results;
- limit our ability to engage in strategic transactions or implement our business strategies;
- limit our ability to borrow additional funds, or to refinance, repay or restructure our existing indebtedness; and
- place us at a disadvantage compared to any competitors that have less debt.

Any of the factors listed above could materially and adversely affect our business and our results of operations. Furthermore, our interest expense could increase if interest rates rise because certain portions of our debt bear interest at floating rates. Although we have hedged the full amount of our floating rate debt of \$2.4 billion through February 2021 for increases in the 1-month London InterBank Offered Rate (“LIBOR”) to a rate above 1.89%, any increases in 1-month LIBOR from current levels to 1.89% would cause our interest expense to increase. Our interest expense could also increase when we refinance debt. If we do not have sufficient cash flow to service our debt, we may be required to refinance all or part of our existing debt, sell assets, borrow more money or sell securities, none of which we can guarantee we will be able to do.

We may be able to incur significant additional indebtedness in the future. Although the agreements governing our indebtedness contain restrictions on the incurrence of certain additional indebtedness, these restrictions are subject to a number of important qualifications and exceptions, and the indebtedness incurred in compliance with these restrictions could be substantial. If we incur new indebtedness, the related risks, including those described above, could intensify.

***To service our third-party indebtedness, we will require a significant amount of cash. Our ability to generate cash depends on many factors beyond our control, and any failure to meet our third-party debt service obligations could harm our business, financial condition and results of operations.***

Our estimated payment obligations with respect to third-party indebtedness (i.e., indebtedness not held by the Company or any of our subsidiaries) for 2020 comprise approximately \$1.1 billion of interest payments, excluding payments related to satellite performance incentives due to satellite manufacturers. Of this amount, \$908 million is attributable to Intelsat Jackson, \$105 million is attributable to Intelsat Luxembourg, \$119 million is attributable to ICF, and \$18 million is attributable to Intelsat S.A.

Our ability to satisfy our debt obligations will depend principally upon our future operating performance. As a result, prevailing economic conditions and financial, business and other factors, many of which are beyond our control, will affect our ability to make payments on our indebtedness. If we do not generate sufficient cash flow from operations to satisfy our debt service obligations, or if our subsidiaries are prohibited from paying dividends or making distributions because of restrictions in the agreements governing their indebtedness or otherwise, we may have to pursue alternative financing plans, such as refinancing or restructuring our indebtedness, selling assets, reducing or delaying capital investments or seeking to raise additional capital. Our ability to refinance or restructure our debt will depend on the capital markets and our financial condition at such time. Any refinancing of our debt could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict our business operations. In addition, the terms of our and our subsidiaries’ existing or future debt instruments, including the Intelsat Jackson Secured Credit Agreement and the indentures governing Intelsat S.A.’s, Intelsat Luxembourg’s, Intelsat Jackson’s and ICF’s outstanding notes, may restrict us from adopting some of these alternatives. Furthermore, Serafina S.A. has no obligation to provide us with debt or equity financing in the future. Our inability to generate sufficient cash flow to satisfy our debt service obligations, or to refinance our obligations on commercially reasonable terms would have an adverse effect, which could be material, on our business, financial position, results of operations and cash flows.

***The terms of the Intelsat Jackson Secured Credit Agreement, the indentures governing our existing notes and the terms of our other indebtedness may restrict our current and future operations, particularly our ability to respond to changes in our business or to take certain actions.***

On January 12, 2011, Intelsat Jackson entered into a secured credit agreement (as amended, the “Intelsat Jackson Secured Credit Agreement”). The Intelsat Jackson Secured Credit Agreement, the indentures governing our existing notes and the terms of our other outstanding indebtedness contain, and any future indebtedness of ours would likely contain, a number of restrictive covenants imposing significant operating and financial restrictions on Intelsat S.A. and some or all of its subsidiaries, including

restrictions that may limit our ability to engage in acts that may be in our long-term best interests. The Intelsat Jackson Secured Credit Agreement includes one financial covenant: Intelsat Jackson must maintain a consolidated secured debt to consolidated EBITDA ratio of less than or equal to 3.50 to 1.00 at the end of each fiscal quarter, as such financial measure is defined in the Intelsat Jackson Secured Credit Agreement. To meet this financial maintenance covenant ratio over the course of 2020 and beyond, management may seek to amend the covenant to loosen or eliminate the ratio requirement or may use the equity cure provisions in the agreement by contributing cash held at ICF, the parent company of Intelsat Jackson. However, an amendment to the covenant may not be available on commercially reasonable terms and effecting an equity cure may require substantial cash contributions.

In addition, the Intelsat Jackson Secured Credit Agreement requires Intelsat Jackson to use a portion of the proceeds of certain asset sales, in excess of a specified amount, that are not reinvested in its business to repay indebtedness under the agreement.

The Intelsat Jackson Secured Credit Agreement, the indentures governing our existing notes and the terms of our other outstanding indebtedness include covenants restricting, among other things, the ability of Intelsat S.A. and its subsidiaries to:

- incur or guarantee additional debt or issue disqualified stock;
- pay dividends (including to fund cash interest payments at different entity levels), or make redemptions, repurchases or distributions, with respect to ordinary shares or capital stock;
- create or incur certain liens;
- make certain loans or investments;
- engage in mergers, acquisitions, amalgamations, asset sales and sale and leaseback transactions; and
- engage in transactions with affiliates.

In addition, under certain circumstances as described in the Intelsat Jackson Secured Credit Agreement, Intelsat could be required to apply a certain percentage of its Excess Cash Flow (as defined in such agreement), if any, after operational needs for each fiscal year towards the repayment of outstanding term loans, subject to certain deductions.

These covenants are subject to a number of qualifications and exceptions. The operating and financial restrictions and covenants in our existing debt agreements and any future financing agreements may adversely affect our ability to finance future operations or capital needs or to engage in other business activities. A breach of any of the restrictive covenants in the Intelsat Jackson Secured Credit Agreement, including the financial maintenance covenant referred to above could result in a default under such agreement. If any such default occurs, the lenders under the Intelsat Jackson Secured Credit Agreement may elect to declare all outstanding borrowings, together with accrued interest and other fees, to be immediately due and payable, enforce their security interest or require us to apply all available cash to repay these borrowings. If this occurred under the Intelsat Jackson Secured Credit Agreement, this would result in an event of default under our existing notes. If Intelsat Jackson were unable to repay outstanding borrowings when due, the lenders under the Intelsat Jackson Secured Credit Agreement would have the right to proceed against the collateral granted to them to secure the debt owed to them. If the debt under the Intelsat Jackson Secured Credit Agreement were to be accelerated, our assets might not be sufficient to repay such debt in full or to repay our notes and our other debt.

***Our business is capital intensive and requires us to make long-term capital expenditure decisions, and 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 our business strategies and seek to respond to opportunities and trends in our industry, our actual capital expenditures may differ from our expected capital expenditures and there can be no assurance that we will be able to satisfy our capital requirements in the future. The nature of our business also requires us to make capital expenditure decisions in anticipation of customer demand, and we may not be able to correctly predict customer demand. We have only a fixed amount of transponder capacity available to serve a particular region. If our customer demand exceeds our transponder capacity, we may not be able to fully capture the growth in demand in the region served by that capacity. We currently expect that our liquidity requirements in 2020 will be satisfied by cash on hand and cash generated from our operations. However, if we determine 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.

The availability and cost to us of external financing depend on a number of factors, including general market conditions, our financial performance and our credit rating. Both our credit rating and our ability to obtain financing generally may be influenced by the supply and demand characteristics of the telecommunications sector in general and of the FSS sector in particular. Declines in our expected future revenue under contracts with customers and challenging business conditions faced

by our customers are among factors that may adversely affect our credit. Other factors that could impact our credit include the amount of debt in our current capital structure, activities associated with our strategic initiatives, our expected future cash flows and the capital expenditures required to execute our business strategy. The overall impact on our financial condition of any transaction that we pursue may be negative or may be negatively perceived by the financial markets and ratings agencies and may result in adverse rating agency actions with respect to our credit rating. A disruption in the capital markets, a deterioration in our financial performance or a credit rating downgrade could limit our ability to obtain financing or could result in any such financing being available only at greater cost or on more restrictive terms than might otherwise be available. Our debt agreements also impose restrictions on our operation of our business and could make it more difficult for us to obtain further external financing if required. See—The terms of the Intelsat Jackson Secured Credit Agreement, the indentures governing our existing notes and the terms of our other indebtedness may restrict our current and future operations, particularly our ability to respond to changes in our business or to take certain actions.

Long-term disruptions in the capital and credit markets as a result of uncertainty due to recessions, changing or increased regulation or failures of significant financial institutions could adversely affect our access to capital. If financial market disruptions intensify, it may become difficult for us to raise additional capital or refinance debt when needed, on acceptable terms or at all. Any disruption could require us to take measures to conserve cash until the markets stabilize or until alternative credit arrangements or other funding for our business needs can be arranged. Such measures could include deferring capital expenditures and reducing or eliminating other discretionary uses of cash, which could adversely impact our business and our ability to execute our business strategies.

***Our financial condition could be materially and adversely affected if we were to suffer a satellite loss that is not adequately covered by insurance.***

We currently carry in-orbit insurance only with respect to a small portion of our satellite fleet, generally for a short period of time following launch. As of December 31, 2019, five of the 54 satellites in our fleet were covered by in-orbit insurance. Amounts recoverable from in-orbit insurance coverage may initially be comparable to amounts recoverable with respect to launch insurance coverage; however, such amounts generally decrease over time and are typically based on our declining potential repayment obligations with respect to certain customer prepayments made prior to or during the manufacture of certain satellites, or the declining book value of the satellite.

As our satellite insurance policies expire, we may elect to reduce or eliminate insurance coverage relating to certain of our satellites to the extent permitted by our debt agreements if, in our view, exclusions make such policies ineffective or the costs of coverage make such insurance impractical and we believe that we can more reasonably protect our business through the use of in-orbit spare satellites, backup transponders and self-insurance. A partial or complete failure of a revenue-producing satellite, whether insured or not, could require additional, unplanned capital expenditures, an acceleration of planned capital expenditures, interruptions in service, a reduction in contracted backlog and lost revenue and could have a material adverse effect on our business, financial condition and results of operations. We do not currently insure against lost revenue in the event of total or partial loss of a satellite.

We also maintain third-party liability insurance on some of our satellites to cover damage caused by our satellites. This insurance, however, may not be adequate or available to cover all third-party liability damages that may be caused by any of our satellites, and we may not in the future be able to renew our third-party liability coverage on reasonable terms and conditions, if at all.

***We may become subject to unanticipated tax liabilities that may have a material adverse effect on our results of operations.***

Intelsat S.A. and certain of its subsidiaries are Luxembourg-based companies and are subject to Luxembourg taxation for corporations. We believe that a significant portion of the income derived from our communications network will not be subject to tax in certain countries in which we own assets or conduct activities or in which our customers are located, including the United States and the United Kingdom. However, this belief is based on the presently anticipated nature and conduct of our business and on our current position under the tax laws of the countries in which we own assets or conduct activities. This position is subject to review and possible challenge by taxing authorities and to possible changes in law that may have a retroactive effect.

In addition, we conduct business with customers and counterparties in multiple countries and jurisdictions. Our overall tax burden is affected by tax legislation in these jurisdictions and the terms of income tax treaties between these countries and the countries in which our subsidiaries are qualified residents for treaty purposes as in effect from time to time. Tax legislation in these countries and jurisdictions may be amended and treaties are regularly renegotiated by the contracting countries and, in each case, may change. If tax legislation or treaties were to change, we could become subject to additional taxes, including retroactive tax claims or assessments of withholding on amounts payable to us or other taxes assessed at the source, in excess



of the taxation we anticipate based on business contracts and practices and the current tax regimes. The extent to which certain taxing jurisdictions may require us to pay tax or to make payments in lieu of tax cannot be determined in advance. Our results of operations could be materially adversely affected if we become subject to a significant amount of unanticipated tax liabilities.

***We are subject to political, economic, regulatory and other risks due to the international nature of our operations.***

We provide communications services in approximately 200 countries and territories. Accordingly, we may be subject to greater risks than other companies as a result of the international nature of our business operations. We could be harmed financially and operationally by tariffs, taxes, government sanctions and regulatory actions, and other trade barriers that may be imposed on our services, or by political and economic instability in the countries in which we provide services, for instance in countries heavily reliant on revenues from natural resources. If we ever need to pursue legal remedies against our customers or our business partners located outside of Luxembourg, the United States or the United Kingdom, it may be difficult for us to enforce our rights against them depending on their location.

Substantially all of our ongoing technical operations are conducted and/or managed in the United States, Luxembourg and Germany. However, providers of satellite launch services, upon which we are reliant to place our satellites into orbit, locate their operations in other countries, including Kazakhstan. Political disruptions in this country could increase the risk of launching the satellites that provide capacity for our operations, which could result in financial harm to us.

***Our business is subject to foreign currency risk.***

Almost all of our customers pay for our services in U.S. dollars, although we are exposed to some risk related to customers who do not pay in U.S. dollars. Fluctuations in the value of non-U.S. currencies may make payment in U.S. dollars more expensive for our non-U.S. customers, and in certain circumstances, cause us to renegotiate prices or other terms in contracts in order to retain such customers. For instance, our Russian and Venezuelan customers and others may face difficulties paying for our services because of recent deterioration in their respective currencies and the relative strength of the U.S. dollar compared to many other currencies. In addition, our non-U.S. customers may have difficulty obtaining U.S. currency and/or remitting payment due to currency exchange controls.

***Serafina S.A. owns a significant amount of our common shares and may have conflicts of interest with us in the future.***

Serafina S.A. holds in the aggregate approximately 34% of our common shares. By virtue of its share ownership, Serafina S.A. may be able to influence decisions to enter into any corporate transaction or other matter that requires the approval of shareholders. Additionally, Serafina S.A. is in the business of making investments in companies and, although it does not currently hold interests in any business that competes directly or indirectly with us, it may from time to time acquire and hold interests in businesses that compete with us. Serafina S.A. may also pursue acquisition opportunities that may be complementary to our business, and, as a result, those acquisition opportunities may not be available to us.

***We have several large customers and the loss of, or default by, these customers could materially reduce our revenue and materially adversely affect our business.***

A limited number of customers provide a substantial portion of our revenue and contracted backlog. For the year ended December 31, 2019, our ten largest customers and their affiliates represented approximately 41% of our revenue. The loss of, or default by, our larger customers could adversely affect our current and future revenue and operating margins.

Some customers have in the past defaulted and, although we monitor our larger customers' financial performance and seek deposits, guarantees and other methods of protection against default where possible, our customers may in the future default on their obligations to us due to bankruptcy, lack of liquidity, operational failure, devaluation of local currency or other reasons. Defaults by any of our larger customers or by a group of smaller customers who, collectively, represent a significant portion of our revenue could adversely affect our revenue, operating margins and cash flows. If our contracted backlog is reduced due to the financial difficulties of our customers, our revenue, operating margins and cash flows would be further negatively impacted.

***Reductions or changes in U.S. government spending, including the U.S. defense budget, could reduce our revenue and adversely affect our business.***

The U.S. government, through the U.S. Department of Defense and other agencies, is one of our largest customers. Spending authorizations for defense-related and other programs by the U.S. government have fluctuated in the past, and future levels of expenditures and authorizations for these programs may decrease, remain constant or shift to programs in areas where we do not currently provide services. We provide services to the U.S. government and its agencies through contracts that are

conditioned upon the continuing availability of Congressional appropriations. Congress usually appropriates funds on a fiscal year basis, even though contract performance may extend over many years. In recent years, there has been a pattern of delays in the finalization and approval of the U.S. government budget, which can create uncertainty over the extent of future U.S. government demand for our services. Furthermore, in light of the current geopolitical situation, with uncertainty surrounding the level of U.S. operational presence in Iraq, Afghanistan and potentially the Middle East more generally, there may be future declines in the U.S. government's demand for and use of our services. To the extent the U.S. government and its agencies reduce spending on commercial satellite services, this could adversely affect our revenue and operating margins.

***The loss of the services of key personnel could have a material adverse effect on our business.***

Our executive officers and other members of our senior management have been a critical element of our success. These individuals have substantial experience and expertise in our business and have made significant contributions to its growth and success. We have entered into employment agreements with each of our executive officers, including Stephen Spengler, our Chief Executive Officer, David Tolley, our Executive Vice President and Chief Financial Officer, Samer Halawi, our Executive Vice President and Chief Commercial Officer, Michelle Bryan, our Executive Vice President, General Counsel and Chief Administrative Officer, and Michael DeMarco, our Executive Vice President and Chief Services Officer, and certain targeted retention mechanisms; however, these agreements and mechanisms do not guarantee that these executives will remain with us. The unexpected loss of services of one or more of our executive officers or members of senior management could have a material adverse effect on our business.

**Risk Factors Relating to Our Industry**

***We may experience in-orbit satellite failures or degradations in performance that could impair the commercial performance of our satellites, which could lead to lost revenue, an increase in our cash operating expenses, lower operating income or lost backlog.***

Satellites utilize highly complex technology and operate in the harsh environment of space and, accordingly, are subject to significant operational risks while in orbit. These risks include malfunctions, commonly referred to as anomalies that have occurred in our satellites and the satellites of other operators as a result of:

- the satellite manufacturer's error, whether due to the use of new and largely unproven technology or due to a design, manufacturing or assembly defect that was not discovered before launch, including:
  - failure of components from inadvertent susceptibility to the harshest spaceweather conditions; and/or
- problems with the power systems of the satellites, including:
  - circuit failures or other array degradation causing reductions in the power output of the solar arrays on the satellites, which could cause us to lose some of our capacity, require us to forego the use of some transponders initially and to turn off additional transponders in later years; and/or
- failure or other degradation of the cells within the batteries, whose sole purpose is to power the payload and spacecraft operations during the daily eclipse periods which occur for brief periods of time during two 40-day periods around March 21 and September 21 of each year; and/or
- problems with the control systems of the satellites, including:
  - failure of the command or telemetry processing units; and/or
  - failure of the primary and/or backup SCP; and/or
  - failure of one or more earth sensors, star trackers, gyroscope and/or associated electronics that are used to provide satellite attitude information; and/or
  - failure of the control wheel actuators; and/or
- problems with the propulsion systems of the satellites, including:
  - failure of the primary and/or backup chemical thrusters; and/or
  - failure of the XIPS used on certain Boeing satellites, which is an electronic propulsion system that maintains the spacecraft's proper in-orbit position; and/or
  - propellant leaks from lines or thrusters; and/or
- problems associated with strikes from micrometeoroids or space orbit debris; and/or
- general failures resulting from operating satellites in the harsh space environment, such as premature component failure or wear out of mechanisms exceeding available redundancy.

We have experienced anomalies in each of the categories described above. Although we work closely with the satellite manufacturers to determine and eliminate the cause of these anomalies in new satellites and provide for on-satellite backups for certain critical components to minimize or eliminate service disruptions in the event of failure, we may experience anomalies in the future, whether of the types described above or arising from the failure of other systems or components. These anomalies can manifest themselves in scale from minor reductions of equipment redundancy to marginal reductions in capacity to

complete satellite failure. Some of our satellites have experienced significant anomalies in the past and some have components that are now known to be susceptible to similar significant anomalies. Each of these is discussed in Item 1—Business—Business Overview—Satellite Health and Technology. An on-satellite backup for certain components may not be available upon the occurrence of such an anomaly.

Any single anomaly or series of anomalies could materially and adversely affect our operations, our revenues, our relationships with our current customers and our ability to attract new customers for our satellite services. In particular, future anomalies may result in the loss of individual transponders on a satellite, a single beam or multiple beams, a group of transponders on that satellite or the entire satellite, depending on the nature of the anomaly and the availability of on-satellite backups. Anomalies and our estimates of their future effects may also cause a reduction of the expected service life of a satellite and contracted backlog. Anomalies may also cause a reduction of the revenue generated by that satellite or the recognition of an impairment loss, and in some circumstances could lead to claims from third parties for damages, if a satellite experiencing an anomaly were to cause physical damage to another satellite, create interference to the transmissions on another satellite, cause other satellite operators to incur expenses to avoid such physical damage or interference or lower operating income as a result of an impairment charge. Finally, the occurrence of anomalies may adversely affect our ability to insure our satellites at commercially reasonable premiums, if at all. While some anomalies are covered by insurance policies, others are not or may not be covered. See—Risk Factors Relating to Our Business—Our financial condition could be materially and adversely affected if we were to suffer a satellite loss that is not adequately covered by insurance.

Many of the technical problems we have experienced on our current fleet have been component failures and anomalies. Our Intelsat 804 satellite experienced a sudden and unexpected electrical power system anomaly that resulted in the total loss of the satellite in January 2005. The Intelsat 804 satellite was an LM 7000 series satellite, and as of December 31, 2019, we operated one other satellite in the LM 7000 series, Intelsat 805, which was decommissioned in early 2020. We believe that the Intelsat 804 satellite failure was most likely caused by a high current event in the battery circuitry triggered by an electrostatic discharge that propagated to cause the sudden failure of the high voltage power system.

Our Galaxy 15 satellite experienced an anomaly in April 2010 resulting in our inability to command the satellite. We transitioned all media traffic on this satellite to our Galaxy 12 satellite, which was our designated in-orbit spare satellite for the North America region. Galaxy 15 is a Star-2 satellite manufactured by Northrup Grumman Innovation Systems ("NGIS"). On December 23, 2010, we recovered command of the spacecraft and subsequently completed diagnostic testing and uploading of software updates that protect against future anomalies of this type. As of December 31, 2019, Galaxy 15 continued to provide normal service.

We may also experience additional anomalies relating to the failure of the SCP in our BSS 601 satellite, various anomalies associated with XIPS in our BSS 601 HP satellites or a progressive degradation of the solar arrays in certain of our BSS 702 satellites.

Three of the BSS 601 satellites that we operated in the past, as well as BSS 601 satellites operated by others, have experienced a failure of the primary and backup SCPs. On February 1, 2010, our Intelsat 4 satellite experienced an anomaly of its backup SCP and was taken out of service. This event did not have a material impact on our operations or financial results. As of December 31, 2019, we operated only one BSS 601 satellite, Intelsat 26.

Certain of the BSS 601 HP satellites have experienced various problems associated with their XIPS. We currently operate four BSS 601 HP satellites of this type, three of which have experienced failures of both XIPS and the other has experienced a partial loss of its XIPS. We may in the future experience similar problems associated with XIPS or other propulsion systems on our satellites.

Two of the three BSS 702 HP satellites that we operate, as well as BSS 702 HP satellites of a similar design operated by others, have experienced a progressive degradation of their solar arrays causing a reduction in output power. Along with the manufacturer, we continually monitor the problem to determine its cause and its expected effect. The power reduction may require us to permanently turn off certain transponders on the affected satellites to allow for the continued operation of other transponders, which could result in a loss of revenues, or may result in a reduction of the satellite's service life. In 2004, based on a review of available data, we reduced our estimate of the service lives of both satellites due to the continued degradation.

On April 22, 2011, our Intelsat 28 satellite, formerly known as the Intelsat New Dawn satellite, was launched into orbit. Subsequent to the launch, the satellite experienced an anomaly during the deployment of its west antenna reflector, which controls communications in the C-band frequency. The anomaly had not been experienced previously on other STAR satellites manufactured by NGIS, including those in our fleet. The New Dawn joint venture filed a partial loss claim with its insurers relating to the C-band antenna reflector anomaly and all of the insurance proceeds from the partial loss claim were received in

2011. The Ku-band antenna reflector deployed and that portion of the satellite is operating as planned, entering service in June 2011. A Failure Review Board established to determine the cause of the anomaly completed its investigation in July 2011 and concluded that the deployment anomaly of the C-band reflector was most likely due to a malfunction of the reflector sunshield. As a result, the sunshield interfered with the ejection release mechanism, and prevented the deployment of the C-band antenna. The Failure Review Board also recommended corrective actions for Orbital Sciences Corporation satellites not yet launched to prevent reoccurrence of the anomaly. Appropriate corrective actions were implemented on Intelsat 18, which was successfully launched in October 2011, and on Intelsat 23, which was launched in October 2012.

During launch operations of Intelsat 19 on June 1, 2012, the satellite experienced damage to its south solar array. Although both solar arrays are deployed, the power available to the satellite is less than is required to operate 100% of the payload capacity. The Independent Oversight Board, formed by Space Systems/Loral, LLC (“SSL”) and Sea Launch to investigate the solar array deployment anomaly, concluded that the anomaly occurred before the spacecraft separated from the launch vehicle during the ascent phase of the launch, and originated in one of the satellite’s two solar array wings due to a rare combination of factors in the panel fabrication that was unrelated to the launch vehicle. While the satellite is operational, the anomaly resulted in structural and electrical damage to one solar array wing, which reduced the amount of power available for payload operation. Additionally, we filed a partial loss claim with our insurers relating to the solar array anomaly. We received \$84.8 million of insurance proceeds related to the claim in 2013. As planned, Intelsat 19 replaced Intelsat 8 at 166°E, in August 2012.

During orbit raising of Intelsat 33e in September 2016, the satellite experienced a malfunction of the main satellite thruster. Orbit raising was subsequently completed using a different set of satellite thrusters. The anomaly resulted in a delay of approximately three months in reaching the geostationary orbit, as well as a reduction in the projected lifetime of the satellite. Intelsat 33e entered service in January 2017. In addition, in February 2017, measurements indicated higher than expected fuel use while performing stationkeeping maneuvers. There is no evidence of any impact to the communications payload. A Failure Review Board completed its investigation of the primary thruster failure and fuel use anomalies and identified several design, build and screening improvements that are being implemented by the satellite manufacturer for future satellites using the same engine. In addition, the manufacturer has adapted its propellant estimation software for both anomalies, which we take into account in making our end of life prediction.

In April 2019, the Intelsat 29e satellite (in service since 2016) experienced an anomaly that resulted in a total loss of the satellite. A Failure Review Board comprised of the satellite’s manufacturer, Boeing Satellite Systems, Inc., the Company and external independent experts was convened to complete a comprehensive analysis of the cause of the anomaly. The board concluded that the anomaly was either caused by a harness flaw in conjunction with an electrostatic discharge event related to solar weather activity, or the impact of a micrometeoroid.

***We may experience a launch failure or other satellite damage or destruction during launch, which could result in a total or partial satellite loss. A new satellite could also fail to reach its designated orbital location after launch. Any such loss of a satellite could negatively impact our business plans and could reduce our revenue.***

Satellites are subject to certain risks related to failed launches. Launch failures result in significant delays in the deployment of satellites because of the need both to construct replacement satellites, which can take 24 months or longer, and to obtain other launch opportunities. Such significant delays could materially and adversely affect our operations and our revenue. In addition, significant delays could give customers who have purchased or reserved capacity on that satellite a right to terminate their service contracts relating to the satellite. We may not be able to accommodate affected customers on other satellites until a replacement satellite is available. A customer’s termination of its service contracts with us as a result of a launch failure would reduce our contracted backlog. Delays caused by launch failures may also preclude us from pursuing new business opportunities and undermine our ability to implement our business strategy.

Launch vehicles may also under-perform, in which case the satellite may still be placed into service by using its onboard propulsion systems to reach the desired orbital location, resulting in a reduction in its service life. In addition, although we have had launch insurance on all of our launches to date, if we were not able to obtain launch insurance on commercially reasonable terms and a launch failure were to occur, we would directly suffer the loss of the cost of the satellite and related costs, which could be more than \$300 million.

On February 1, 2013, the launch vehicle for our Intelsat 27 satellite failed shortly after liftoff and the satellite was completely destroyed. A Failure Review Board was established and subsequently concluded that the launch failed due to the mechanical failure of one of the first stage engine’s thrust control components. The satellite and launch vehicle were fully insured, and all of the insurance proceeds from the loss claim were received in 2013.

Since 1980, we and the entities we have acquired have launched 124 satellites. Including the Intelsat 27 satellite, seven of these satellites were destroyed as a result of launch failures, all but one of which occurred prior to 2000. In addition, certain launch vehicles that we have used or are scheduled to use have experienced launch failures in the past. Launch failure rates vary according to the launch vehicle used. Our capital expenditure guidance for 2020 through 2022 assumes investment in five satellites, two of which are currently in the manufacturing phase. Of the remaining three satellites, no manufacturing contracts have yet been signed.

***New or proposed satellites are subject to construction and launch delays, the occurrence of which can materially and adversely affect our business, operating results and financial condition.***

The construction and launch of satellites are subject to certain delays. Such delays can result from delays in the construction of satellites and launch vehicles, the periodic unavailability of reliable launch opportunities, possible delays in obtaining regulatory approvals and launch failures. We have in the past experienced delays in satellite construction and launch which have adversely affected our operations. Future delays may have the same effect. A significant delay in the future delivery of any satellite may also adversely affect our marketing plan for the satellite. If satellite construction schedules are not met, a launch opportunity may not be available at the time a satellite is ready to be launched. Further, any significant delay in the commencement of service of any of our satellites could enable customers who pre-purchased or agreed to utilize transponder capacity on the satellite to terminate their contracts and could affect our plans to replace an in-orbit satellite prior to the end of its service life. The failure to implement our satellite deployment plan on schedule could have a material adverse effect on our financial condition and results of operations. Delays in the launch of a satellite intended to replace an existing satellite that result in the existing satellite reaching its end of life before being replaced could result in loss of business to the extent an in-orbit backup is not available.

***Our dependence on outside contractors could result in increased costs and delays related to the launch of our new satellites, which would in turn adversely affect our business, operating results and financial condition.***

There are a limited number of companies that we are able to use to launch our satellites and a limited number of commercial satellite launch opportunities available in any given time period. Adverse events with respect to our launch service providers, such as satellite launch failures or financial difficulties (which some of these providers have previously experienced), could result in increased costs or delays in the launch of our satellites. General economic conditions may also affect the ability of launch providers to provide launch services on commercially reasonable terms or to fulfill their obligations in terms of launch dates, pricing, or both. In the event that our launch service providers are unable to fulfill their obligations, we may have difficulty procuring alternative services in a timely manner and may incur significant additional expenses as a result. Any such increased costs and delays 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, resulting in a disruption of service to our customers. We currently have the technology to help safeguard our antennas and protect our ground stations during natural disasters such as a hurricane, but the collateral effects of disasters such as flooding may impair the functioning of our ground equipment. If a future natural disaster impairs or destroys any of our ground facilities, we may be unable to provide service to our customers in the affected area for a period of time and may incur an impairment charge lowering our operating income.

## **Risk Factors Relating to Regulation**

***We are subject to the orbital slot and spectrum access requirements of the ITU and regulatory and licensing requirements in each of the countries in which we provide services, operate facilities, or license terminals, and our business is sensitive to regulatory changes internationally and in those countries.***

The telecommunications industry is highly regulated, and we depend on access to orbital slots and spectrum resources to provide satellite services. The ITU and national regulators allocate spectrum for satellite services, and may change these allocations, which could change or limit how Intelsat's current satellites are able to be used. In addition, in connection with providing satellite capacity, ground network uplinks, downlinks and other value-added or managed services to our customers, we need to maintain regulatory approvals, and from time to time obtain new regulatory approvals, from various countries. Obtaining and maintaining these approvals can involve significant time and expense. If we cannot obtain or are delayed in obtaining the required regulatory approvals, we may not be able to provide these services to our customers, operate facilities and terminals, or expand into new services. In addition, the laws and regulations to which we are subject could change at any time, thus making it more difficult for us to obtain new regulatory approvals or causing our existing approvals to be revoked or adversely modified. Because the regulatory schemes vary by country, we may also be subject to regulations of which we are not presently aware and could be subject to sanctions by a foreign government that could materially and adversely affect our operations in that country. If we cannot comply with the laws and regulations that apply to us, we could lose our revenue from

services provided to the countries and territories covered by these laws and regulations and be subject to criminal or civil sanctions.

***If we do not maintain regulatory authorizations for our existing satellites, associated ground facilities and terminals, services we provide, or obtain authorizations for our future satellites, associated ground facilities and terminals, and services we provide, we may not be able to operate our existing satellites or expand our operations.***

The operation of our existing satellites is authorized and regulated by the FCC in the U.S., Ofcom and UKSA in the U.K., NICTA in Papua New Guinea, the Ministry of Internal Affairs and Communications of Japan, and BNetzA in Germany.

We believe our current operations are in compliance with FCC and non-U.S. licensing jurisdiction requirements. However, if we do not maintain the authorizations necessary to operate our existing satellites, we will not be able to operate the satellites covered by those authorizations, unless we obtain authorization from another licensing jurisdiction. Some of our authorizations provide waivers of technical regulations. If we do not maintain these waivers, we will be subject to operational restrictions or interference that will affect our use of existing satellites. Loss of a satellite authorization could cause us to lose the revenue from services provided by that satellite at a particular orbital location or using a particular frequency band, to the extent these services cannot be provided by satellites at other orbital locations or with a different frequency band.

Our launch and operation of planned satellites require additional regulatory authorizations from the FCC or a non-U.S. licensing jurisdiction. Likewise, if any of our current operations are deemed not in compliance with applicable regulatory requirements, we may be subject to various sanctions, including fines, loss of authorizations, or denial of applications for new authorizations or renewal of existing authorizations. It is not uncommon for licenses for new satellites to be granted just prior to launch, and we expect to receive such licenses for all planned satellites. If we do not obtain required authorizations in the future, we will not be able to operate our planned satellites. If we obtain a required authorization but we do not meet milestones regarding the construction, launch and operation of a satellite by deadlines that may be established in the authorization, we may lose our authorization to operate a satellite using certain frequencies in an orbital location. Any authorizations we obtain may also impose operational restrictions or permit interference that could affect our use of planned satellites.

***If we do not occupy unused orbital locations or use certain frequencies by specified deadlines, or do not maintain satellites in orbital locations we currently use, our rights and/or priority to use these orbital locations and associated frequencies may lapse or become available for other satellite operators to use.***

If we are unable to place satellites into currently unused orbital locations by specified deadlines and in a manner that satisfies the ITU or national regulatory requirements, or if we are unable to maintain satellites at the orbital locations that we currently use, we may lose our rights and/or priority to use these orbital locations and associated frequencies, and the locations and frequencies with ITU priority could become available for other satellite operators to use. The loss of one or more of our orbital locations and associated frequencies could negatively affect our plans and our ability to implement our business strategy.

***Coordination results may adversely affect our ability to use a satellite at a given orbital location in certain frequency bands for our proposed service or coverage area.***

We are required to record frequencies and orbital locations used by our satellites with the ITU and to coordinate with other satellite operators and national administrations the use of these frequencies and orbital locations in order to avoid interference to or from other satellites. The results of coordination may adversely affect our use of satellites at particular orbital locations using certain frequencies, as well as the type of applications or services that we can accommodate. If we are unable to coordinate our satellites by specified deadlines, we may not be able to use a satellite at a given orbital location or use certain frequencies for our proposed service or coverage area. The use of our satellites may also be temporarily or permanently adversely affected if the operation of adjacent satellite networks does not conform to coordination agreements resulting in the acceptable interference levels being exceeded (e.g., due to operational errors associated with the transmissions to adjacent satellite networks).

***We can provide no assurance as to our ability to obtain value for making spectrum available for terrestrial mobile services in the United States in connection with the FCC's C-band proceeding. Furthermore, there are a number of technical challenges to making C-band spectrum available.***

On October 2, 2017, Intelsat and Intel Corporation submitted a proposal to the FCC that would enable joint use of 3.7-4.2 GHz C-band spectrum in the United States by fixed satellite services operators and terrestrial mobile services providers (the "C-band Proposal"). The FCC issued a Notice of Proposed Rule Making ("NPRM") in July 2018 that included aspects of the C-band Proposal, and the proposal was later supported by a consortium of satellite operators comprised of Intelsat, SES Americom, Inc. and Telesat. On November 18, 2019, the FCC announced its intention to conduct a public auction of C-band

spectrum as opposed to the market-driven auction mechanism set forth in the C-band Proposal. On February 7, 2020, the FCC issued a draft order in this regard. The Company is still in the process of analyzing the impact of the draft order and commenting on it to the FCC. To the extent the FCC does not ultimately accept the requested modifications to the draft order, the benefits to Intelsat of making the C-band spectrum available for terrestrial mobile services in the United States could be materially limited. The FCC has indicated its intent to vote on the order at its open meeting scheduled for February 28, 2020. In addition, while we believe that there is potential for the FCC to hold an auction of C-band spectrum in 2020, we can provide no assurances as to the final terms of the order to be voted upon, the outcome of the FCC vote on the order, when or whether the order becomes final and non-appealable, the actual timing of any auction of spectrum, or the receipt of proceeds by the Company in connection with any such auction. All of these matters are outside the control of the Company.

Furthermore, there are a number of technical challenges to making C-band spectrum available for terrestrial mobile services. The technical solutions could include moving services and customers to another portion of the licensed C-band spectrum, implementing filters at earth station antennas, relocating earth station antennas or other technical solutions which may result in significant costs to incumbent satellite operators. The FCC's draft order addresses reimbursement of such costs, but we can provide no assurance that all such costs would actually be reimbursed through auction proceeds or otherwise.

***Our failure to maintain or obtain authorizations under the U.S. export control and trade sanctions laws and regulations could have a material adverse effect on our business.***

The export of satellites and technical data related to satellites, earth station equipment and provision of services are subject to U.S. Department of State, U.S. Department of Commerce and U.S. Department of Treasury regulations. If we do not maintain our existing authorizations or obtain necessary future authorizations under the export control laws and regulations of the United States, we may be unable to export technical data or equipment to non-U.S. persons and companies, including to our own non-U.S. employees, as required to fulfill existing contracts. If we do not maintain our existing authorizations or obtain necessary future authorizations under the trade sanctions laws and regulations of the United States, we may not be able to provide satellite capacity and related administrative services to certain countries subject to U.S. sanctions. Our ability to acquire new satellites, launch new satellites or operate our satellites could also be negatively affected if our suppliers do not obtain required U.S. export authorizations.

***If we do not maintain required security clearances from, and comply with our agreements with, the U.S. Department of Defense, or if we do not comply with U.S. law, we may not be able to continue to perform our obligations under U.S. government contracts.***

To participate in classified U.S. government programs, we sought and obtained security clearances for one of our subsidiaries from the U.S. Department of Defense. Given our foreign ownership, we entered into a proxy agreement with the U.S. government that limits our ability to control the operations of this subsidiary, as required under the national security laws and regulations of the United States. If we do not maintain these security clearances, we will not be able to perform our obligations under any classified U.S. government contracts to which our subsidiary is a party, the U.S. government would have the right to terminate our contracts requiring access to classified information and we will not be able to enter into new classified contracts. As a result, our business could be materially and adversely affected. Further, if we materially violate the terms of the proxy agreement or if we are found to have materially violated U.S. law, we or the subsidiary holding the security clearances may be suspended or barred from performing any U.S. government contracts, whether classified or unclassified, and we could be subject to civil or criminal penalties.

**Item 1B. Unresolved Staff Comments**

Not applicable.

**Item 2. Properties**

We lease approximately 217,650 square feet of office space in McLean, Virginia for our U.S. administrative headquarters and primary satellite operations center. The building also houses the majority of our sales and marketing support staff and other administrative personnel. The lease for the building expires on July 31, 2029.

We own a facility in Ellenwood, Georgia in which our primary customer service center is located, together with our Atlanta Teleport. The facility has approximately 130,000 square feet of office space and operations facilities, which are based in two buildings and multiple antenna shelters and 68 antennas on the property. See Item 1—Business—Business Overview—Our Network—Network Operations and Current Ground Facilities for a description of this facility.

Our backup satellite operations center is located at a facility that we own in Long Beach, California, which includes approximately 68,875 square feet for administrative and operational facilities. We have entered into two lease agreements for 20,900 square feet with two third-party tenants.

We use a worldwide terrestrial ground network to operate our satellite fleet and to manage the communications services that we provide to our customers. This network is comprised of 63 owned and leased earth station and teleport facilities around the world, including 23 teleports that allows us to perform TT&C services.

The eight teleports in our terrestrial ground network that we own are located in Hagerstown, Maryland; Ellenwood, Georgia; Castle Rock, Colorado; Fillmore, Napa and Riverside, California; Paumalu, Hawaii; and Fuchsstadt, Germany. We lease facilities at 55 other locations for satellite and commercial operations worldwide. We also contract with the owners of some of these facilities for the provision of additional services. The locations of other earth stations in our ground network include Argentina, Australia, Bonaire, Brazil, Canada, England, Germany, Greenland, Iceland, India, Italy, Japan, Kazakhstan, Mongolia, Morocco, Myanmar, the Netherlands, New Zealand, Norway, Peru, Singapore, South Africa, South Korea, the United Arab Emirates, Uruguay, and the United States. Our network also consists of the leased communications links that connect the earth stations to our satellite operations center located at our McLean, Virginia location and to our back-up operations facility.

We have established PoPs connected by leased fiber at key traffic exchange points around the world, including Atlanta, Honolulu, Los Angeles, New York, McLean, Miami, Palo Alto, London, Rio de Janeiro, and Tokyo. We lease our facilities at these traffic exchange points. We have also established video PoPs connected by leased fiber at key video exchange points around the world, including Johannesburg, Los Angeles, Denver, New York, Washington, D.C., Miami and London. We lease our facilities at these video exchange points. We use our teleports and PoPs in combination with our satellite network to provide our customers with managed data and video services.

We lease office space in Luxembourg and London, England. Our Luxembourg office serves as the global headquarters for us and our Luxembourg parents and subsidiaries. Our London office houses the employees of Intelsat Global Sales and Marketing Ltd., our sales and marketing subsidiary, and administrative support, and functions as our global sales headquarters.

We also lease office space in Florida, Australia, Brazil, China, France, Germany, India, Israel, Japan, Kenya, Mexico, Russia, Singapore, South Africa, Senegal and the United Arab Emirates for our local sales and marketing and administrative support offices.

The leases relating to our TT&C earth stations, teleports, PoPs and office space expire at various times. We do not believe that any such properties are individually material to our business or operations, and we expect that we could find suitable properties to replace such locations if the leases were not renewed at the end of their respective terms.

### **Item 3. Legal Proceedings**

We are subject to litigation in the ordinary course of business, but management does not believe that the resolution of any pending proceedings would have a material adverse effect on our financial position or results of operations.

### **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

#### Market Information

Since our IPO on April 23, 2013, our common shares have traded on the New York Stock Exchange under the symbol “I”.

#### Holder

As of February 18, 2020, there were six holders of record of our common shares. The actual number of shareholders is greater than this number of record holders, and includes shareholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. The number of holders of record also does not include shareholders whose shares may be held in trust by other entities.

#### Securities Authorized for Issuance Under Equity Compensation Plans

The information required by Item 5 of Form 10-K regarding equity compensation plans is incorporated herein by reference to Item 12 of Part III of this Annual Report on Form 10-K.

#### Recent Sales of Unregistered Securities

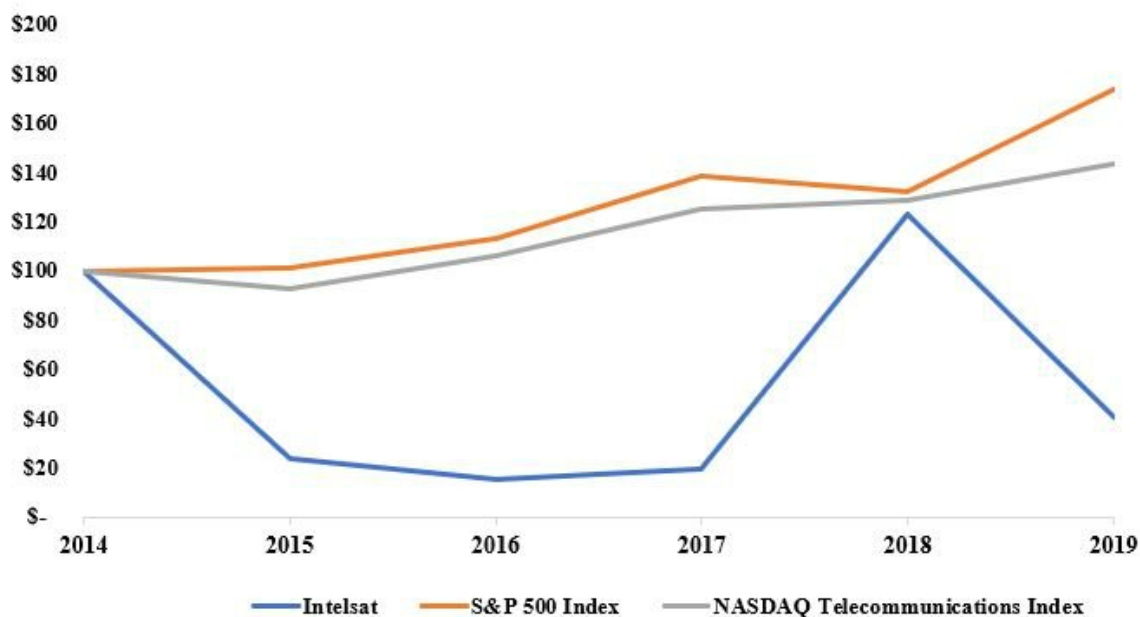
There have not been any sales by the Company of equity securities in the last three fiscal years that have not been registered under the Securities Act of 1933.

#### Purchases of Equity Securities by the Issuer and Affiliated Purchasers

There were no common share repurchases during the quarter ended December 31, 2019.

#### Performance Graph

##### Comparison of Five-Year Total Return Among Intelsat, S&P 500 Index and NASDAQ Telecommunications Index



The five-year total return performance graph assumes \$100 was invested on December 31, 2014 in Intelsat common shares, the S&P 500 Index and the NASDAQ Telecommunications Index.

**Item 6. Selected Financial Data**

The following selected historical consolidated financial data should be read in conjunction with, and is qualified by reference to, Item 7—Management's Discussion and Analysis of Financial Condition and Results of Operations and our audited consolidated financial statements and notes thereto included in Item 8—Financial Statements and Supplementary Data of this Annual Report. The consolidated statement of operations data and consolidated cash flow data for the years ended December 31, 2017, 2018 and 2019, and the consolidated balance sheet data as of December 31, 2018 and 2019 have been derived from audited consolidated financial statements included in Item 8—Financial Statements and Supplementary Data of this Annual Report. The consolidated statement of operations data and consolidated cash flow data for the years ended December 31, 2015 and 2016 and the consolidated balance sheet data as of December 31, 2015, 2016 and 2017 have been derived from audited consolidated financial statements not included in this Annual Report.

	Year Ended December 31,				
	2015	2016 <sup>(1)</sup>	2017 <sup>(1)</sup>	2018 <sup>(2)</sup>	2019 <sup>(4)</sup>
	(in thousands, except per share amounts)				
<b>Consolidated Statement of Operations Data</b>					
Revenue	\$ 2,352,521	\$ 2,188,047	\$ 2,148,612	\$ 2,161,190	\$ 2,061,465
Operating expenses:					
Direct costs of revenue (excluding depreciation and amortization)	328,501	342,634	324,232	330,874	406,153
Selling, general and administrative	199,412	232,537	205,475	200,857	226,918
Impairment of goodwill and other intangibles	4,165,400	—	—	—	—
Depreciation and amortization	687,729	694,891	707,824	687,589	658,233
Satellite impairment loss	—	—	—	—	381,565
Total operating expenses	5,381,042	1,270,062	1,237,531	1,219,320	1,672,869
Income (loss) from operations	(3,028,521)	917,985	911,081	941,870	388,596
Interest expense, net	890,279	938,501	1,020,770	1,212,374	1,273,112
Gain (loss) on early extinguishment of debt	7,061	1,030,092	(4,109)	(199,658)	—
Other income (expense), net	(6,201)	522	10,114	4,541	(34,078)
Income (loss) before income taxes	(3,917,940)	1,010,098	(103,684)	(465,621)	(918,594)
Provision for (benefit from) income taxes	1,513	15,986	71,130	130,069	(7,384)
Net income (loss)	(3,919,453)	994,112	(174,814)	(595,690)	(911,210)
Net income attributable to noncontrolling interest	(3,934)	(3,915)	(3,914)	(3,915)	(2,385)
Net income (loss) attributable to Intelsat S.A.	(3,923,387)	990,197	(178,728)	(599,605)	(913,595)
Cumulative preferred dividends	(9,919)	—	—	—	—
Net income (loss) attributable to common shareholders	\$ (3,933,306)	\$ 990,197	\$ (178,728)	\$ (599,605)	\$ (913,595)
<b>Other Data</b>					
Capital expenditures	\$ 724,362	\$ 714,570	\$ 461,627	\$ 255,696	\$ 229,818
Other payments for satellites	\$ —	\$ 18,333	\$ 35,396	\$ —	\$ —
Basic income (loss) per common share attributable to Intelsat S.A.	\$ (36.68)	\$ 8.65	\$ (1.50)	\$ (4.63)	\$ (6.51)
Diluted income (loss) per common share attributable to Intelsat S.A.	\$ (36.68)	\$ 8.36	\$ (1.50)	\$ (4.63)	\$ (6.51)
Basic weighted average shares outstanding (in millions)	107.2	114.5	118.9	129.6	140.4
Diluted weighted average shares outstanding (in millions)	107.2	118.5	118.9	129.6	140.4
Dividends declared per 5.75% series A mandatory convertible junior non-voting preferred share	\$ 2.88	\$ —	\$ —	\$ —	\$ —
<b>Consolidated Cash Flow Data <sup>(3)</sup></b>					
Net cash provided by operating activities	\$ 910,031	\$ 678,755	\$ 464,246	\$ 344,173	\$ 255,539
Net cash used in investing activities	(749,354)	(730,589)	(468,297)	(283,634)	(292,733)
Net cash provided by (used in) financing activities	(102,986)	546,347	(121,698)	(90,323)	362,910
<b>Consolidated Balance Sheet Data</b>					
Cash and cash equivalents, net of restricted cash <sup>(3)</sup>	\$ 171,541	\$ 666,024	\$ 525,215	\$ 485,120	\$ 810,626
Restricted cash <sup>(3)</sup>	—	—	16,167	22,037	20,238
Satellites and other property and equipment, net	5,998,317	6,185,842	5,923,619	5,511,702	4,702,063
Total assets	12,253,590	12,942,009	12,610,036	12,241,513	11,804,382
Total debt	14,611,379	14,198,084	14,208,658	14,028,352	14,465,483
Shareholders' deficit	(4,649,565)	(3,634,145)	(3,807,870)	(4,097,005)	(4,999,858)
Net assets	(4,620,353)	(3,609,998)	(3,788,564)	(4,082,609)	(4,988,848)
Number of common shares (in millions)	107.6	118.0	119.6	138.0	141.1
Number of 5.75% series A mandatory convertible junior non-voting preferred shares (in millions)	3.5	—	—	—	—

- (1) We adopted Accounting Standard Update (“ASU”) 2017-07, *Compensation-Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost (“ASC 715”)*, on January 1, 2018 using the retrospective method. As a result, the Company reclassified a net credit for pension and postretirement benefits from operating expenses to other income for the years ended December 31, 2017 and 2016, to conform to the current year presentation. Years prior to 2016 do not reflect the effects from our January 1, 2018, adoption of ASC 715.

- (2) We adopted ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* ("ASC 606"), effective January 1, 2018, using the modified retrospective method. Years prior to 2018 do not reflect the effects from our January 1, 2018, adoption of ASC 606.
- (3) We adopted ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments* and ASU 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash* on January 1, 2018 using the retrospective method. Balance sheets prior to 2017 and statements of cash flows prior to 2016 have not been restated.
- (4) We adopted ASU 2016-02, *Leases (Topic 842)* ("ASC 842"), and ASU 2019-01, *Leases (Topic 842) - Codification Improvements* on January 1, 2019 using the effective date method and applied the package of practical expedients included therein. By applying ASC 842 at the January 1, 2019 adoption date, as opposed to at the beginning of the earliest period presented, our reporting for periods prior to January 1, 2019 continues to be in accordance with ASC 840, *Leases*. Our accounting policies and reported amounts with respect to the year ended December 31, 2018 and prior were not affected by the adoption of ASC 842.

## **Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations**

*This discussion should be read together with Item 6—Selected Financial Data and our audited consolidated financial statements and notes thereto included in Item 8—Financial Statements and Supplementary Data of this Annual Report. Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States, or U.S. GAAP, and, unless otherwise indicated, the other financial information contained in this Annual Report has also been prepared in accordance with U.S. GAAP. See “Forward-Looking Statements” and Item 1A—Risk Factors, for a discussion of factors that could cause our future financial condition and results of operations to be different from those discussed below. Certain monetary amounts, percentages and other figures included in this Annual Report have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables may not be the arithmetic aggregation of the figures that precede them, and figures expressed as percentages in the text may not total 100% or, as applicable, when aggregated may not be the arithmetic aggregation of the percentages that precede them. Unless otherwise indicated, all references to “dollars” and “\$” in this Annual Report are to, and all monetary amounts in this Annual Report are presented in, U.S. dollars.*

### **Overview**

We operate one of the world’s largest satellite services businesses, providing a critical layer in the global communications infrastructure.

We provide diversified communications services to the world’s leading media companies, fixed and wireless telecommunications operators, data networking service providers for enterprise and mobile applications in the air and on the seas, multinational corporations and ISPs. We are also the leading provider of commercial satellite capacity to the U.S. government and other select military organizations and their contractors.

Our customers use our global network for a broad range of applications, from global distribution of content for media companies to providing the transmission layer for commercial aeronautical consumer broadband connectivity, to enabling essential network backbones for telecommunications providers in high-growth emerging regions.

Our network solutions are a critical component of our customers’ infrastructures and business models. Generally, our customers need the specialized connectivity that satellites provide so long as they are in business or pursuing their mission. In recent years, mobility services providers have contracted for services on our fleet that support broadband connections for passengers on commercial flights and cruise ships, connectivity that in some cases is only available through our network. In addition, our satellite neighborhoods provide our media customers with efficient and reliable broadcast distribution that maximizes audience reach, a technical and economic benefit that is difficult for terrestrial services to match. In developing regions, our satellite solutions often provide higher reliability than is available from local terrestrial telecommunications services and allow our customers to reach geographies that they would otherwise be unable to serve.

### **Revenue**

#### *Revenue Overview*

We earn revenue primarily by providing services over satellite transponder capacity to our customers. Our customers generally obtain satellite capacity from us by placing an order pursuant to one of several master customer service agreements. The master customer agreements and related service orders under which we sell services specify, among other things, the amount of satellite capacity to be provided, whether service will be non-preemptible or preemptible and the service term. Most services are full time in nature, with service terms ranging from one year to as long as 16 years. Occasional use services used for video applications can be for much shorter periods, including increments of one hour. Our master customer service agreements offer different service types, including transponder services, managed services, and channel, which are all services that are provided on, or used to provide access to, our global network. We refer to these services as on-network services. Our customer agreements also cover services that we procure from third parties and resell, which we refer to as off-network services. These services can include transponder services and other satellite-based transmission services sourced from other operators, often in frequencies not available on our network, and other operational fees related to satellite operations provided on behalf of third-party satellites.

The following table describes our primary service types:

Service Type	Description
<b>On-Network Revenues:</b>	
Transponder Services	<p>Commitments by customers to receive service via, or to utilize capacity on, particular designated transponders according to specified technical and commercial terms. Transponder services also include revenues from hosted payload capacity. Transponder services are marketed to each of our primary customer sets as follows:</p> <ul style="list-style-type: none"> <li>•Network Services: fixed and wireless telecom operators, data network operators, enterprise operators of private data networks, and value-added network operators for fixed and mobile broadband network infrastructure.</li> <li>•Media: broadcasters (for distribution of programming and full time contribution, or gathering, of content), programmers and DTH operators.</li> <li>•Government: civilian and defense organizations, for use in implementing private fixed and mobile networks, or for the provision of capacity or capabilities through hosted payloads.</li> </ul>
Managed Services	<p>Hybrid services primarily using IntelsatOne, including our IntelsatOne Flex broadband platform, which combine satellite capacity, teleport facilities, satellite communications hardware such as broadband hubs or video multiplexers and fiber optic cable and other ground facilities to provide managed and monitored broadband, trunking, video and private network services to customers. Managed services are marketed to each of our customer sets as follows:</p> <ul style="list-style-type: none"> <li>•Network Services: enterprises, cellular operators and fixed and mobile value-added service providers which deliver end-services such as private data networks, wireless infrastructure and maritime and aeronautical broadband.</li> <li>•Media: programmers outsourcing elements of their transmission infrastructure and part time occasional use services used primarily by news and sports organizations to gather content from remote locations.</li> <li>•Government: users seeking secured, integrated, end-to-end solutions.</li> </ul>
Channel	<p>Standardized services of predetermined bandwidth and technical characteristics primarily used for point-to-point bilateral services for telecommunications providers. Channel is not considered a core service offering due to changing market requirements and the proliferation of fiber alternatives for point-to-point customer applications. Channel services are exclusively marketed to traditional telecommunications providers in our network services customer set.</p>
Transponder, Mobile Satellite Services and Other	<p>Capacity for voice, data and video services provided by third-party commercial satellite operators for which the desired frequency type or geographic coverage is not available on our network. These services include L-band MSS, for which Intelsat General is a reseller. In addition, this revenue category includes the sale of customer premises equipment and other hardware, as well as certain fees related to services provided to other satellite operators. These products are primarily marketed as follows:</p> <ul style="list-style-type: none"> <li>•Government: direct government users, and government contractors working on programs where aggregation of capacity is required.</li> </ul>
Satellite-related Services	<p>Services include a number of satellite-related consulting and technical services that involve the lifecycle of satellite operations and related infrastructure, from satellite and launch vehicle procurement through TT&amp;C services and related equipment sales. These services are typically marketed to other satellite operators.</p>

We market our services on a global basis, with almost every populated region of the world contributing to our revenue. The diversity of our revenue allows us to benefit from changing market conditions and lowers our risk from revenue fluctuations in our service applications and geographic regions.

### *Trends Impacting Our Revenue*

Our revenue at any given time is dependent upon a number of factors, including, but not limited to, demand for our services from existing and emerging applications; the supply of capacity available on our fleet and those of our competitors in a given region, and the substitution of competing technologies such as fiber optic cable networks. See Item 1—Business—Our Sector for a discussion of the global trends creating demand for our services. Trends in revenue can be impacted by:

- Growth in demand from wireless telecommunications companies seeking to complete or enhance broadband infrastructure, particularly those operating in developing regions or regions with geographic challenges;
- Growth in demand for broadband connectivity for enterprises and government organizations, providing fixed and mobile services and value-added applications on a global basis;
- Lower overall pricing for satellite-based services, resulting from oversupply of wide beam capacity or due to the introduction of high-throughput technology, which is designed to achieve a lower cost per unit;
- Lower demand for satellite-based solutions, resulting from fiber substitution;
- Satellite capacity needed to provide broadband connectivity for mobile networks on ships, planes and oil and gas platforms;
- Global demand for television content in SD, HD and UHD television formats, which uses our satellite network and IntelsatOne terrestrial services for distribution, in some regions offset by next generation compression technologies;

- Increased popularity of OTT content distribution, which will increase the demand for broadband infrastructure in the developing world, but could decrease demand in developed markets over the mid to long-term as niche and ethnic programming transitions from satellite to internet distribution;
- Use of commercial satellite services by governments for military and other operations, which has partially slowed as a result of the tempo of military operations and recent changes in the U.S. budget; and
- Our use of third-party or off-network services to satisfy government demand for capacity not available on our network. These services are low risk in nature, with no required upfront investment and terms and conditions of the procured capacity which typically match the contractual commitments from our customers. Demand for certain of these off-network services has declined with reductions in troop deployment in regions of conflict.

See Item 1—Business—Our Customer Sets and Growing Applications for a discussion of our customers’ uses of our services and see Item 1—Business—Our Strategy for a discussion of our strategies with respect to marketing to our various customer sets.

### *Customer Applications*

Our transponder services, managed services, MSS and channel are used by our customers for three primary customer applications: network service applications, media applications and government applications.

### *Pricing*

Pricing of our services is based upon a number of factors, including, but not limited to, the region served by the capacity, the power and other characteristics of the satellite beam, the amount of demand for the capacity available on a particular satellite and the total supply of capacity serving any particular region. In 2019, pricing trends varied by application, but were fairly stable throughout the year overall. Slight declines in network services were fueled by lower pricing on high volume commitments leveraging our global wide beam and Intelsat Epic fleets for large mobile network operators, balanced by relatively stable pricing for mobility customers. Government applications commanded competitive prices due to lowest price technically acceptable policies in some regions, but continued to command a premium in coverage areas with limited capacity. Media application pricing was stronger in 2019 as compared to 2018, but demand faces pressure from competing lower-cost terrestrial alternatives. According to Euroconsult, the annual average price per transponder for regular capacity is forecasted to be on a slight downward trend globally from \$1.20 million to \$1.03 million per 36 MHz transponder over the period from 2019 to 2024, reflecting increasing supply from new satellite entrants, among other factors. HTS capacity, which is designed to attain a lower cost point, facilitating market expansion into new applications, is expected to have similar rates of yield decline over time as increased supply enters the market.

The pricing of our services is generally fixed for the duration of the service commitment. New and renewing service commitments are priced to reflect regional demand and other factors as discussed above.

## **Operating Expenses**

### *Direct Costs of Revenue (Excluding Depreciation and Amortization)*

Direct costs of revenue relate to costs associated with the operation and control of our satellites, our communications network and engineering support, and the purchase of off-network capacity. Direct costs of revenue consist principally of salaries and related employment costs, in-orbit insurance, earth station operating costs and facilities costs. Our direct costs of revenue fluctuate based on the number and type of services offered and under development, particularly as sales of off-network transponder services and sales of customer premises equipment fluctuate. We expect our direct costs of revenue to increase as we add customers and expand our managed services and use of off-network capacity.

### *Selling, General and Administrative Expenses*

Selling, general and administrative expenses relate to costs associated with our sales and marketing staff and our administrative staff, which include legal, finance, corporate information technology and human resources. Staff expenses consist primarily of salaries and related employment costs, including stock compensation, travel costs and office occupancy costs. Selling, general and administrative expenses also include building maintenance and rent expenses and the provision for uncollectible accounts. Selling, general and administrative expenses generally fluctuate with the number of customers served and the number and types of services offered. These expenses also include research and development expenses, and fees for professional services.

## Depreciation and Amortization

Our capital assets consist primarily of our satellites and associated ground network infrastructure. Included in capitalized satellite costs are the costs for satellite construction, satellite launch services, insurance premiums for satellite launch and the in-orbit testing period, the net present value of deferred satellite performance incentives payable to satellite manufacturers, and capitalized interest incurred during the satellite construction period.

Capital assets are depreciated or amortized on a straight-line basis over their estimated useful lives. The remaining depreciable lives of our satellites range from less than one year to 16 years as of December 31, 2019.

## Contracted Backlog

We benefit from strong visibility of our future revenues. Our contracted backlog is our expected future revenue under existing customer contracts and includes both cancelable and non-cancelable contracts. As of December 31, 2019, our contracted backlog was approximately \$7.0 billion. Approximately 88% of this backlog related to contracts that were non-cancelable and approximately 11% related to contracts that were cancelable subject to substantial termination fees. The remaining 1% of backlog related to contracts with little or no termination fees, and represented the difference between our contracted backlog and remaining performance obligations. As of December 31, 2019, the weighted average remaining customer contract life was approximately 4.2 years. We expect to deliver services associated with approximately \$1.6 billion, or approximately 23%, of our December 31, 2019 contracted backlog during the year ending December 31, 2020. The amount included in backlog represents the full service charge for the duration of the contract and does not include termination fees. The amount of the termination fees, which is not included in the backlog amount, is generally calculated as a percentage of the remaining backlog associated with the contract. In certain cases of breach for non-payment or customer financial distress or bankruptcy, we may not be able to recover the full value of certain contracts or termination fees. Our contracted backlog includes 100% of the backlog of our consolidated ownership interests, which is consistent with the accounting for our ownership interest in these entities.

Our contracted backlog as of December 31, 2019 was as follows (in millions):

Period	Contracted Backlog
2020	\$ 1,611
2021	1,137
2022	870
2023	681
2024	550
2025 and thereafter	2,108
Total	<u>\$ 6,957</u>

Our contracted backlog by service type as of December 31, 2019 was as follows (in millions, except percentages):

Service Type	Contracted Backlog	Percent
Transponder services	\$ 5,663	81%
Managed services	1,010	15%
Off-Network and Other	281	4%
Channel	3	—%
Total	<u>\$ 6,957</u>	

We believe this backlog and the resulting predictable cash flows in the FSS sector make our results less volatile than that of typical companies outside our industry.



## Operating Results Years Ended December 31, 2018 and 2019

The following table sets forth our comparative statements of operations for the periods shown with the increase (decrease) and percentage changes, except those deemed not meaningful (“NM”), between the periods presented (in thousands, except percentages):

	Year Ended December 31, 2018	Year Ended December 31, 2019	Increase (Decrease)	Percentage Change
Revenue	\$ 2,161,190	\$ 2,061,465	\$ (99,725)	(5)%
Operating expenses:				
Direct costs of revenue (excluding depreciation and amortization)	330,874	406,153	75,279	23 %
Selling, general and administrative	200,857	226,918	26,061	13 %
Depreciation and amortization	687,589	658,233	(29,356)	(4)%
Satellite impairment loss	—	381,565	381,565	NM
Total operating expenses	1,219,320	1,672,869	453,549	37 %
Income from operations	941,870	388,596	(553,274)	(59)%
Interest expense, net	1,212,374	1,273,112	60,738	5 %
Loss on early extinguishment of debt	(199,658)	—	199,658	NM
Other income (expense), net	4,541	(34,078)	(38,619)	NM
Loss before income taxes	(465,621)	(918,594)	(452,973)	97 %
Provision for (benefit from) income taxes	130,069	(7,384)	(137,453)	NM
Net loss	(595,690)	(911,210)	(315,520)	53 %
Net income attributable to noncontrolling interest	(3,915)	(2,385)	1,530	(39)%
Net loss attributable to Intelsat S.A.	\$ (599,605)	\$ (913,595)	\$ (313,990)	52 %

### Revenue

The following table sets forth our comparative revenue by service type, with Off-Network and Other Revenues shown separately from On-Network Revenues for the periods below (in thousands, except percentages):

	Year Ended December 31, 2018	Year Ended December 31, 2019	Increase (Decrease)	Percentage Change
<b>On-Network Revenues</b>				
Transponder services	\$ 1,570,278	\$ 1,468,791	\$ (101,487)	(6)%
Managed services	393,264	374,026	(19,238)	(5)%
Channel	4,250	2,400	(1,850)	(44)%
Total on-network revenues	1,967,792	1,845,217	(122,575)	(6)%
<b>Off-Network and Other Revenues</b>				
Transponder, MSS and other off-network services	150,186	175,602	25,416	17 %
Satellite-related services	43,212	40,646	(2,566)	(6)%
Total off-network and other revenues	193,398	216,248	22,850	12 %
<b>Total</b>	<b>\$ 2,161,190</b>	<b>\$ 2,061,465</b>	<b>\$ (99,725)</b>	<b>(5)%</b>

Total revenue for the year ended December 31, 2019 decreased by \$99.7 million, or 5%, as compared to the year ended December 31, 2018. By service type, our revenues increased or decreased due to the following:

#### On-Network Revenues:

- *Transponder services*— an aggregate decrease of \$101.5 million, primarily due to a \$53.0 million net decrease in revenue from network services customers and a \$48.8 million decrease from media customers. The decline from network services customers was primarily due to non-renewals, renewals at lower pricing or lower capacity, and service contractions for enterprise and wireless infrastructure applications mainly in the Latin America, North America, and Europe regions. This decline includes approximately \$22.5 million in lost revenue resulting from the failure of Intelsat 29e, a portion of which services were restored with off-network services. Revenue from network

services customers also declined in part due to non-renewals and pricing declines related to Europe-to-Africa connectivity. These declines were partially offset by increased revenues from maritime and aeronautical mobility customers and increased revenues from customers for telecommunications infrastructure in the Asia-Pacific region. The decline from media customers was primarily due to non-renewals relating to distribution services.

- *Managed services*—an aggregate decrease of \$19.2 million, largely due to a \$12.5 million decrease in revenue from government customers and a \$6.6 million decrease in revenue from media customers mainly due to non-renewals and renewals at lower pricing. This decline includes approximately \$12.6 million in lost revenue resulting from the failure of Intelsat 29e, a portion of which services were restored with off-network services. These declines were partially offset by increased revenues from maritime mobility services.

Off-Network and Other Revenues:

- *Transponder, MSS and other off-network services*—an aggregate increase of \$25.4 million, primarily due to a \$27.3 million increase in revenue from network services customers largely relating to revenue recognized in the first quarter of 2019 accounted for as a sales-type lease under ASC 842 as well as the transfer of certain Intelsat 29e customer services to off-network capacity. This was partially offset by a \$2.5 million decrease in revenue from government customers.
- *Satellite-related services*—an aggregate decrease of \$2.6 million, reflecting decreased revenues from professional services supporting third-party satellites.

## **Operating Expenses**

### *Direct Costs of Revenue (Excluding Depreciation and Amortization)*

Direct costs of revenue increased by \$75.3 million, or 23%, to \$406.2 million for the year ended December 31, 2019, as compared to the year ended December 31, 2018. The increase was primarily due to the following:

- an increase of \$48.7 million in costs incurred in connection with the purchase of capacity from two uncapitalized satellites, Intelsat 38 and Horizons 3e, that entered into service in 2019;
- an increase of \$16.2 million in equipment and third-party capacity costs recognized under ASC 842;
- an increase of \$13.2 million in third-party capacity costs incurred as part of the Intelsat 29e customer restoration process; and
- an increase of \$9.7 million in staff-related expenses; partially offset by
- a decrease of \$5.7 million in costs largely due to the write-off of uncollectible revenue related to Horizons 2 that is payable to JSAT as part of a revenue sharing agreement;
- a decrease of \$3.9 million in third-party costs for off-network services; and
- a decrease of \$3.0 million in satellite-related insurance costs.

### *Selling, General and Administrative*

Selling, general and administrative expenses increased by \$26.1 million, or 13%, to \$226.9 million for the year ended December 31, 2019, as compared to the year ended December 31, 2018. The increase was primarily due to the following:

- an increase of \$18.0 million in bad debt expense largely related to certain customers in the Europe, Latin America and Africa regions;
- an increase of \$16.8 million in staff-related expenses; and
- an increase of \$3.2 million in costs for licenses and fees; partially offset by

- a decrease of \$15.1 million in professional fees largely due to higher costs incurred in 2018 relating to financing transactions and the reorganization of ownership of certain assets among our subsidiaries that was implemented in 2018 (the "2018 Internal Reorganization").

#### *Depreciation and Amortization*

Depreciation and amortization expense decreased by \$29.4 million, or 4%, to \$658.2 million for the year ended December 31, 2019, as compared to the year ended December 31, 2018. Significant items impacting depreciation and amortization included:

- a decrease of \$27.0 million in depreciation expense due to the write-off of Intelsat 29e;
- a decrease of \$21.9 million in depreciation expense due to the timing of certain satellites becoming fully depreciated; and
- a decrease of \$4.1 million in amortization expense primarily due to changes in the pattern of consumption of amortizable intangible assets, as these assets primarily include acquired backlog, which relates to contracts covering varying periods that expire over time, and acquired customer relationships, for which the value diminishes over time; partially offset by
- an increase of \$14.3 million in depreciation expense resulting from the impact of satellites placed in service; and
- an increase of \$9.2 million in depreciation expense resulting from the impact of certain ground segment assets placed in service.

#### *Satellite Impairment Loss*

We recognized an impairment charge of \$381.6 million for the year ended December 31, 2019 relating to the failure of Intelsat 29e (see Note 8—Satellites and Other Property and Equipment). The impairment charge consisted of approximately \$377.9 million related to the write-off of the carrying value of the satellite and associated deferred satellite performance incentive obligations and approximately \$3.7 million related to prepaid regulatory fees. No comparable amounts were recognized for the year ended December 31, 2018.

#### *Interest Expense, Net*

Interest expense, net consists of gross interest expense incurred together with gains and losses on the interest rate cap contracts we hold (which reflect the changes in their fair values), offset by interest income earned and interest capitalized related to assets under construction. As of December 31, 2019, we held interest rate cap contracts with an aggregate notional amount of \$2.4 billion to mitigate the risk of interest rate increases on the floating-rate term loans under our senior secured credit facilities. The interest rate cap contracts have not been designated as hedges for accounting purposes.

Interest expense, net increased by \$60.7 million, or 5%, to \$1.3 billion for the year ended December 31, 2019, as compared to the year ended December 31, 2018. The increase in interest expense, net was principally due to the following:

- an increase of \$37.4 million corresponding to the decrease in fair value of the interest rate cap contracts;
- a net increase of \$30.1 million primarily resulting from our refinancing activities in 2018 and incremental debt raise in 2019; and
- an increase of \$5.2 million from lower capitalized interest primarily resulting from decreased levels of satellites and related assets under construction; partially offset by
- a decrease of \$6.9 million resulting from increased interest income largely due to higher cash balances; and
- a decrease of \$3.4 million from lower interest expense associated with deferred satellite performance incentives.

The non-cash portion of total interest expense, net was \$150.4 million and \$179.1 million for the years ended December 31, 2018 and 2019, respectively, primarily consisting of interest expense related to the significant financing

component identified in customer contracts, the gain or loss resulting from the change in fair value of the interest rate cap contracts we hold, amortization and accretion of discounts and premiums and amortization of deferred financing fees.

### ***Loss on Early Extinguishment of Debt***

No gain or loss on early extinguishment was recognized for the year ended December 31, 2019, as compared to a loss of \$199.7 million for the year ended December 31, 2018, consisting of the difference between the carrying value of the debt repurchased and the total cash amount paid (including related fees and expenses), together with write-offs of unamortized debt issuance costs and unamortized debt discount or premium.

### ***Other Income (Expense), Net***

Other expense, net was \$34.1 million for the year ended December 31, 2019, as compared to other income, net of \$4.5 million for the year ended December 31, 2018. The decrease of \$38.6 million was primarily driven by a net loss of \$43.8 million related to the change in value of certain investments in third parties and loans held-for-investment with no comparative amounts in 2018, partially offset by lower foreign exchange fluctuation losses of \$4.9 million mainly related to our business conducted in Brazilian *reais* and Euros.

### ***Provision for (Benefit from) Income Taxes***

Our income tax expense decreased by \$137.5 million to a benefit of \$7.4 million for the year ended December 31, 2019, as compared to a provision of \$130.1 million for the year ended December 31, 2018. The decrease was primarily attributable to the 2018 Internal Reorganization and a decrease in valuation allowance recorded for our U.S. subsidiaries, offset by the impact of the final Base Erosion Anti-Abuse Tax regulations released by the U.S. Department of Treasury and the U.S. Internal Revenue Service.

Cash paid for income taxes, net of refunds, totaled \$33.6 million and \$57.1 million for the years ended December 31, 2019 and 2018, respectively.

### ***Net Loss Attributable to Intelsat S.A.***

Net loss attributable to Intelsat S.A. was \$913.6 million for the year ended December 31, 2019, as compared to net loss attributable to Intelsat S.A. of \$599.6 million for the year ended December 31, 2018. The change reflects the various items discussed above.

## **Operating Results Years Ended December 31, 2017 and 2018**

We have omitted discussion of the earliest of the three years covered by our consolidated financial statements presented in this Annual Report because that disclosure was already included in our Annual Report on Form 20-F for the fiscal year ended December 31, 2018, filed with the SEC on February 20, 2019, in Part I, Item 5 under the heading "Operating Results Years Ended December 31, 2017 and 2018." You are encouraged to reference that disclosure for a discussion of our operating results for the year ended December 31, 2017 compared to the year ended December 31, 2018.

### ***EBITDA***

EBITDA consists of earnings before net interest, loss (gain) on early extinguishment of debt, taxes and depreciation and amortization. Given our high level of leverage, refinancing activities are a frequent part of our efforts to manage our costs of borrowing. Accordingly, we consider loss (gain) on early extinguishment of debt an element of interest expense. EBITDA is a measure commonly used in the FSS sector, and we present EBITDA to enhance the understanding of our operating performance. We use EBITDA as one criterion for evaluating our performance relative to that of our peers. We believe that EBITDA is an operating performance measure, and not a liquidity measure, that provides investors and analysts with a measure of operating results unaffected by differences in capital structures, capital investment cycles and ages of related assets among otherwise comparable companies. However, EBITDA is not a measure of financial performance under U.S. GAAP, and our EBITDA may not be comparable to similarly titled measures of other companies. EBITDA should not be considered as an alternative to operating income (loss) or net income (loss) determined in accordance with U.S. GAAP, as an indicator of our operating performance, or as an alternative to cash flows from operating activities determined in accordance with U.S. GAAP, as an indicator of cash flows, or as a measure of liquidity.

A reconciliation of net loss to EBITDA for the periods shown is as follows (in thousands):

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Net loss	\$ (174,814)	\$ (595,690)	\$ (911,210)
Add:			
Interest expense, net	1,020,770	1,212,374	1,273,112
Loss on early extinguishment of debt	4,109	199,658	—
Provision for (benefit from) income taxes	71,130	130,069	(7,384)
Depreciation and amortization	707,824	687,589	658,233
EBITDA	<u>\$ 1,629,019</u>	<u>\$ 1,634,000</u>	<u>\$ 1,012,751</u>

### Adjusted EBITDA

In addition to EBITDA, we calculate a measure called Adjusted EBITDA to assess the operating performance of Intelsat S.A. Adjusted EBITDA consists of EBITDA of Intelsat S.A. as adjusted to exclude or include certain unusual items, certain other operating expense items and certain other adjustments as described in the table and related footnotes below. Our management believes that the presentation of Adjusted EBITDA provides useful information to investors, lenders and financial analysts regarding our financial condition and results of operations because it permits clearer comparability of our operating performance between periods. By excluding the potential volatility related to the timing and extent of non-operating activities, such as impairments of asset value and other non-recurring items, our management believes that Adjusted EBITDA provides a useful means of evaluating the success of our operating activities. We also use Adjusted EBITDA, together with other appropriate metrics, to set goals for and measure the operating performance of our business, and it is one of the principal measures we use to evaluate our management's performance in determining compensation under our incentive compensation plans. Adjusted EBITDA measures have been used historically by investors, lenders and financial analysts to estimate the value of a company, to make informed investment decisions and to evaluate performance. Our management believes that the inclusion of Adjusted EBITDA facilitates comparison of our results with those of companies having different capital structures.

Adjusted EBITDA is not a measure of financial performance under U.S. GAAP and may not be comparable to similarly titled measures of other companies. Adjusted EBITDA should not be considered as an alternative to operating income (loss) or net income (loss) determined in accordance with U.S. GAAP, as an indicator of our operating performance, as an alternative to cash flows from operating activities determined in accordance with U.S. GAAP, as an indicator of cash flows, or as a measure of liquidity.

A reconciliation of net loss to EBITDA and EBITDA to Adjusted EBITDA is as follows (in thousands):

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Net loss	\$ (174,814)	\$ (595,690)	\$ (911,210)
Add:			
Interest expense, net	1,020,770	1,212,374	1,273,112
Loss on early extinguishment of debt	4,109	199,658	—
Provision for (benefit from) income taxes	71,130	130,069	(7,384)
Depreciation and amortization	707,824	687,589	658,233
EBITDA	<u>1,629,019</u>	<u>1,634,000</u>	<u>1,012,751</u>
Add:			
Compensation and benefits <sup>(1)</sup>	15,995	6,824	13,189
Non-recurring and other non-cash items <sup>(2)</sup>	19,589	27,646	58,625
Satellite impairment loss <sup>(3)</sup>	—	—	381,565
Proportionate share from unconsolidated joint venture <sup>(4)</sup> :			
Interest expense, net	—	—	5,014
Depreciation and amortization	—	—	10,320
Adjusted EBITDA <sup>(5)(6)</sup>	<u>\$ 1,664,603</u>	<u>\$ 1,668,470</u>	<u>\$ 1,481,464</u>

(1) Reflects non-cash expenses incurred relating to our equity compensation plans.

- (2) Reflects certain non-recurring expenses, gains and losses and non-cash items, including the following: professional fees related to our liability, business strategy and tax management initiatives; costs associated with our C-band spectrum solution proposal; severance, retention and relocation payments; changes in fair value of certain investments; certain foreign exchange gains and losses; and other various non-recurring expenses. These costs were partially offset by non-cash income related to the recognition of deferred revenue on a straight-line basis for certain prepaid capacity service contracts.
- (3) Reflects a non-cash impairment charge recorded in connection with the Intelsat 29e satellite loss.
- (4) Reflects adjustments related to our interest in Horizons-3 Satellite LLC ("Horizons 3"). See Item 8, Note 9(b)—Investments—Horizons-3 Satellite LLC.
- (5) Adjusted EBITDA included \$100.6 million and \$102.2 million for the years ended December 31, 2018 and 2019, respectively, of revenue relating to the significant financing component identified in customer contracts in accordance with the adoption of ASC 606. These impacts are not permitted to be reflected in the applicable consolidated and Adjusted EBITDA definitions under our debt agreements.
- (6) For the year ended December 31, 2019, Intelsat S.A. Adjusted EBITDA reflected \$12.5 million of Adjusted EBITDA attributable to Intelsat Horizons-3 LLC, its subsidiaries and its proportionate share of Horizons 3, with a nominal amount for the comparative period in 2018. These entities are considered to be unrestricted subsidiaries under the definitions set forth in our applicable debt agreements.

## Liquidity and Capital Resources

### Overview

We are a highly leveraged company and our contractual obligations, commitments and debt service requirements over the next several years are significant. At December 31, 2019, the aggregate principal amount of our debt outstanding not held by affiliates was \$14.7 billion. Our interest expense, net for the year ended December 31, 2019 was \$1.3 billion, which included \$179.1 million of non-cash interest expense. We also expect to make significant capital expenditures in 2020 and future years, as set forth below in—Capital Expenditures. Our primary source of liquidity is and will continue to be cash generated from operations, as well as existing cash. At December 31, 2019, cash, cash equivalents and restricted cash amounted to approximately \$830.9 million. We currently expect to use cash on hand, cash flows from operations and refinancing of our third-party debt to fund our most significant cash outlays, including debt service requirements and capital expenditures, in the next twelve months and beyond, and expect such sources to be sufficient to fund our requirements over that time and beyond. In past years, our cash flows from operations and cash on hand have been sufficient to fund interest obligations (\$1.1 billion in each of the years ended December 31, 2018 and 2019), and significant capital expenditures (\$255.7 million and \$229.8 million for the years ended December 31, 2018 and 2019, respectively). Our total capital expenditures are expected to range from \$200 million to \$250 million in 2020, \$225 million to \$300 million in 2021, and \$225 million to \$325 million in 2022. However, an inability to generate sufficient cash flow to satisfy our debt service obligations or to refinance our obligations on commercially reasonable terms would have an adverse effect on our business, financial position, results of operations and cash flows, as well as on our and our subsidiaries' ability to satisfy their obligations in respect of their respective debt. See Item 1A—Risk Factors—Risk Factors Relating to Our Business—We have a substantial amount of indebtedness, which may adversely affect our cash flow and our ability to operate our business, remain in compliance with debt covenants and make payments on our indebtedness. We also continually evaluate ways to simplify our capital structure and opportunistically extend our maturities and reduce our costs of debt. In addition, we may from time to time retain any future earnings and cash to repurchase, repay, redeem or retire any of our outstanding debt securities in privately negotiated or open market transactions, by tender offer or otherwise.

### Cash Flow Items

Our cash flows consisted of the following for the periods shown (in thousands):

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Net cash provided by operating activities	\$ 464,246	\$ 344,173	\$ 255,539
Net cash used in investing activities	(468,297)	(283,634)	(292,733)
Net cash provided by (used in) financing activities	(121,698)	(90,323)	362,910
Net change in cash, cash equivalents and restricted cash	(124,633)	(34,234)	323,707

### *Net Cash Provided by Operating Activities*

Net cash provided by operating activities decreased by \$88.6 million to \$255.5 million for the year ended December 31, 2019, as compared to the year ended December 31, 2018. The decrease was due to a \$176.5 million increase in net loss and changes in non-cash items offset by a \$87.9 million increase from changes in operating assets and liabilities. The increase in operating assets and liabilities was primarily due to higher inflows from customer receivables and deferred revenue and contract liabilities, partially offset by higher outflows related to other long-term liabilities.

### *Net Cash Used in Investing Activities*

Net cash used in investing activities increased by \$9.1 million to \$292.7 million for the year ended December 31, 2019, as compared to the year ended December 31, 2018. The increase was primarily due to increased purchases of investments and origination of loans held-for-investment and lower insurance proceeds received related to Intelsat 33e, partially offset by lower capital expenditures and capital contributions to a joint venture.

### *Net Cash Provided by Financing Activities*

Net cash provided by financing activities increased by \$453.2 million to \$362.9 million for the year ended December 31, 2019, as compared to the year ended December 31, 2018. The increase was primarily due to an add-on offering of \$400.0 million aggregate principal amount of Intelsat Jackson's 9.75% Senior Notes due 2025 (the "2025 Jackson Notes") completed in 2019, as compared to net cash outflows of \$283.9 million in connection with our refinancing activities in 2018. The increase was partially offset by \$224.3 million in net proceeds from a common shares offering in 2018.

### *Restricted Cash*

As of December 31, 2019, \$20.2 million of cash was legally restricted, being held as a compensating balance for certain outstanding letters of credit.

### **Long-Term Debt**

This section describes the changes to our long-term debt for the years ended December 31, 2018 and 2019. For details regarding our outstanding long-term indebtedness as of December 31, 2019, see Note 11—Long-Term Debt to our consolidated financial statements included in Item 8—Financial Statements and Supplementary Data of this Annual Report.

### **Senior Secured Credit Facilities**

#### *Intelsat Jackson Senior Secured Credit Agreement*

On January 12, 2011, Intelsat Jackson entered into a secured credit agreement (the "Intelsat Jackson Secured Credit Agreement"), which included a \$3.25 billion term loan facility and a \$500.0 million revolving credit facility, and borrowed the full \$3.25 billion under the term loan facility. The term loan facility required regularly scheduled quarterly payments of principal equal to 0.25% of the original principal amount of the term loan beginning six months after January 12, 2011, with the remaining unpaid amount due and payable at maturity.

On October 3, 2012, Intelsat Jackson entered into an Amendment and Joinder Agreement (the "Jackson Credit Agreement Amendment"), which amended the Intelsat Jackson Secured Credit Agreement. As a result of the Jackson Credit Agreement Amendment, interest rates for borrowings under the term loan facility and the revolving credit facility were reduced. In April 2013, our corporate family rating was upgraded by Moody's, and as a result, the interest rate for the borrowing under the term loan facility and revolving credit facility were further reduced to LIBOR plus 3.00% or the Above Bank Rate ("ABR") plus 2.00%.

On November 27, 2013, Intelsat Jackson entered into a Second Amendment and Joinder Agreement (the "Second Jackson Credit Agreement Amendment"), which further amended the Intelsat Jackson Secured Credit Agreement. The Second Jackson Credit Agreement Amendment reduced interest rates for borrowings under the term loan facility and extended the maturity of the term loan facility. In addition, it reduced the interest rate applicable to \$450 million of the \$500 million total revolving credit facility and extended the maturity of such portion. As a result of the Second Jackson Credit Agreement Amendment, interest rates for borrowings under the term loan facility and the new tranche of the revolving credit facility were (i) LIBOR plus 2.75%, or (ii) the ABR plus 1.75%. The LIBOR and the ABR, plus applicable margins, related to the term loan facility and the new tranche of the revolving credit facility were determined as specified in the Intelsat Jackson Secured Credit Agreement, as amended by the Second Jackson Credit Agreement Amendment, and the LIBOR was not to be less than 1.00% per annum. The maturity date of the term loan facility was extended from April 2, 2018 to June 30, 2019 and the maturity of the new

\$450 million tranche of the revolving credit facility was extended from January 12, 2016 to July 12, 2017. The interest rates and maturity date applicable to the \$50 million tranche of the revolving credit facility that was not amended did not change. The Second Jackson Credit Agreement Amendment further removed the requirement for regularly scheduled quarterly principal payments under the term loan facility.

In June 2017, Intelsat Jackson terminated all remaining commitments under its revolving credit facility.

On November 27, 2017, Intelsat Jackson entered into a Third Amendment and Joinder Agreement (the “Third Jackson Credit Agreement Amendment”), which further amended the Intelsat Jackson Secured Credit Agreement. The Third Jackson Credit Agreement Amendment extended the maturity date of \$2.0 billion of the existing floating rate B-2 Tranche of term loans (the “B-3 Tranche Term Loans”), to November 27, 2023, subject to springing maturity in the event that certain series of Intelsat Jackson’s senior notes are not refinanced prior to the dates specified in the Third Jackson Credit Agreement Amendment. The B-3 Tranche Term Loans have an applicable interest rate margin of 3.75% for LIBOR loans and 2.75% for base rate loans (at Intelsat Jackson’s election as applicable).

The B-3 Tranche Term Loans were subject to a prepayment premium of 1.00% of the principal amount for any voluntary prepayment of, or amendment or modification in respect of, the B-3 Tranche Term Loans prior to November 27, 2018 in connection with prepayments, amendments or modifications that have the effect of reducing the applicable interest rate margin on the B-3 Tranche Term Loans, subject to certain exceptions. The Third Jackson Credit Agreement Amendment also (i) added a provision requiring that, beginning with the fiscal year ending December 31, 2018, Intelsat Jackson apply a certain percentage of its Excess Cash Flow (as defined in the Third Jackson Credit Agreement Amendment), if any, after operational needs for each fiscal year towards the repayment of outstanding term loans, subject to certain deductions, (ii) amended the most-favored nation provision with respect to the incurrence of certain indebtedness by Intelsat Jackson and its restricted subsidiaries, and (iii) amended the covenant limiting the ability of Intelsat Jackson to make certain dividends, distributions and other restricted payments to its shareholders based on its leverage level at that time.

On December 12, 2017, Intelsat Jackson further amended the Intelsat Jackson Secured Credit Agreement by entering into a Fourth Amendment and Joinder Agreement (the “Fourth Jackson Credit Agreement Amendment”), which, among other things, (i) permitted Intelsat Jackson to establish one or more series of additional incremental term loan tranches if the proceeds thereof are used to refinance an existing tranche of term loans, and (ii) added a most-favored nation provision applicable to the B-3 Tranche Term Loans for further extensions of the existing floating rate B-2 Tranche Term Loans under certain circumstances.

On January 2, 2018, Intelsat Jackson entered into a Fifth Amendment and Joinder Agreement (the “Fifth Jackson Credit Agreement Amendment”), which further amended the Intelsat Jackson Secured Credit Agreement. The Fifth Jackson Credit Agreement Amendment refinanced the remaining \$1.095 billion B-2 Tranche Term Loans, through the creation of (i) a new incremental floating rate tranche of term loans with a principal amount of \$395.0 million (the “B-4 Tranche Term Loans”), and (ii) a new incremental fixed rate tranche of term loans with a principal amount of \$700.0 million (the “B-5 Tranche Term Loans”). The maturity date of both the B-4 Tranche Term Loans and the B-5 Tranche Term Loans is January 2, 2024, subject to springing maturity in the event that certain series of Intelsat Jackson’s senior notes are not refinanced or repaid prior to the dates specified in the Fifth Jackson Credit Agreement Amendment. The B-4 Tranche Term Loans have an applicable interest rate margin of 4.50% per annum for LIBOR loans and 3.50% per annum for base rate loans (at Intelsat Jackson’s election as applicable).

We entered into interest rate cap contracts in December 2017 and amended them in May 2018 to mitigate the risk of interest rate increases on the B-3 and B-4 Tranche Term Loans. The B-5 Tranche Term Loans have an interest rate of 6.625% per annum. The Fifth Jackson Credit Agreement Amendment also specified make-whole and prepayment premiums applicable to the B-4 Tranche Term Loans and the B-5 Tranche Term Loans at various dates.

Intelsat Jackson’s obligations under the Intelsat Jackson Secured Credit Agreement are guaranteed by ICF and certain of Intelsat Jackson’s subsidiaries. Intelsat Jackson’s obligations under the Intelsat Jackson Secured Credit Agreement are secured by a first priority security interest in substantially all of the assets of Intelsat Jackson and the guarantors party thereto, to the extent legally permissible and subject to certain agreed exceptions, and by a pledge of the equity interests of the subsidiary guarantors and the direct subsidiaries of each guarantor, subject to certain exceptions, including exceptions for equity interests in certain non-U.S. subsidiaries, existing contractual prohibitions and prohibitions under other legal requirements.

The Intelsat Jackson Secured Credit Agreement following a further amendment in November 2018 includes one financial covenant: Intelsat Jackson must maintain a consolidated secured debt to consolidated EBITDA ratio equal to or less than 3.50 to 1.00 at the end of each fiscal quarter, measured based on the trailing 12 months, as such financial measure is defined in the



Intelsat Jackson Secured Credit Agreement. Intelsat Jackson was in compliance with this financial maintenance covenant ratio with a consolidated secured debt to consolidated EBITDA ratio of 3.20 to 1.00 as of December 31, 2019.

### ***2019 Debt Transaction***

#### *June 2019 Intelsat Jackson Senior Notes Add-On Offering*

In June 2019, Intelsat Jackson completed an add-on offering of \$400.0 million aggregate principal amount of its 2025 Jackson Notes. The notes are guaranteed by all of Intelsat Jackson's subsidiaries that guarantee its obligations under the Intelsat Jackson Secured Credit Agreement and senior notes, as well as by certain of Intelsat Jackson's parent entities.

### ***2018 Debt and Other Capital Markets Transactions***

#### *March 2018/May 2018 ICF Tender Offer for Intelsat Luxembourg Notes and Redemption*

In March 2018, ICF commenced a cash tender offer to purchase any and all of the outstanding aggregate principal amount of the 6.75% Senior Notes due 2018 (the "2018 Luxembourg Notes"). ICF purchased a total of \$31.2 million aggregate principal amount of the 2018 Luxembourg Notes at par value in March 2018 and April 2018. In May 2018, pursuant to a previously issued notice of redemption, Intelsat Luxembourg redeemed \$46.0 million aggregate principal amount of the 2018 Luxembourg Notes at par value together with accrued and unpaid interest thereon.

#### *June 2018 Intelsat S.A. Senior Convertible Notes Offering and Common Shares Offering*

In June 2018, we completed an offering of 15,498,652 Intelsat S.A. common shares, nominal value \$0.01 per share (the "Common Shares"), at a public offering price of \$14.84 per common share, and we completed an offering of \$402.5 million aggregate principal amount of our 4.5% Convertible Senior Notes due 2025 (the "2025 Convertible Notes"). These notes are guaranteed by a direct subsidiary of Intelsat Luxembourg, Intelsat Envision. The net proceeds from the Common Shares offering and 2025 Convertible Notes offering were used to repurchase approximately \$600 million aggregate principal amount of Intelsat Luxembourg's 7.75% Senior Notes due 2021 (the "2021 Luxembourg Notes") in privately negotiated transactions with individual holders in June 2018. We used the remaining net proceeds of the Common Shares offering and 2025 Convertible Notes offering for further repurchases of 2021 Luxembourg Notes and for other general corporate purposes, including repurchases of other tranches of debt of Intelsat S.A.'s subsidiaries.

#### *August 2018 Intelsat Connect Senior Notes Refinancing and Exchange of Intelsat Luxembourg Senior Notes*

In August 2018, Intelsat Connect completed an offering of \$1.25 billion aggregate principal amount of 9.5% Senior Notes due 2023 (the "2023 ICF Notes"). These notes are guaranteed by Intelsat Envision and Intelsat Luxembourg. Intelsat Connect used the net proceeds from the offering to repurchase or redeem all \$731.9 million outstanding aggregate principal amount of Intelsat Connect 12.5% Senior Notes due 2022 (the "2022 ICF Notes"). The remaining net proceeds from the offering were used to repurchase approximately \$448.9 million aggregate principal amount of Intelsat Jackson's 7.25% Senior Notes due 2020 (the "2020 Jackson Notes") and \$30.0 million aggregate principal amount of other unsecured notes of Intelsat Jackson, and to pay related fees and expenses. Also in August 2018, Intelsat Connect and Intelsat Envision completed debt exchanges receiving new notes issued by Intelsat Luxembourg, which mature in August 2026 and have an interest rate of 13.5%, in exchange for \$1.58 billion aggregate principal amount of 2021 Luxembourg Notes that were previously held by Intelsat Connect and Intelsat Envision.

#### *September 2018 Intelsat Jackson Senior Notes Offering and Tender Offer*

In September 2018, Intelsat Jackson completed an offering of \$2.25 billion aggregate principal amount of 8.5% Senior Notes due 2024 (the "2024 Jackson Senior Unsecured Notes"). The notes are guaranteed by all of Intelsat Jackson's subsidiaries that guarantee its obligations under the Intelsat Jackson Secured Credit Agreement, as well as by certain of Intelsat Jackson's parent entities. Intelsat Jackson used the net proceeds from the offering to repurchase through a tender offer and redeem all remaining outstanding 2020 Jackson Notes. The remaining net proceeds from the 2024 Jackson Senior Unsecured Notes offering were used to repurchase and redeem approximately \$441.3 million aggregate principal amount of Intelsat Jackson's 7.5% Senior Notes due 2021 (the "2021 Jackson Notes") in September 2018 and October 2018, and to pay related fees and expenses.

In October 2018, Intelsat Jackson completed an add-on offering of \$700 million aggregate principal amount of its 2024 Jackson Senior Unsecured Notes. The net proceeds from the add-on offering, together with cash on hand, were used to repurchase and redeem all the remaining approximately \$708.7 million aggregate principal amount of outstanding 2021 Jackson Notes in October 2018 that were not earlier repurchased or redeemed, and to pay related fees and expenses.

### **Satellite Performance Incentives**

Our cost of satellite construction includes an element of deferred consideration to satellite manufacturers referred to as satellite performance incentives. We are contractually obligated to make these payments over the lives of the satellites, provided the satellites continue to operate in accordance with contractual specifications. We capitalize the present value of these payments as part of the cost of the satellites and record a corresponding liability to the satellite manufacturers. This asset is amortized over the useful lives of the satellites, interest expense is recognized on the deferred financing and the liability is reduced as the payments are made. Our total satellite performance incentive payment liability as of December 31, 2018 and 2019 was \$245.6 million and \$218.7 million, respectively.

### **Capital Expenditures**

Our capital expenditures depend on our business strategies and reflect our commercial responses to opportunities and trends in our industry. Our actual capital expenditures may differ from our expected capital expenditures if, among other things, we enter into any currently unplanned strategic transactions. Levels of capital spending from one year to the next are also influenced by the nature of the satellite life cycle and by the capital-intensive nature of the satellite industry. For example, we incur significant capital expenditures during the years in which satellites are under construction. We typically procure a new satellite within a timeframe that would allow the satellite to be deployed at least one year prior to the end of the service life of the satellite to be replaced. As a result, we frequently experience significant variances in our capital expenditures from year to year.

The following table compares our satellite-related capital expenditures to total capital expenditures from 2015 through 2019 (in thousands).

<b>Year</b>	<b>Satellite-Related Capital Expenditures</b>	<b>Total Capital Expenditures</b>
2015	\$ 657,656	\$ 724,362
2016	629,346	714,570
2017	355,675	461,627
2018	165,143	255,696
2019	134,597	229,818
Total	<u>\$ 1,942,417</u>	<u>\$ 2,386,073</u>

Payments for satellites and other property and equipment for the year ended December 31, 2019 were \$229.8 million. We intend to fund our capital expenditure requirements through cash on hand and cash provided from operating activities.

Capital expenditure guidance for 2020 through 2022 (the “Guidance Period”) assumes investment in five satellites, two of which are currently in the manufacturing phase. Of the remaining three satellites, no manufacturing contracts have yet been signed.

### **Off-Balance Sheet Arrangements**

We have revenue sharing agreements with JSAT related to services sold on the Horizons 1, Horizons 2 and Horizons 3 satellites. We are responsible for billing and collection for such services and we remit 50% of the revenue, less applicable fees and commissions, to JSAT. Refer to Note 9—Investments for disclosures relating to the revenue sharing agreements with JSAT.

## Tabular Disclosure of Contractual Obligations

The following table sets forth our contractual obligations and capital and certain other commitments as of December 31, 2019, and the expected year of payments (in thousands):

Contractual Obligations <sup>(1)</sup>	Payments due by year						Other	Total
	2020	2021	2022	2023	2024	2025 and thereafter		
<i>Long-Term debt obligations</i>								
Intelsat S.A. and subsidiary notes and credit facilities—principal payments	\$ —	\$ 421,219	\$ 490,000	\$ 6,123,337	\$ 5,394,783	\$ 2,287,500	\$ —	\$ 14,716,839
Intelsat S.A. and subsidiary notes and credit facilities—interest payments <sup>(2)</sup>	1,149,619	1,107,493	1,090,796	909,198	527,029	192,844	—	4,976,979
Horizons-3 Satellite LLC capital contributions and purchase obligations <sup>(3)</sup>	28,586	32,358	33,600	33,723	34,314	192,618	—	355,199
Purchase obligations <sup>(4)</sup>	276,255	221,533	174,487	56,940	46,405	102,318	—	877,938
Satellite performance incentive obligations	65,301	51,685	36,816	25,366	24,726	104,084	—	307,978
Operating lease obligations	20,136	16,329	15,508	15,122	15,006	71,633	—	153,734
Sublease rental income	(775)	(492)	(236)	(120)	(56)	(138)	—	(1,817)
Income tax contingencies <sup>(5)</sup>	—	—	—	—	—	—	24,954	24,954
Total contractual obligations	<u>\$ 1,539,122</u>	<u>\$ 1,850,125</u>	<u>\$ 1,840,971</u>	<u>\$ 7,163,566</u>	<u>\$ 6,042,207</u>	<u>\$ 2,950,859</u>	<u>\$ 24,954</u>	<u>\$ 21,411,804</u>

- Obligations related to our pension and postretirement medical benefit obligations are excluded from the table. We maintain a noncontributory defined benefit retirement plan covering substantially all of our employees hired prior to July 19, 2001. We expect that our future contributions to the defined benefit retirement plan will be based on the minimum funding requirements of the Internal Revenue Code and on the plan's funded status. The impact on the funded status is determined based upon market conditions in effect when we completed our annual valuation. In the first quarter of 2015, we amended the defined benefit retirement plan to cease the accrual of additional benefits for the remaining active participants effective March 31, 2015. We anticipate that our contributions to the defined benefit retirement plan in 2020 will be approximately \$4.0 million. We fund the postretirement medical benefits throughout the year based on benefits paid. We anticipate that our contributions to fund postretirement medical benefits in 2020 will be approximately \$2.9 million. See Note 7—Retirement Plans and Other Retiree Benefits to our consolidated financial statements included in Item 8—Financial Statements and Supplementary Data of this Annual Report.
- Represents estimated interest payments to be made on our fixed and variable rate debt. Interest payments for variable rate debt and incentive obligations have been estimated based on the current interest rates.
- This amount includes commitments to make capital contributions to and purchase satellite capacity from Horizons 3. See Note 9(b)—Investments—Horizons-3 Satellite LLC.
- Includes obligations under satellite construction and launch contracts, estimated payments to be made on performance incentive obligations related to certain satellites that are currently under construction, and commitments under customer and vendor contracts.
- The timing of future cash flows from income tax contingencies cannot be reasonably estimated and therefore is reflected in the other column. See Note 14—Income Taxes to our consolidated financial statements included in Item 8—Financial Statements and Supplementary Data of this Annual Report for further discussion of income tax contingencies.

### Satellite Construction and Launch Obligations

As of December 31, 2019, we had approximately \$461.5 million of expenditures remaining under our existing satellite construction and launch contracts, including expected orbital performance incentive payments for satellites currently in the construction phase.

These contracts typically require that we make progress payments during the period of the satellites' construction, and contain provisions that allow us to cancel the contracts for or without cause. If cancelled without cause, we could be subject to substantial termination penalties, including the forfeiture of progress payments made to-date and additional penalty payments. If cancelled for cause, we are entitled to recover progress payments made to-date and liquidated damages as specified in the

contracts. See Item 1—Business—Our Network—Satellite Systems—Future Satellites for details relating to certain of our satellite construction and launch contracts.

#### *Satellite Performance Incentive Obligations*

Satellite construction contracts also typically require that we make orbital incentive payments (plus interest, as defined in each agreement with the satellite manufacturer) over the orbital life of the satellite. The incentive obligations may be subject to reduction or refund if the satellite fails to meet specific technical operating standards. As of December 31, 2019, we had \$308.0 million of satellite performance incentive obligations, including future interest payments, for satellites currently in orbit.

#### *Customer and Vendor Contracts*

We have contracts with certain of our customers which require us to provide equipment, services and other support during the term of the related contracts. We also have long-term contractual obligations with service providers primarily related to the operation of certain of our satellites. As of December 31, 2019, we had commitments under these customer and vendor contracts which totaled approximately \$416.4 million related to the provision of equipment, services and other support.

#### *Operating Leases*

We have commitments for operating leases primarily relating to equipment and office facilities. These leases contain escalation provisions for payment increases. As of December 31, 2019, minimum annual rental payments due under all leases (net of sublease income on leased facilities) totaled approximately \$151.9 million, exclusive of potential increases in real estate taxes, operating assessments and future sublease income.

### **Critical Accounting Policies**

The preparation of financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect reported amounts and related disclosures. We consider an accounting estimate to be critical if: (1) it requires assumptions to be made that were uncertain at the time the estimate was made; and (2) changes in the estimate, or selection of different estimates, could have a material effect on our consolidated results of operations or financial condition.

We believe that some of the more important estimates and related assumptions that affect our financial condition and results of operations are in the areas of revenue recognition, the allowance for doubtful accounts, asset impairments, income taxes and pension and other postretirement benefits.

In January 2018, we adopted ASC 606 using the modified retrospective method. We recognized the cumulative effect of initially applying the new standard as an adjustment to the opening balance of accumulated deficit. The comparative information as of and for the year ended December 31, 2017 has not been restated and continues to be reported under the accounting standards in effect for that year. Based on our assessment, the adoption of the new standard impacts the total consideration for prepayment contracts, accounting of incremental costs for obtaining a contract, allocation of the transaction price to performance obligations and accounting for contract modifications, and requires additional disclosures.

While we believe that our estimates, assessments, assumptions, and judgments are reasonable, they are based on information presently available. Actual results may differ significantly. Additionally, changes in our estimates, assessments, assumptions, or judgments as a result of unforeseen events or otherwise could have a material impact on our financial position or results of operations.

#### ***Revenue Recognition, Accounts Receivable and Allowance for Doubtful Accounts***

***Revenue Recognition.*** We earn revenue primarily from satellite utilization services and, to a lesser extent, from providing managed services to our customers. The Company's contracts for satellite utilization services often contain multiple service orders for the provision of capacity on or over different beams, satellites, frequencies, geographies or time periods. Under each separate service order, the Company's satellite services, comprised of transponder services, managed services, channel services, and occasional use managed services, are delivered in a series of time periods that are distinct from each other and have the same pattern of transfer to the customer. In each period, the Company's obligation is to make those services available to the customer. Throughout each period of services being provided, the customer simultaneously receives and consumes the benefits, resulting in revenue recognition over time. Our contract assets include unbilled amounts typically resulting from sales under our long-term contracts when the total contract value is recognized on a straight-line basis and the revenue recognized exceeds

the amount billed to the customer. Contract liabilities consist of advance payments and collections in excess of revenue recognized and deferred revenue.

While the majority of our revenue transactions contain standard business terms and conditions, there are certain transactions that contain non-standard business terms and conditions. As a result, significant contract interpretation is sometimes required to determine the appropriate accounting for these transactions, including but not limited to:

- whether contracts with a prepayment contain a significant financing component;
- whether an arrangement should be reported gross as a principal versus net as an agent; and
- whether an arrangement contains a service contract or a lease.

In addition, our revenue recognition policy requires an assessment as to whether collection is reasonably assured, which requires us to evaluate the creditworthiness of our customers. Changes in judgments in making these assumptions and estimates could materially impact the timing and/or amount of revenue recognition.

*Allowance for Doubtful Accounts.* Our allowance for doubtful accounts is determined through a subjective evaluation of the aging of our accounts receivable, and considers such factors as the likelihood of collection based upon an evaluation of the customer's creditworthiness, the customer's payment history and other conditions or circumstances that may affect the likelihood of payment, such as political and economic conditions in the country in which the customer is located. If our estimate of the likelihood of collection is not accurate, we may experience lower revenue or a change in our provision for doubtful accounts.

### ***Asset Impairment Assessments***

*Goodwill.* We account for goodwill and other intangible assets in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC" or the "Codification") Topic 350—*Intangibles—Goodwill and Other*. Under this topic, goodwill acquired in a business combination and determined to have an indefinite useful life is not amortized but is tested for impairment annually or more often if an event or circumstances indicate that an impairment loss has been incurred. We are required to identify reporting units for impairment analysis. We have identified only one reporting unit for the goodwill impairment test. Additionally, our identifiable intangible assets with estimable useful lives are amortized based on the expected pattern of consumption for each respective asset.

*Assumptions and Approach Used.* We make our qualitative evaluation considering, among other things, general macroeconomic conditions, industry and market considerations, cost factors, overall financial performance and other relevant entity-specific events.

Based on our qualitative assessment performed at each of December 31, 2018 and 2019, we concluded that there was not a likelihood of more than 50% that the fair value of our reporting unit was less than its carrying value; therefore, no further testing of goodwill was required.

*Orbital Locations and Trade Name.* Intelsat is authorized by governments to operate satellites at certain orbital locations—i.e., longitudinal coordinates along the Clarke Belt. The Clarke Belt is the part of space approximately 35,800 kilometers above the plane of the equator where geostationary orbit may be achieved. Various governments acquire rights to these orbital locations through filings made with the ITU, a sub-organization of the United Nations. We will continue to have rights to operate satellites at our orbital locations so long as we maintain our authorizations to do so. See "Part I—Item 1A—Risk Factors—Risk Factors Relating to Regulation".

Our rights to operate at orbital locations can be used and sold individually; however, since satellites and customers can be and are moved from one orbital location to another, our rights are used in conjunction with each other as a network that can be adapted to meet the changing needs of our customers and market demands. Due to the interchangeable nature of orbital locations, the aggregate value of all of the orbital locations is used to measure the extent of impairment, if any.

At December 31, 2018 and 2019, we determined, based on an examination of qualitative factors, that there was no impairment of our orbital locations and trade name.

*Long-Lived and Amortizable Intangible Assets.* We review our long-lived and amortizable intangible assets to assess whether an impairment has occurred in accordance with the guidance provided under ASC 360—*Property, Plant and Equipment*, whenever events or changes in circumstances indicate, in our judgment, that the carrying amount of an asset may not be recoverable. These indicators of impairment can include, but are not limited to, the following:

- satellite anomalies, such as a partial or full loss of power;
- under-performance of an asset as compared to expectations; and
- shortened useful lives due to changes in the way an asset is used or expected to be used.

The recoverability of an asset to be held and used is measured by a comparison of the carrying amount of the asset to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of the asset exceeds its estimated undiscounted future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds its fair value, determined by either a quoted market price, if any, or a value determined by utilizing discounted cash flow techniques. Additionally, when assets are expected to be used in future periods, a shortened depreciable life may be utilized if appropriate, resulting in accelerated depreciation.

*Assumptions and Approach Used.* We employ a discounted future cash flow approach to estimate the fair value of our long-lived intangible assets when an impairment assessment is required.

### ***Income Taxes***

We account for income taxes in accordance with ASC 740, *Income Taxes*. We are subject to income taxes in Luxembourg, as well as the United States and a number of other foreign jurisdictions. Significant judgment is required in the calculation of our tax provision and the resulting tax liabilities and in the recoverability of our deferred tax assets that arise from temporary differences between the tax and financial statement recognition of revenue and expense and net operating loss and credit carryforwards.

We regularly assess the likelihood that our deferred tax assets can be recovered. A valuation allowance is required when it is more likely than not that all or a portion of the deferred tax asset will not be realized. We evaluate the recoverability of our deferred tax assets based in part on the existence of deferred tax liabilities that can be used to realize the deferred tax assets.

During the ordinary course of business, there are transactions and calculations for which the ultimate tax determination is uncertain. We evaluate our tax positions to determine if it is more likely than not that a tax position is sustainable, based solely on its technical merits and presuming the taxing authorities have full knowledge of the position and access to all relevant facts and information. When a tax position does not meet the more likely than not standard, we record a liability or contra asset for the entire amount of the unrecognized tax impact. Additionally, for those tax positions that are determined more likely than not to be sustainable, we measure the tax position at the largest amount of benefit more likely than not (determined by cumulative probability) to be realized upon settlement with the taxing authority.

### ***Pension and Other Postretirement Benefits***

We maintain a noncontributory defined benefit retirement plan covering substantially all of our employees hired prior to July 19, 2001. The cost of providing benefits to eligible participants under the defined benefit retirement plan is calculated using the plan's benefit formulas, which take into account the participants' remuneration, dates of hire, years of eligible service, and certain actuarial assumptions. In addition, as part of the overall medical plan, we provide postretirement medical benefits to certain current retirees who meet the criteria under the medical plan for postretirement benefit eligibility.

Expenses for our defined benefit retirement plan and for postretirement medical benefits that are provided under our medical plan are developed from actuarial valuations. Any significant decline in the fair value of our defined benefit retirement plan assets or other adverse changes to the significant assumptions used to determine the plan's funded status would negatively impact its funded status and could result in increased funding in future periods.

Key assumptions, including discount rates used in determining the present value of future benefit payments and expected return on plan assets, are reviewed and updated on an annual basis. The discount rates reflect market rates for high-quality corporate bonds. We consider current market conditions, including changes in interest rates, in making assumptions. The Society of Actuaries ("SOA") issued new mortality and mortality improvement tables and modified those tables in 2017, 2018 and 2019. Our December 31, 2019 valuation used mortality and improvement tables based on the SOA tables, adjusted to reflect (1) an ultimate rate of mortality improvement consistent with both historical experience and U.S. Social Security long-term projections, and (2) a shorter transition period to reach the ultimate rate, which is consistent with historical patterns. In establishing the expected return on assets assumption, we review the asset allocations considering plan maturity and develop return assumptions based on different asset classes. The return assumptions are established after reviewing historical returns of broader market indexes, as well as historical performance of the investments in the plan.

### ***Recently Adopted and Recently Issued Accounting Pronouncements***

Refer to Note 1—Background and Summary of Significant Accounting Policies included in Item 8 of this Form 10-K for further information about recently adopted and recently issued accounting pronouncements.

### **Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

We are primarily exposed to the market risk associated with unfavorable movements in interest rates and foreign currencies. The risk inherent in our market risk sensitive instruments and positions is the potential loss arising from adverse changes in those factors. We do not purchase or hold any derivative financial instruments for speculative purposes.

#### ***Interest Rate Risk***

The satellite communications industry is a capital intensive, technology driven business. We are subject to interest rate risk primarily associated with our borrowings. Interest rate risk is the risk that changes in interest rates could adversely affect earnings and cash flows. Specific risks include the risk of increasing interest rates on short-term debt, for planned new fixed-rate long-term financings, for planned refinancings using long-term fixed-rate debt, and for existing variable-rate debt. The Company utilizes derivative instruments from time to time in order to reduce its exposure to the risk of interest-rate volatility.

Approximately 83% of our debt, or \$11.9 billion principal amount was fixed-rate debt as of December 31, 2018. As of December 31, 2019, our fixed-rate debt increased to approximately 84% of our debt, or \$12.3 billion principal amount. While our fixed-rate debt does not expose us to earnings risk when market interest rates change, such debt is subject to changes in fair value (see Note 11—Long-Term Debt for fair value disclosures for our long-term debt). Our sensitivity analyses indicate that based on the level of fixed-rate debt outstanding as of December 31, 2019, a 100 basis point decrease in market rates would result in an increase in fair value of this fixed-rate debt of approximately \$369.3 million.

While our variable-rate debt may impact earnings and cash flows as interest rates change, it is not subject to changes in fair values. As of December 31, 2019, we held interest rate cap contracts with an aggregate notional amount of \$2.4 billion that mature in February 2021. These contracts were entered into to mitigate our risk of interest rate increases on the floating rate term loans under our senior secured credit facilities. If LIBOR exceeds 1.89% prior to the expiration date of the contracts, the Company will receive the resulting increase in interest payments required to the term loan lenders from the counterparties to the arrangement. These interest rate cap contracts have not been designated for hedge accounting treatment in accordance with ASC 815, *Derivatives and Hedging*, and the changes in fair value of these instruments are recognized in earnings during the period of change.

#### ***Foreign Currency Risk***

We do not currently use material foreign currency derivatives to hedge our foreign currency exposures. Substantially all of our customer contracts, capital expenditure contracts and operating expense obligations are denominated in U.S. dollars. Consequently, we are not exposed to material foreign currency exchange risk. However, the service contracts with our Brazilian customers provide for payment in Brazilian *reais*. Accordingly, we are subject to the risk of a reduction in the value of the Brazilian *real* as compared to the U.S. dollar in connection with payments made by Brazilian customers, and our exposure to fluctuations in the exchange rate for Brazilian *reais* is ongoing. However, the rates payable under our service contracts with Brazilian customers are adjusted annually to account for inflation in Brazil, thereby mitigating the risk. For the years ended December 31, 2017, 2018 and 2019, our Brazilian customers represented approximately 4.0%, 3.3% and 2.4% of our revenue, respectively. Transactions in other currencies are converted into U.S. dollars using exchange rates in effect on the dates of the transactions.

**Item 8. Financial Statements and Supplementary Data**

**Report of Independent Registered Public Accounting Firm**

To the Shareholders and Board of Directors  
Intelsat S.A.:

*Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting*

We have audited the accompanying consolidated balance sheets of Intelsat S.A. and subsidiaries (the Company) as of December 31, 2018 and 2019, the related consolidated statements of operations, comprehensive loss, changes in shareholders' deficit, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes and financial statement Schedule II - Valuation and Qualifying Accounts (collectively, the consolidated 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.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles. 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 the Committee of Sponsoring Organizations of the Treadway Commission.

*Change in Accounting Principle*

As discussed in Note 1(c) to the consolidated financial statements, the Company has changed its method of accounting for revenue effective January 1, 2018 due to the adoption of Accounting Standards Codification No. 606, *Revenue from Contracts with Customers*.

As discussed in Note 1(q) to the consolidated financial statements, the Company has changed its method of accounting for leases effective January 1, 2019 due to the adoption of Accounting Standards Codification No. 842, *Leases*.

*Basis for Opinions*

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's consolidated 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 consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

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



### *Definition and Limitations of Internal Control Over Financial Reporting*

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (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.

### *Critical Audit Matter*

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

#### *Evaluation of the sufficiency of audit evidence over income taxes*

As discussed in Notes 1(k) and 14 to the consolidated financial statements, the Company is subject to income taxes in Luxembourg, as well as the United States and a number of other foreign jurisdictions. The Company's net deferred tax liabilities as of December 31, 2019 were \$33.8 million, consisting of deferred tax assets of \$4,144.6 million, deferred tax liabilities of \$141.8 million and a valuation allowance of \$4,036.6 million. The Company's benefit from income taxes was \$7.4 million for the year ended December 31, 2019.

We identified the evaluation of the sufficiency of audit evidence over income taxes as a critical audit matter. The Company's global tax structure adds complexity, which required subjective auditor judgment to evaluate the sufficiency of audit evidence obtained. This judgment required the involvement of tax professionals with specialized skills and knowledge, in order to assess the nature and extent of procedures performed over certain taxable jurisdictions in relation to the amounts recorded and disclosed in the consolidated financial statements.

The primary procedures we performed to address this critical audit matter included the following. We applied auditor judgment to determine the nature and extent of procedures to be performed over the income tax accounts and disclosures. We tested certain internal controls over the Company's income tax process, including controls over the amounts recorded and disclosed. We selected certain tax jurisdictions and evaluated the Company's related provision for income taxes, income taxes payable or receivable, and deferred tax amounts. We assessed the disclosures included in the consolidated financial statements. We involved tax professionals with specialized skills and knowledge, who evaluated the Company's interpretation and application of certain tax rules and regulations. In addition, we evaluated the overall sufficiency of audit evidence obtained over income taxes.

/s/ KPMG LLP

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

McLean, Virginia  
February 20, 2020

INTELSAT S.A.

**CONSOLIDATED BALANCE SHEETS**  
(in thousands, except per share amounts)

	December 31, 2018	December 31, 2019
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 485,120	\$ 810,626
Restricted cash	22,037	20,238
Receivables, net of allowances of \$28,542 in 2018 and \$40,028 in 2019	271,393	255,722
Contract assets	45,034	47,721
Prepaid expenses and other current assets	24,075	39,230
Total current assets	847,659	1,173,537
Satellites and other property and equipment, net	5,511,702	4,702,063
Goodwill	2,620,627	2,620,627
Non-amortizable intangible assets	2,452,900	2,452,900
Amortizable intangible assets, net	311,103	276,752
Contract assets, net of current portion	96,108	74,109
Other assets	401,414	504,394
Total assets	<u>\$ 12,241,513</u>	<u>\$ 11,804,382</u>
<b>LIABILITIES AND SHAREHOLDERS' DEFICIT</b>		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 108,101	\$ 88,107
Taxes payable	5,679	6,402
Employee related liabilities	29,696	44,648
Accrued interest payable	284,649	308,657
Contract liabilities	137,746	137,706
Deferred satellite performance incentives	35,261	42,835
Other current liabilities	59,080	62,446
Total current liabilities	660,212	690,801
Long-term debt, net of current portion	14,028,352	14,465,483
Contract liabilities, net of current portion	1,131,319	1,113,450
Deferred satellite performance incentives, net of current portion	210,346	175,837
Deferred income taxes	82,488	55,171
Accrued retirement benefits	133,735	125,511
Other long-term liabilities	77,670	166,977
Shareholders' deficit:		
Common shares; nominal value \$0.01 per share	1,380	1,411
Paid-in capital	2,551,471	2,565,696
Accumulated deficit	(6,606,426)	(7,503,830)
Accumulated other comprehensive loss	(43,430)	(63,135)
Total Intelsat S.A. shareholders' deficit	(4,097,005)	(4,999,858)
Noncontrolling interest	14,396	11,010
Total liabilities and shareholders' deficit	<u>\$ 12,241,513</u>	<u>\$ 11,804,382</u>

See accompanying notes to consolidated financial statements.

INTELSAT S.A.

CONSOLIDATED STATEMENTS OF OPERATIONS  
(in thousands, except per share amounts)

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Revenue	\$ 2,148,612	\$ 2,161,190	\$ 2,061,465
Operating expenses:			
Direct costs of revenue (excluding depreciation and amortization)	324,232	330,874	406,153
Selling, general and administrative	205,475	200,857	226,918
Depreciation and amortization	707,824	687,589	658,233
Satellite impairment loss	—	—	381,565
Total operating expenses	<u>1,237,531</u>	<u>1,219,320</u>	<u>1,672,869</u>
Income from operations	911,081	941,870	388,596
Interest expense, net	1,020,770	1,212,374	1,273,112
Loss on early extinguishment of debt	(4,109)	(199,658)	—
Other income (expense), net	10,114	4,541	(34,078)
Loss before income taxes	(103,684)	(465,621)	(918,594)
Provision for (benefit from) income taxes	71,130	130,069	(7,384)
Net loss	(174,814)	(595,690)	(911,210)
Net income attributable to noncontrolling interest	(3,914)	(3,915)	(2,385)
Net loss attributable to Intelsat S.A.	<u>\$ (178,728)</u>	<u>\$ (599,605)</u>	<u>\$ (913,595)</u>
Net loss per common share attributable to Intelsat S.A.:			
Basic	\$ (1.50)	\$ (4.63)	\$ (6.51)
Diluted	\$ (1.50)	\$ (4.63)	\$ (6.51)

See accompanying notes to consolidated financial statements.

INTELSAT S.A.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS  
(in thousands)

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Net loss	\$ (174,814)	\$ (595,690)	\$ (911,210)
Other comprehensive income (loss), net of tax:			
Defined benefit retirement plans:			
Reclassification adjustment for amortization of unrecognized prior service credits, net of tax included in other income (expense), net	21	(839)	(2,502)
Reclassification adjustment for amortization of unrecognized actuarial loss, net of tax included in other income (expense), net	2,074	4,064	2,943
Actuarial gain (loss) arising during the year, net of tax	(13,896)	2,960	(3,955)
Benefit plan amendment, net of tax of \$0.7 million	—	38,510	—
Adoption of ASU 2018-02 (see Note 14—Income Taxes)	—	—	(16,191)
Marketable securities:			
Unrealized gains on investments, net of tax	567	—	—
Reclassification adjustment for realized gain on investments, net of tax	(235)	—	—
Reclassification adjustment for pension assets' gains, net of tax included in other income (expense), net	—	(351)	—
Other comprehensive income (loss)	(11,469)	44,344	(19,705)
Comprehensive loss	(186,283)	(551,346)	(930,915)
Comprehensive income attributable to noncontrolling interest	(3,914)	(3,915)	(2,385)
Comprehensive loss attributable to Intelsat S.A.	\$ (190,197)	\$ (555,261)	\$ (933,300)

See accompanying notes to consolidated financial statements.

INTELSAT S.A.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' DEFICIT  
(in thousands, except where otherwise noted)

	Common		Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Intelsat S.A. Shareholders' Deficit	Noncontrolling Interest
	Shares (in millions)	Amount					
Balance at December 31, 2016	118.0	\$ 1,180	\$ 2,156,911	\$ (5,715,931)	\$ (76,305)	\$ (3,634,145)	\$ 24,147
Net income (loss)	—	—	—	(178,728)	—	(178,728)	3,914
Dividends paid to noncontrolling interests	—	—	—	—	—	—	(8,755)
Share-based compensation	1.6	16	16,456	—	—	16,472	—
Postretirement/pension liability adjustment, net of tax of (\$3.1) million	—	—	—	—	(11,801)	(11,801)	—
Other comprehensive income, net of tax of \$0.2 million	—	—	—	—	332	332	—
Balance at December 31, 2017	119.6	\$ 1,196	\$ 2,173,367	\$ (5,894,659)	\$ (87,774)	\$ (3,807,870)	\$ 19,306
Net income (loss)	—	—	—	(599,605)	—	(599,605)	3,915
Dividends paid to noncontrolling interests	—	—	—	—	—	—	(8,825)
Share-based compensation	2.9	29	10,006	—	—	10,035	—
Equity offering and 2025 Convertible Notes offering	15.5	155	368,098	—	—	368,253	—
Postretirement/pension liability adjustment, net of tax of \$0.6 million	—	—	—	—	6,185	6,185	—
Benefit plan amendment, net of tax of \$0.7 million	—	—	—	—	38,510	38,510	—
Other comprehensive income, net of tax of (\$0.2) million	—	—	—	—	(351)	(351)	—
Adoption of ASU 2014-09	—	—	—	(281,741)	—	(281,741)	—
Adoption of ASU 2016-16	—	—	—	169,579	—	169,579	—
Balance at December 31, 2018	138.0	\$ 1,380	\$ 2,551,471	\$ (6,606,426)	\$ (43,430)	\$ (4,097,005)	\$ 14,396
Net income (loss)	—	—	—	(913,595)	—	(913,595)	2,385
Dividends paid to noncontrolling interests	—	—	—	—	—	—	(5,771)
Share-based compensation	3.1	31	14,225	—	—	14,256	—
Postretirement/pension liability adjustment	—	—	—	—	(3,514)	(3,514)	—
Adoption of ASU 2018-02 (see Note 14—Income Taxes)	—	—	—	16,191	(16,191)	—	—
Balance at December 31, 2019	141.1	\$ 1,411	\$ 2,565,696	\$ (7,503,830)	\$ (63,135)	\$ (4,999,858)	\$ 11,010

See accompanying notes to consolidated financial statements.

INTELSAT S.A.

CONSOLIDATED STATEMENTS OF CASH FLOWS  
(in thousands)

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
<b>Cash flows from operating activities:</b>			
Net loss	\$ (174,814)	\$ (595,690)	\$ (911,210)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	707,824	687,589	658,233
Provision for (benefit from) doubtful accounts	(4,094)	(836)	17,190
Foreign currency transaction (gain) loss	(876)	6,736	2,128
Loss on disposal of assets	45	46	402
Satellite impairment loss	—	—	381,565
Share-based compensation	15,995	6,824	13,189
Deferred income taxes	43,931	79,160	(27,707)
Amortization of discount, premium, issuance costs and related costs	48,696	48,495	41,943
Loss on early extinguishment of debt	4,109	199,658	—
Amortization of actuarial loss and prior service credits for retirement benefits	3,287	3,823	(3,572)
Unrealized (gains) losses on derivative financial instruments	275	(15,093)	27,018
Unrealized net losses on investments and loans held-for-investment	—	408	39,695
Sales-type lease	—	—	7,064
Other non-cash items	(287)	1,178	(205)
Changes in operating assets and liabilities:			
Receivables	(14,333)	(63,814)	(1,307)
Prepaid expenses, contract and other assets	(24,760)	3,708	15,664
Accounts payable and accrued liabilities	(42,337)	7,291	10,908
Accrued interest payable	58,367	21,442	24,008
Deferred revenue and contract liabilities	(134,577)	(39,763)	(18,368)
Accrued retirement benefits	(13,422)	(15,902)	(8,224)
Other long-term liabilities	(8,783)	8,913	(12,875)
Net cash provided by operating activities	464,246	344,173	255,539
<b>Cash flows from investing activities:</b>			
Payments for satellites and other property and equipment (including capitalized interest)	(461,627)	(255,696)	(229,818)
Purchase of investments and origination of loans held-for-investment	(25,744)	(19,000)	(70,751)
Capital contributions to unconsolidated affiliate (including capitalized interest)	(30,714)	(48,097)	(5,289)
Proceeds from insurance settlements	49,788	20,409	—
Other proceeds from satellites	—	18,750	13,125
Net cash used in investing activities	(468,297)	(283,634)	(292,733)
<b>Cash flows from financing activities:</b>			
Proceeds from issuance of long-term debt	1,500,000	4,585,875	400,000
Repayments of long-term debt	(1,500,000)	(4,782,451)	—
Debt issuance costs	(41,237)	(49,436)	(4,650)
Debt modification fees	—	(3,954)	—
Proceeds from stock issuance, net of issuance costs	—	224,250	—
Payment of premium on early extinguishment of debt	—	(33,890)	—
Payments on tender, debt exchange and consent	(14)	—	—
Other payments for satellites	(35,396)	—	—
Principal payments on deferred satellite performance incentives	(37,186)	(25,488)	(28,034)
Dividends paid to noncontrolling interest	(8,755)	(8,825)	(5,771)
Proceeds from exercise of employee stock options	476	3,211	1,067
Other financing activities	414	385	298
Net cash provided by (used in) financing activities	(121,698)	(90,323)	362,910
Effect of exchange rate changes on cash, cash equivalents and restricted cash	1,116	(4,450)	(2,009)
Net change in cash, cash equivalents and restricted cash	(124,633)	(34,234)	323,707
Cash, cash equivalents, and restricted cash, beginning of period	666,024	541,391	507,157
Cash, cash equivalents, and restricted cash, end of period	\$ 541,391	\$ 507,157	\$ 830,864

<b>Supplemental cash flow information:</b>						
Interest paid, net of amounts capitalized	\$	915,627	\$	1,052,885	\$	1,099,874
Income taxes paid, net of refunds		33,731		57,085		33,584
<b>Supplemental disclosure of non-cash investing activities:</b>						
Accrued capital expenditures	\$	38,450	\$	28,203	\$	8,123
Capitalization of deferred satellite performance incentives		44,445		28,161		29,382

See accompanying notes to consolidated financial statements.

## INTELSAT S.A.

### NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

#### Note 1 Background and Summary of Significant Accounting Policies

Intelsat S.A. and its subsidiaries (“Intelsat S.A.,” “we,” “us,” “our” or the “Company”) provides satellite communications services worldwide through a global communications network of 53 satellites and ground facilities related to the satellite operations and control, and teleport services.

##### *(a) Principles of Consolidation*

The accompanying consolidated financial statements include the accounts of Intelsat S.A., its wholly-owned subsidiaries, and variable interest entities (“VIE”) of which we are the primary beneficiary, and are prepared in conformity with accounting principles generally accepted in the United States of America (“U.S. GAAP”). References to U.S. GAAP issued by the Financial Accounting Standards Board (“FASB”) in these footnotes are to the FASB Accounting Standards Codification (“ASC”). We are the primary beneficiary of one VIE, as more fully described in Note 9—Investments, and accordingly, we include in our consolidated financial statements the assets and liabilities and results of operations of the entity, even though we may not own a majority voting interest. We use the equity method to account for our investments in entities where we exercise significant influence over operating and financial policies but do not retain control under either the voting interest model (generally 20% to 50% ownership interest) or the variable interest model. In 2015, we entered into a joint venture agreement as further described in Note 9—Investments, and the investment is accounted for using the equity method. We have eliminated all significant intercompany accounts and transactions.

##### *(b) Use of Estimates*

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities as of the date of the financial statements, the reported amounts of revenues and expenses during the reporting periods, and the disclosures of contingent liabilities. Accordingly, ultimate results could differ from those estimates.

##### *(c) Revenue Recognition*

We earn revenue primarily by providing services over satellite transponder capacity to our customers. Our customers generally obtain satellite services from us by placing an order pursuant to one of several master customer service agreements and related service orders. See Note 3—Revenue for further discussion regarding revenue recognition policies.

We adopted ASC 606, *Revenue from Contracts with Customers* (“ASC 606”), effective January 1, 2018, using the modified retrospective method. We recognized the cumulative effect of initially applying the new standard as an adjustment to the opening balance of accumulated deficit. The comparative information as of and for the year ended December 31, 2017 has not been restated and continues to be reported under the accounting standards in effect for that year.

##### *(d) Fair Value Measurements*

We estimate the fair value of our financial instruments using available market information and valuation methodologies. The carrying amounts of cash and cash equivalents, receivables, accounts payable and accrued liabilities approximate their fair values because of the short maturity of these financial instruments.

ASC 820, *Fair Value Measurements and Disclosure* (“ASC 820”) defines fair value as the price that would be received in the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. ASC 820 requires disclosure of the extent to which fair value is used to measure financial assets and liabilities, the inputs utilized in calculating valuation measurements, and the effect of the measurement of significant unobservable inputs on earnings, or changes in net assets, as of the measurement date. ASC 820 establishes a three-level valuation hierarchy based upon the transparency of inputs utilized in the measurement and valuation of financial assets or liabilities as of the measurement date. We apply fair value accounting for all financial assets and liabilities and non-financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis.

The fair value hierarchy prioritizes the inputs used in valuation techniques into three levels as follows:

- Level 1—unadjusted quoted prices for identical assets or liabilities in active markets;



- Level 2—quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, and inputs other than quoted market prices that are observable or that can be corroborated by observable market data by correlation; and
- Level 3—unobservable inputs based upon the reporting entity's internally developed assumptions which market participants would use in pricing the asset or liability.

**(e) Cash and Cash Equivalents and Restricted Cash**

Cash and cash equivalents consist of cash on hand and highly liquid investments with original maturities of three months or less, which are generally time deposits with banks and money market funds. The carrying amount of these investments approximates fair value. Restricted cash represents legally restricted amounts being held as a compensating balance for certain outstanding letters of credit.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within our consolidated balance sheets to the total sum of these amounts reported in our consolidated statements of cash flows (in thousands):

	As of December 31, 2018	As of December 31, 2019
Cash and cash equivalents	\$ 485,120	\$ 810,626
Restricted cash	22,037	20,238
Cash, cash equivalents and restricted cash	<u>\$ 507,157</u>	<u>\$ 830,864</u>

**(f) Receivables and Allowances for Doubtful Accounts**

We provide satellite services and extend credit to numerous customers in the satellite communication, telecommunications and video markets. We monitor our exposure to credit losses and maintain allowances for doubtful accounts and anticipated losses. We believe we have adequate customer collateral and reserves to cover our exposure.

**(g) Satellites and Other Property and Equipment**

Satellites and other property and equipment are stated at historical cost, except for satellites that have been impaired. Satellites and other property and equipment acquired as part of an acquisition are stated based on their fair value at the date of acquisition. Capitalized costs consist primarily of the costs of satellite construction and launch, including launch insurance and insurance during the period of in-orbit testing, the net present value of performance incentives expected to be payable to the satellite manufacturers (dependent on the continued satisfactory performance of the satellites), costs directly associated with the monitoring and support of satellite construction, and interest costs incurred during the period of satellite construction.

We depreciate satellites and other property and equipment on a straight-line basis over the following estimated useful lives:

	Years
Buildings and improvements	10 - 40
Satellites and related costs	10 - 17
Ground segment equipment and software	4 - 15
Furniture and fixtures and computer hardware	4 - 12
Leasehold improvements <sup>(1)</sup>	2 - 12

<sup>(1)</sup> Leasehold improvements are depreciated over the shorter of the useful life of the improvement or the remaining lease term.

**(h) Other Assets**

Other assets primarily consist of investments in certain equity securities, equity method investments, loan receivables, right-of-use ("ROU") assets, long-term deposits and other miscellaneous deferred charges and long-term assets. See Note 9—Investments for additional discussion regarding equity securities, equity method investments and loan receivable accounting

policies. See Note 13—Leases and Recently Adopted Accounting Pronouncements for additional discussion regarding ROU asset accounting policies.

**(i) Goodwill and Other Intangible Assets**

We account for goodwill and other intangible assets in accordance with ASC 350, *Intangibles—Goodwill and Other* (“ASC 350”). Goodwill represents the excess of the consideration transferred plus the fair value of any noncontrolling interest in the acquiree at the acquisition date over the fair values of identifiable net assets of businesses acquired. Goodwill and certain other intangible assets deemed to have indefinite lives are not amortized but are tested on an annual basis for impairment during the fourth quarter, or whenever events or changes in circumstances indicate that the carrying amount may not be fully recoverable. See Note 10—Goodwill and Other Intangible Assets.

Intangible assets arising from business combinations are initially recorded at fair value. We record other intangible assets at cost. We amortize intangible assets with determinable lives (consisting of backlog and customer relationships) based on the expected pattern of consumption. We review these intangible assets for impairment whenever facts and circumstances indicate that the carrying amounts may not be recoverable. See Note 10—Goodwill and Other Intangible Assets.

**(j) Impairment of Long-Lived Assets**

We review long-lived assets, including property and equipment and acquired intangible assets with estimable useful lives, for impairment whenever events or changes in circumstances indicate that the carrying amount of such an asset may not be recoverable. These indicators of impairment can include, but are not limited to, the following:

- satellite anomalies, such as a partial or full loss of power;
- under-performance of an asset compared to expectations; and
- shortened useful lives due to changes in the way an asset is used or expected to be used.

The recoverability of an asset to be held and used is determined by comparing the carrying amount to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of the asset exceeds its estimated undiscounted future cash flows, we record an impairment charge in the amount by which the carrying amount of the asset exceeds its fair value, which we determine by either a quoted market price, if any, or a value determined by utilizing discounted cash flow techniques.

**(k) Income Taxes**

We account for income taxes in accordance with ASC 740, *Income Taxes*. We are subject to income taxes in Luxembourg, as well as the United States and a number of other foreign jurisdictions. Significant judgment is required in the calculation of our tax provision and the resulting tax liabilities and in the recoverability of our deferred tax assets that arise from temporary differences between the tax and financial statement recognition of revenue and expense and net operating loss and credit carryforwards.

We regularly assess the likelihood that our deferred tax assets can be recovered. A valuation allowance is required when it is more likely than not that all or a portion of the deferred tax asset will not be realized. We evaluate the recoverability of our deferred tax assets based in part on the existence of deferred tax liabilities that can be used to realize the deferred tax assets.

During the ordinary course of business, there are transactions and calculations for which the ultimate tax determination is uncertain. We evaluate our tax positions to determine if it is more likely than not that a tax position is sustainable, based solely on its technical merits and presuming the taxing authorities have full knowledge of the position and access to all relevant facts and information. When a tax position does not meet the more likely than not standard, we record a liability or contra asset for the entire amount of the unrecognized tax impact. Additionally, for those tax positions that are determined more likely than not to be sustainable, we measure the tax position at the largest amount of benefit more likely than not (determined by cumulative probability) to be realized upon settlement with the taxing authority.

**(l) Foreign Currency Translation**

Our functional currency is the U.S. dollar, since substantially all customer contracts, capital expenditure contracts and operating expense obligations are denominated in U.S. dollars. Transactions not denominated in U.S. dollars have been translated using the spot rates of exchange at the dates of the transactions. We recognize differences on exchange arising on the settlement of the transactions denominated in currencies other than the U.S. dollar in the consolidated statement of operations.

### **(m) Comprehensive Loss**

Comprehensive loss consists of net loss and other gains and losses affecting shareholders' deficit that, under U.S. GAAP, are excluded from net loss. Such items consist primarily of the change in the market value of pension liability adjustments.

### **(n) Share-Based Compensation**

We account for share-based compensation expense in accordance with ASC 718, *Compensation—Stock Compensation*, which requires us to measure and recognize compensation expense in our financial statements based on the fair value at the date of grant for our share-based awards, which include restricted share units ("RSUs") and stock options granted to certain employees and RSUs granted to certain eligible directors. We recognize compensation expense for these equity-classified awards over their requisite service period and adjust for forfeitures as they occur. See Note 5—Share-Based and Other Compensation Plans for a further discussion of the accounting for our share-based compensation plans.

### **(o) Deferred Satellite Performance Incentives**

The cost of satellite construction may include an element of deferred consideration that we are obligated to pay to satellite manufacturers over the lives of the satellites, provided the satellites continue to operate in accordance with contractual specifications. Historically, the satellite manufacturers have earned substantially all of these payments. Therefore, we account for these payments as deferred financing. We capitalize the present value of these payments as part of the cost of the satellites and record a corresponding liability to the satellite manufacturers. Interest expense is recognized on the deferred financing and the liability is reduced as the payments are made.

### **(p) Derivative Instruments**

We enter into derivative transactions primarily to manage our exposure to fluctuations in foreign exchange rates and interest rates. We employ risk management strategies, which may include the use of foreign currency swaps, interest rate swaps and interest rate caps. We measure all derivatives at fair value and recognize them as either assets or liabilities on our consolidated balance sheets. Changes in the fair value of derivative instruments not qualifying as hedges are recognized in earnings in the current period.

### **(q) Recently Adopted Accounting Pronouncements**

In February 2016, the FASB issued Accounting Standards Update ("ASU") 2016-02, *Leases (Topic 842)* ("ASC 842"), which supersedes the lease accounting requirements in ASC 840, *Leases* ("ASC 840"). The guidance in ASC 842 increases transparency and comparability by recognizing substantially all leases on the balance sheet and disclosing key information about leasing arrangements. Under the new standard, a lessee recognizes on its balance sheet a ROU asset and a lease liability for leases. The FASB issued several amendments to the standard, clarifying aspects of the guidance for both lessees and lessors and providing an alternative transition method (the "effective date method").

In March 2019, the FASB issued ASU 2019-01, *Leases (Topic 842)—Codification Improvements*, to increase stakeholders' awareness of the amendments the FASB made related to ASC 842 and to expedite these improvements. The amendments clarify the FASB's original intent regarding transition disclosures related to ASC 250, *Accounting Changes and Error Corrections*, by explicitly providing an exception to the paragraph 250-10-50-3 interim disclosure requirements in the ASC 842 transition disclosure requirements. The amendments should be applied as of the date ASC 842 is first applied, using the same transition methodology elected. We adopted ASU 2019-01 on January 1, 2019 along with the adoption of ASC 842.

We describe below our accounting policy changes related to leases as a result of adopting ASC 842. Our accounting policies and reported amounts with respect to the year ended December 31, 2018 and prior were not affected by the adoption of ASC 842 and continue to be in accordance with ASC 840.

We adopted ASC 842 effective January 1, 2019 using the effective date method and applied the package of practical expedients included therein. Under the package of practical expedients, we did not reassess (a) whether expired or existing contracts contain a lease under the new definition of a lease, (b) lease classification for expired or existing leases, and (c) whether previously capitalized initial direct costs would qualify for capitalization under ASC 842. We also applied the practical expedients for lessees and lessors to exempt short-term leases and to combine lease and non-lease components of a contract.

We determine if a contract is or contains a lease at inception or modification of a contract. A contract is or contains a lease if the contract conveys the right to control the use of an identified asset for a period in exchange for consideration. Control over

the use of the identified asset means the lessee has both (a) the right to obtain substantially all of the economic benefits from the use of the asset and (b) the right to direct the use of the asset.

Operating and finance lease ROU assets and lease liabilities are recognized based on the present value of future minimum lease payments over the expected lease term, at the commencement date. For leases in which the implicit rate is not readily determinable, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of future payments. The expected lease terms include options to extend or terminate the lease when it is reasonably certain the Company will exercise such option. ROU assets include unpaid lease payments and exclude lease incentives and initial direct costs incurred. For our operating leases, we recognize lease expense for minimum lease payments on a straight-line basis over the lease term, and for our finance leases, we recognize interest expense on the lease liability using the effective interest method and amortization of the ROU assets on a straight-line basis over the lease term.

We have lease agreements with lease and non-lease components, which are generally combined, consistent with our election of the practical expedient. For lease agreements entered into or reassessed after the adoption of ASC 842 in which the Company is the lessee, the Company accounts for the lease components (e.g. fixed payments including rent, real estate taxes and insurance costs) and non-lease components (e.g. common-area maintenance costs and managed service contracts) as a single lease component for all classes of underlying assets. Leases in which the Company is the lessor are also evaluated for lease and non-lease components. In the event a sales-type lease is identified, this component is accounted for separately from lease and non-lease components that meet the practical expedient to be combined. Judgment is required in determining the allocation between lease components and also between the lease and non-lease components, as the non-lease components are the predominant components of the combined components. ASC 606 is applied to the combined lease and non-lease components. Leases with an expected term of 12 months or less are not accounted for on the balance sheet and the related lease expense is recognized on a straight-line basis over the expected lease term.

The adoption of ASC 842 and related amendments resulted in the recording of ROU assets, current lease liabilities and long-term lease liabilities of approximately \$88.7 million, \$11.4 million and \$103.0 million, respectively, as of January 1, 2019, which are included in other assets, other current liabilities and other long-term liabilities, respectively, on our consolidated balance sheets. The difference between the additional ROU assets and lease liabilities, net of the deferred tax impact, was related to unamortized lease incentives received and accrued lease payments outstanding as of January 1, 2019. Adoption of the standard did not have a material impact on our consolidated statements of operations or statements of cash flows.

Refer to Note 13—Leases, for the required disclosures related to leases.

We adopted ASU 2018-02, *Income Statement—Reporting Comprehensive Income (Topic 220)—Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, in the first quarter of 2019. See Note 14—Income Taxes.

#### **(r) Recently Issued Accounting Pronouncements**

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which changes how companies measure and recognize credit impairment for any financial assets. The standard requires companies to immediately recognize an estimate of credit losses expected to occur over the remaining life of the financial assets that are within the scope of the standard. The scope of Subtopic 326-20, *Financial Instruments—Credit Losses—Measured at Amortized Cost*, includes financial assets measured at amortized cost basis, including net investments in leases arising from sales-type and direct financing leases. The scope does not specifically address receivables arising from operating leases. In November 2018, the FASB issued ASU 2018-19, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses* to clarify that receivables arising from operating leases are not within the scope of Subtopic 326-20. Instead, impairment of receivables arising from operating leases should be accounted for in accordance with ASC 842. In April 2019, the FASB issued ASU 2019-04, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments* to clarify certain aspects of the accounting for credit losses, hedging activities and financial instruments. In May 2019, the FASB issued ASU 2019-05, *Financial Instruments—Credit Losses (Topic 326)—Targeted Transition Relief*, which allows companies to irrevocably elect, upon adoption of ASU 2016-13, the fair value option for existing financial assets on an instrument-by-instrument basis that (1) were previously recorded at amortized cost, (2) are within the scope of the credit losses guidance in Subtopic 326-20, (3) are eligible for the fair value option under ASC 825, *Financial Instruments* and (4) are not held-to-maturity debt securities. In November 2019, the FASB issued ASU 2019-10, *Financial Instruments—Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842): Effective Dates*, which clarifies the effective dates of adoption for various entities. In November 2019, the FASB issued ASU 2019-11, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses*, which addresses specific issues related to expected recoveries, troubled debt restructurings, accrued interest receivables and financial assets secured by collateral. In February 2020, the FASB issued ASU 2020-02,

*Financial Instruments—Credit Losses (Topic 326) and Leases (Topic 842)—Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 119 and Update to SEC Section on Effective Date Related to Accounting Standards Update No. 2016-02, Leases (Topic 842)*, which amends the language in Subtopic 326-20 and addresses questions primarily regarding documentation and company policies. ASU 2016-13 and its amendments will be effective for the Company for interim and annual periods in fiscal years beginning after December 15, 2019, on a modified retrospective basis. The adoption of ASU 2016-13 and its amendments is not expected to have a significant impact on our consolidated financial statements and associated disclosures.

In January 2017, the FASB issued ASU 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*, which is intended to simplify the subsequent measurement of goodwill. The amendments in ASU 2017-04 modify the concept of impairment from the condition that exists when the carrying amount of goodwill exceeds its fair value to the condition that exists when the carrying amount of a reporting unit exceeds its fair value. An entity will no longer determine goodwill impairment by calculating the implied fair value of goodwill by assigning the fair value of a reporting unit to all of its assets and liabilities, as if that reporting unit had been acquired in a business combination. ASU 2017-04 will be effective for the Company for interim and annual periods in fiscal years beginning after December 15, 2019, on a prospective basis. When adopted, we will measure impairment using the difference between the carrying amount and the fair value of the reporting unit, if required.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820)—Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*, as part of its disclosure framework project to improve the effectiveness of disclosures in the notes to financial statements. ASU 2018-13 modifies disclosure requirements on fair value measurements in ASC 820, *Fair Value Measurement*, and will be effective for the Company for interim and annual periods in fiscal years beginning after December 15, 2019. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty should be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments should be applied retrospectively to all periods presented upon their effective date. Early adoption is allowed for any removed or modified disclosures upon issuance of ASU 2018-13 and delayed adoption for the additional disclosures until their effective date.

In August 2018, the FASB issued ASU 2018-14, *Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20)—Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans*, as part of its disclosure framework project to improve the effectiveness of disclosures in the notes to financial statements. ASU 2018-14 modifies and clarifies disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. The amendments remove certain disclosure requirements and require additional disclosures including the weighted-average interest crediting rates for cash balance plans and other plans with promised interest crediting rates, an explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period, the projected benefit obligation ("PBO") and fair value of plan assets for plans with PBOs in excess of plan assets, and the accumulated benefit obligation ("ABO") and fair value of plan assets for plans with ABOs in excess of plan assets. ASU 2018-14 will be effective for the Company for annual periods in fiscal years ending after December 15, 2020, on a retrospective basis to all periods presented, with early adoption allowed. We are in the process of evaluating the impact that ASU 2018-14 will have on our consolidated financial statements and associated disclosures.

In August 2018, the FASB issued ASU 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*, to improve current U.S. GAAP by clarifying the accounting for implementation costs of a hosting arrangement that is a service contract. The amendments align the requirements for capitalizing implementation costs incurred in a cloud computing arrangement (hosting arrangement) that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The amendments require costs for implementation activities in the application development stage to be capitalized depending on the nature of the costs, and costs incurred during the preliminary project and post-implementation stages to be expensed as the activities are performed. ASU 2018-15 also requires the entity (customer) to expense capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement, and the entity (customer) to present the expense related to the capitalized implementation costs in the same line item in the statement of income as the fees associated with the hosting element (service) of the arrangement, as well as to classify payments for capitalized implementation costs in the statement of cash flows in the same manner as payments made for fees associated with the hosting element. ASU 2018-15 will be effective for the Company for interim and annual periods in fiscal years beginning after December 15, 2019. ASU 2018-15 can be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption, with early adoption allowed. The adoption of ASU 2018-15 is not expected to have a significant impact on our consolidated financial statements and associated disclosures.

In November 2018, the FASB issued ASU 2018-18, *Collaborative Arrangements (Topic 808)—Clarifying the Interaction between Topic 808 and Topic 606*, to clarify the interaction between ASC 808, *Collaborative Arrangements* ("ASC 808") and ASC 606. ASU 2018-18 will be effective for the Company for interim and annual periods in fiscal years beginning after December 15, 2019, with early adoption allowed. ASU 2018-18 can be applied retrospectively to the date of initial application of ASC 606, with cumulative effect of initially applying the amendments in this update adjusted to the opening balance of retained earnings of the later of the earliest annual period presented and the annual period that includes the date of the entity's initial application of ASC 606. The amendments in ASU 2018-18 can be applied to all contracts or only to contracts that are not completed at the date of initial application of ASC 606. The adoption of ASU 2018-18 is not expected to have a significant impact on our consolidated financial statements and associated disclosures.

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740)—Simplifying the Accounting for Income Taxes*, which is intended to simplify the accounting for income taxes by removing certain exceptions to the general principles in ASC 740. The amendments also improve consistent application of and simplify U.S. GAAP for other areas of ASC 740 by clarifying and amending existing guidance. ASU 2019-12 will be effective for the Company for interim and annual periods in fiscal years beginning after December 15, 2020, with early adoption allowed. We are in the process of evaluating the impact that ASU 2019-12 will have on our consolidated financial statements and associated disclosures.

In January 2020, the FASB issued ASU 2020-01, *Investments—Equity Securities (Topic 321), Investments—Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815): Clarifying the Interactions between Topic 321, Topic 323, and Topic 815*, which could change how an entity accounts for an equity security under the measurement alternative or a forward contract or purchased option to purchase securities that, upon settlement of the forward contract or exercise of the purchased option, would be accounted for under the equity method of accounting or the fair value option in accordance with ASC 825, *Financial Instruments*. These amendments improve current U.S. GAAP by reducing diversity in practice and increasing comparability of the accounting for these interactions. ASU 2020-01 will be effective for the Company for interim and annual periods in fiscal years beginning after December 15, 2020, with early adoption allowed. We are in the process of evaluating the impact that ASU 2020-01 will have on our consolidated financial statements and associated disclosures.

## **Note 2 Share Capital**

Under our Articles of Incorporation, we have an authorized share capital of \$10.0 million, represented by 1.0 billion shares of any class with a nominal value of \$0.01 per share. At December 31, 2019, there were 141.1 million common shares issued and outstanding.

## **Note 3 Revenue**

### **(a) Revenue Recognition**

We earn revenue primarily by providing services to our customers using our satellite transponder capacity. Our customers generally obtain satellite capacity from us by placing an order pursuant to one of several master customer service agreements. On-network services are comprised primarily of services delivered on our owned network infrastructure, as well as commitments for third-party capacity, generally long-term in nature, that we integrate and market as part of our owned infrastructure. In the case of third-party services in support of government applications, the commitments for third-party capacity are shorter and matched to the government contracting period, and thus remain classified as off-network services. Off-network services can include transponder services and other satellite-based transmission services, such as mobile satellite services ("MSS"), which are sourced from other operators, often in frequencies not available on our network. Under the category Off-Network and Other Revenues, we also include revenues from consulting and other services.

For each service type, the price per unit in our contracts is generally fixed for each defined time period. While the number of units or price per unit in our multi-year contracts may be different by year or another time period, the number of units and price per unit are fixed for each defined time period and the total contract price is fixed. To determine the proper revenue recognition method for contracts, we evaluate whether two or more services should be combined and accounted for as a single performance obligation. Our specific revenue recognition policies are as follows:

*Satellite Utilization Charges.* The Company's contracts for satellite utilization services often contain multiple service orders for the provision of capacity on or over different beams, satellites, frequencies, geographies or time periods. Under each separate service order, the Company's satellite services, comprised of transponder services, managed services, channel services, and occasional use managed services, are delivered in a series of time periods that are distinct from each other and have the same pattern of transfer to the customer. In each period, the Company's obligation is to make those services available to the

customer. Throughout each service period, the Company provides services that are able to be used continuously, and the customer simultaneously receives and consumes the benefits provided by the Company. We believe that, given that our services are stand-ready obligations that are available continuously, the passage of time most faithfully reflects our satisfaction of the performance obligation. We also have certain obligations, including providing spare or substitute capacity if available, in the event of satellite service failure under certain long-term agreements. While we are generally not obligated to refund satellite utilization payments previously made, credits may be granted for sustained service outages in certain limited circumstances.

Similar to satellite utilization charges, we have determined that the customer simultaneously receives and consumes benefits provided by the Company for satellite related consulting and technical services, tracking, telemetry and commanding services (“TT&C”) and in-orbit backup services, as detailed below. Therefore, we believe that the passage of time most faithfully reflects our satisfaction of the performance obligation for these services:

*Satellite-Related Consulting and Technical Services.* We recognize revenue from the provision of consulting services as those services are performed. We recognize revenue for consulting services with specific performance obligations, such as transfer orbit support services or training programs over the service period.

*TT&C.* We earn TT&C services revenue from providing operational services to other satellite owners and from certain customers on our satellites. TT&C agreements entered into in connection with our satellite utilization contracts are typically for the period of the related service agreement. We recognize this revenue over the term of the service agreement.

*In-Orbit Backup Services.* We provide back-up transponder capacity that is held on reserve for certain customers on agreed-upon terms. We recognize revenues for in-orbit protection services over the term of the related agreement.

*Revenue Share Arrangements.* We recognize revenues under revenue share agreements for satellite-related services either on a gross or net basis in accordance with principal versus agent considerations.

We occasionally sell products or services individually or in some combination to our customers. When products or services are sold together, we allocate revenue for each performance obligation based on each obligation’s relative selling price. In these arrangements, revenue for products is recognized when the transfer of control passes to the customer, while service revenue is recognized over the service term.

#### *Contract Assets*

Contract assets include unbilled amounts typically resulting from sales under our long-term contracts when the total contract value is recognized on a straight-line basis and the revenue recognized exceeds the amount billed to the customer.

#### *Contract Liabilities*

Contract liabilities consist of advance payments and collections in excess of revenue recognized and deferred revenue. Our contracts at times contain prepayment terms that range from one month to one year in advance of providing the service. As a practical expedient, we do not need to adjust the promised amount of consideration for the effects of a significant financing component if we expect, at contract inception, that the period of time between when the Company transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less. For a small subset of contracts with advance payments that contain prepayment terms greater than one year and up to fifteen years, we assess whether a significant financing component exists by considering the difference between the amount of promised consideration and the cash selling price of the promised services. The prepayment amount is generally based on a standard methodology that discounts the total of the standard monthly charges over the service term to determine the prepayment amount, resulting in a difference between the amount of promised consideration and the cash selling price of the promised services. The Company considers the timing difference between payment and the promised transfer of services, combined with the Company’s incremental borrowing rates, to determine whether a significant financing component exists. When a significant financing component exists, the amount of revenue recognized exceeds the amount of cash received from the customer. After receiving cash from the customer but prior to the Company providing services, the Company records additional contract liabilities as well as offsetting interest expense to reflect the upfront financing the Company is effectively receiving from the customer. Once the Company begins providing services, additional interest expense is recorded each period using the effective interest method, as well as corresponding additional revenue, which is recognized ratably over the service period.

For the years ended December 31, 2018 and 2019, we recognized revenue of \$247.0 million and \$249.5 million, respectively, that were included in the contract liability balances as of January 1, 2018 and 2019, respectively. In addition, the total amount of consideration included in contract assets as of January 1, 2018 and 2019 that became unconditional for the years ended December 31, 2018 and 2019 was \$11.0 million and \$9.1 million, respectively.

### *Assets Recognized from the Costs to Obtain a Customer Contract*

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the benefit of those costs to be longer than one year. We have determined that our sales incentive program meets the requirements to be capitalized due to the incremental nature of the costs and the expectation that the Company will recover such costs. The assets recognized from the costs to obtain a customer contract are amortized over a period that is consistent with the transfer to the customer of the services to which the asset relates. We capitalized \$6.6 million and \$7.9 million for our sales incentive program and amortized \$6.5 million and \$5.9 million for the years ended December 31, 2018 and 2019, respectively. As of December 31, 2018 and 2019, capitalized costs relating to our sales incentive program amounted to \$7.4 million and \$9.4 million, respectively, and were included within other assets in our consolidated balance sheets.

### *Contract Modifications*

Contracts are often modified to account for changes in contract specifications or requirements. We consider contract modifications to exist when the modification either creates new rights or obligations or changes the existing enforceable rights and obligations of either party. Most of our contract modifications are for goods and services that are distinct from the existing contract, as they consist of additional months of service priced at the Company's standalone selling prices of the additional services and are therefore treated as separate contracts. For contract modifications that do not result in additional distinct goods or services, the effect of a contract modification on the transaction price and our measure of progress for the performance obligation to which it relates, is recognized as an adjustment to revenue.

### *Significant Judgments*

We occasionally enter into certain contracts in which the customer makes payments in advance of services to be delivered, which may be years in the future. The reasons for the prepayments in these contracts vary, but generally can be either for the customer's benefit or for the Company's benefit (such as the ability to use the cash received from the customer to pay for the construction of a satellite asset). The determination of whether contracts with a prepayment provision contain a significant financing component requires judgment. The Company makes this determination based on various factors, including the differences between the amount of promised consideration and cash selling prices, the length of time between payment and the transfer of services and prevailing interest rates in the market.

While most satellite utilization contracts contain multiple performance obligations for each transponder service on different satellites, the service period for the different satellite utilization performance obligations is generally the same time period. In the event that the time period for multiple performance obligations is not the same, we allocate the total transaction price to each performance obligation in an amount based on the estimated relative standalone selling price of the promised good or service underlying such performance obligation. Judgment is required to determine the standalone selling price for each distinct performance obligation. In order to estimate standalone selling prices, we use an adjusted market assessment approach which involves an evaluation of the market and an estimate of the price that our customers are willing to pay, or an expected cost plus a margin approach.

When more than one party is involved in providing goods or services to a customer, we generally recognize the transaction on a gross basis due to the level of control that we have prior to the transfer of the good or service. These arrangements include instances where we procure equipment from vendors and sell to third-party customers, when we enter into revenue sharing arrangements with other parties and when we purchase capacity for voice, data and video services provided by third-party commercial satellite operators for which the desired frequency type or geographic coverage is not available on our network. Our third-party capacity arrangements (off-network) are more significant and, in determining whether we are the principal or the agent in these arrangements, we consider whether or not we control the service before it is transferred to the customer. In this determination, we consider the definition of control as set forth in ASC 606-10-25-25. When we purchase satellite transponder capacity from a third party, we have the ability to direct the use of and obtain substantially all of the remaining benefits from the purchased capacity. We obtain the right to the service to be performed by the third party, which gives the Company the ability to direct that party to provide the service to the customer on the Company's behalf. No other third party can direct the use of or obtain any benefits from the capacity.

We also considered the factors in ASC 606-10-55-39 in the Company's determination of control. In the vast majority of cases, when we resell capacity to third party customers, we are primarily responsible for the fulfillment of the services and acceptability of the service. Additionally, the Company has full discretion in establishing the pricing for transponder services with the customer and assumes the credit risk associated with capacity purchased from the third party. In the event the service is not acceptable to the customer, we are required to identify an alternative solution. Based on these considerations, we have concluded that we are the principal in the transaction for these arrangements. When these factors are not met, the Company recognizes revenue for third-party capacity arrangements on a net basis.



Judgment is required in determining whether we are the principal or the agent in transactions involving third parties.

### *Remaining Performance Obligations*

Our remaining performance obligation is our expected future revenue under existing customer contracts and includes both cancelable and non-cancelable contracts. Our remaining performance obligation was approximately \$6.9 billion as of December 31, 2019, approximately 89% of which related to contracts that were non-cancelable and approximately 11% of which related to contracts that were cancelable subject to substantial termination fees. We assess the contract term of our cancelable contracts as the full stated term of the contract assuming each contract is not canceled since the termination penalty upon cancellation is substantive. As of December 31, 2019, the weighted average remaining customer contract life was approximately 4.2 years. Approximately 40%, 22%, and 38% of our total remaining performance obligation as of December 31, 2019 is expected to be recognized as revenue during 2020 and 2021, 2022 and 2023, and 2024 and thereafter, respectively. The amount included in the remaining performance obligation represents the full-service charge for the duration of the contract and does not include termination fees. The amount of the termination fees, which is not included in the remaining performance obligation amount, is generally calculated as a percentage of the remaining performance obligation associated with the contract. In certain cases of breach for non-payment or customer financial distress or bankruptcy, we may not be able to recover the full value of certain contracts or termination fees. Our remaining performance obligation includes 100% of the remaining performance obligation of our consolidated ownership interests, which is consistent with the accounting for our ownership interest in these entities.

### **(b) Business and Geographic Segment Information**

We operate in a single industry segment in which we provide satellite services to our communications customers around the world. Our revenues are disaggregated by billing region, service type and customer set. Revenue by region is based on the locations of customers to which services are billed. Our satellites are in geosynchronous orbit, and consequently are not attributable to any geographic location. Of our remaining assets, substantially all are located in the United States.

The following table disaggregates revenue by billing region (in thousands, except percentages):

	Year Ended December 31, 2017		Year Ended December 31, 2018		Year Ended December 31, 2019	
North America	\$ 1,080,736	50%	\$ 1,112,774	51%	\$ 1,078,100	52%
Europe	272,039	13%	257,747	12%	243,967	12%
Latin America and Caribbean	304,379	14%	284,948	13%	239,856	12%
Africa and Middle East	292,505	14%	274,853	13%	250,935	12%
Asia-Pacific	198,953	9%	230,868	11%	248,607	12%
Total	<u>\$ 2,148,612</u>		<u>\$ 2,161,190</u>		<u>\$ 2,061,465</u>	

The following table disaggregates revenue by type of service (in thousands, except percentages):

	Year Ended December 31, 2017		Year Ended December 31, 2018		Year Ended December 31, 2019	
<b>On-Network Revenues</b>						
Transponder services	\$ 1,543,384	72%	\$ 1,570,278	73%	\$ 1,468,791	71%
Managed services	412,147	19%	393,264	18%	374,026	18%
Channel	5,405	—%	4,250	—%	2,400	—%
Total on-network revenues	<u>1,960,936</u>	<u>91%</u>	<u>1,967,792</u>	<u>91%</u>	<u>1,845,217</u>	<u>89%</u>
<b>Off-Network and Other Revenues</b>						
Transponder, MSS and other off-network services	141,845	7%	150,186	7%	175,602	9%
Satellite-related services	45,831	2%	43,212	2%	40,646	2%
Total off-network and other revenues	<u>187,676</u>	<u>9%</u>	<u>193,398</u>	<u>9%</u>	<u>216,248</u>	<u>11%</u>
Total	<u>\$ 2,148,612</u>		<u>\$ 2,161,190</u>		<u>\$ 2,061,465</u>	

By customer application, our revenues from network services, media, government and satellite-related services were \$851.6 million, \$910.1 million, \$352.6 million and \$34.3 million, respectively, for the year ended December 31, 2017; \$798.1 million, \$937.7 million, \$392.0 million and \$33.4 million, respectively, for the year ended December 31, 2018; and \$770.4 million, \$883.0 million, \$378.3 million and \$29.8 million, respectively, for the year ended December 31, 2019.

Our largest customer accounted for approximately 9%, 11% and 14% of our revenue for the years ended December 31, 2017, 2018 and 2019, respectively. Our ten largest customers accounted for approximately 34%, 37% and 41% of our revenue for the years ended December 31, 2017, 2018 and 2019, respectively.

#### Note 4 Net Loss per Share

Basic net loss per common share attributable to Intelsat S.A. (“EPS”) is computed by dividing net loss attributable to Intelsat S.A.’s common shareholders by the weighted average number of common shares outstanding during the periods. Diluted EPS assumes the issuance of common shares pursuant to share-based compensation plans and conversion of the Intelsat S.A. 4.5% Convertible Senior Notes due 2025 (the “2025 Convertible Notes”), unless the effect of such issuances would be anti-dilutive.

The following table sets forth the computation of basic and diluted EPS:

	(in thousands, except per share data or where otherwise noted)		
	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
<b>Numerator:</b>			
Net loss attributable to Intelsat S.A.	\$ (178,728)	\$ (599,605)	\$ (913,595)
<b>Denominator:</b>			
Basic weighted average shares outstanding (in millions)	118.9	129.6	140.4
Diluted weighted average shares outstanding (in millions):	118.9	129.6	140.4
Basic EPS	\$ (1.50)	\$ (4.63)	\$ (6.51)
Diluted EPS	\$ (1.50)	\$ (4.63)	\$ (6.51)

In June 2018, Intelsat S.A. completed an offering of \$402.5 million aggregate principal amount of its 2025 Convertible Notes. We do not expect to settle the principal amount of the 2025 Convertible Notes in cash, and therefore use the if-converted method for calculating any potential dilutive effect of the conversion on diluted EPS, if applicable. The 2025 Convertible Notes are eligible for conversion depending upon the trading price of our common shares and under other conditions set forth in the indenture governing the 2025 Convertible Notes (the “2025 Indenture”) until December 15, 2024, and thereafter without regard to any conditions. See Note 11—Long-Term Debt for additional information on the conversion conditions.

Due to a net loss in the years ended December 31, 2017, 2018 and 2019, there were no dilutive securities, and therefore, basic and diluted EPS were the same. The weighted average number of shares that could potentially dilute basic EPS in the future was 3.5 million, 12.5 million and 26.0 million for the years ended December 31, 2017, 2018 and 2019, respectively.

#### Note 5 Share-Based and Other Compensation Plans

In April 2013, our board of directors adopted the amended and restated Intelsat Global, Ltd. 2008 Share Incentive Plan (as amended, the “2008 Equity Plan”). Also in April 2013, our board of directors adopted the Intelsat S.A. 2013 Equity Incentive Plan (the “2013 Equity Plan”). No new awards may be granted under the 2008 Equity Plan.

The 2013 Equity Plan provides for a variety of equity-based awards, including incentive stock options (within the meaning of Section 422 of the United States Internal Revenue Service Tax Code), restricted shares, RSUs, and other share-based awards and performance compensation awards. Effective June 16, 2016, we increased the aggregate number of common shares authorized for issuance under the 2013 Equity Plan to 20.0 million common shares. The total aggregate number of shares available for future grants under the 2013 Equity Plan was 5.9 million as of December 31, 2019.

For all share-based awards, we recognize the compensation costs over the vesting period that service is provided in exchange for the award. For the years ended December 31, 2017, 2018 and 2019, we recorded compensation expense of \$16.0 million, \$6.8 million and \$13.2 million, respectively. The income tax benefit related to share-based compensation expense was

\$0.4 million and \$14.4 million for the years ended December 31, 2018 and 2019, respectively. We did not recognize any income tax benefit related to share-based compensation expense for the year ended December 31, 2017.

### *Stock Options*

Stock options generally expire 10 years from the date of grant. In some cases, options have been granted which expire 15 years from the date of grant. The options vest monthly over service periods ranging from six months to five years. Stock option activity during 2019 was as follows:

	Number of stock options (in thousands)	Weighted average exercise price	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2019	1,109	\$ 3.71		
Granted	3	19.03		
Exercised	(309)	3.45		
Expired	(1)	19.50		
Outstanding and exercisable at December 31, 2019	802	3.86	4.2	\$ 2.6

The total intrinsic value of stock options exercised for the years ended December 31, 2017, 2018 and 2019 was \$0.2 million, \$7.9 million and \$5.2 million, respectively. As of December 31, 2019, there was no remaining unrecognized compensation cost related to unvested options.

For the years ended December 31, 2017, 2018 and 2019, we recorded compensation expense of \$1.4 million, \$0.2 million and \$0.1 million, respectively. For the years ended December 31, 2017, 2018 and 2019, we received cash of \$0.5 million, \$3.2 million and \$1.1 million, respectively, from the exercise of stock options.

### *Anti-Dilution Options*

In connection with our initial public offering of common shares in April 2013 (the “IPO”) and upon consummation of the IPO, options were granted to certain individuals in accordance with the existing terms of their side letters to a management shareholders agreement to which we were a party, which, when taken together with the common shares received in connection with the reclassification of our outstanding former Class B Shares at the time of our IPO, preserved their ownership interests represented by their outstanding former Class B Shares immediately prior to the reclassification.

These options generally expire 10 years from the date of the grant.

	Number of stock options (in thousands)	Weighted average exercise price	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2019	1,610	\$ 11.98		
Outstanding and exercisable at December 31, 2019	1,610	11.98	3.1	\$ 2.0

There were no anti-dilution options granted or exercised for the years ended December 31, 2017, 2018 and 2019. No compensation expense was recorded for anti-dilution options for the years ended December 31, 2017, 2018 and 2019.

### *Time-based RSUs*

Time based RSUs vest over periods from one to three years from the date of grant.

**Time-based RSU activity during 2019 was as follows:**

	Number of RSUs (in thousands)	Weighted average grant date fair value	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2019	2,602	\$ 5.93		
Granted	897	21.28		
Vested	(1,296)	5.59		
Forfeited	(147)	6.88		
Outstanding at December 31, 2019	<u>2,056</u>	12.77	0.8	\$ 14.5

The fair value of time-based RSUs is deemed to be the market price of common shares on the date of grant. The weighted average grant date fair value of time-based RSUs granted for the years ended December 31, 2017, 2018, and 2019 was \$4.36, \$7.99, and \$21.28, respectively. The total intrinsic value of time-based RSUs vested for the years ended December 31, 2017, 2018 and 2019 was \$6.0 million, \$9.2 million, and \$29.5 million, respectively. As of December 31, 2019, there was \$18.0 million of total unrecognized compensation cost related to unvested time-based RSUs, which is expected to be recognized over a weighted average period of 0.8 years.

For the years ended December 31, 2017, 2018, and 2019, we recorded compensation expense associated with these time-based RSUs of \$13.7 million, \$5.7 million, and \$10.8 million, respectively.

*Performance-based RSUs*

Performance-based RSUs vest after three years from the date of grant upon achievement of certain performance metrics. These grants are subject to vesting upon achievement of an adjusted EBITDA target or achievement of a relative shareholder return (“RSR”), which is based on the Company's relative shareholder return percentile ranking versus the S&P 900 Index as defined in the grant agreement.

**Performance-based RSU activity during 2019 was as follows:**

	Number of RSUs (in thousands)	Weighted average grant date fair value	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2019	2,624	\$ 2.69		
Granted	347	25.40		
Vested	(1,004)	0.56		
Forfeited	(169)	3.87		
Outstanding at December 31, 2019 <sup>(1)</sup>	<u>1,798</u>	7.94	1.0	\$ 12.6

(1) These amounts are based on the number of performance-based RSUs expected to vest at target levels. The actual number of shares issued upon vesting may vary from 0 to 200% depending on the achievement of the relevant performance and market conditions.

We measure the fair value of the portion of performance-based RSUs that vest based on the achievement of the adjusted EBITDA target at the date of grant using the market price of our common shares.

We measure the fair value of the portion of performance-based RSUs that vest based on the achievement of a RSR using a path-dependent model that incorporates expected RSR into the estimate. The model uses three-year historical volatilities and correlations for Intelsat and companies within the S&P 900 Index to simulate RSR as of the end of the performance period. For each simulation, Intelsat's RSR associated with the simulated share price at the end of the performance period results in a value per share for the award portfolio. The average of these simulations represents the estimated fair value of each RSU. For performance-based RSUs granted in 2019, the model used a risk-free interest rate of 2.5 percent, which reflects the yield on three-year U.S. Treasury bonds as of the grant date, and an expected volatility of 85 percent based on Intelsat's historical volatility over three years using daily share prices.

The weighted average grant date fair value of performance-based RSUs granted for the years ended December 31, 2017, 2018, and 2019 was \$2.79, \$4.53, and \$25.40, respectively. The total intrinsic value of performance-based RSUs vested for the year ended December 31, 2019 was \$35.2 million. No performance-based RSUs vested during the years ended December 31,

2017 and 2018. As of December 31, 2019, there was \$4.4 million of total unrecognized compensation cost related to unvested performance-based RSUs, which is expected to be recognized over a weighted average period of 1.0 year.

Achievement of the adjusted EBITDA target for awards granted in 2017, 2018, and 2019 is not currently considered probable. No compensation cost associated with these awards (based on the adjusted EBITDA condition) was recognized for the years ended December 31, 2017, 2018, and 2019. We recorded compensation expense associated with the RSR portion of performance-based RSUs of \$1.0 million, \$0.9 million, and \$2.4 million for the years ended December 31, 2017, 2018 and 2019, respectively.

## Note 6 Fair Value Measurements

### Recurring Fair Value Measurements

The tables below present assets measured and recorded at fair value in our consolidated balance sheets on a recurring basis and their corresponding level within the fair value hierarchy (in thousands). No transfers between Level 1, Level 2 and Level 3 fair value measurements occurred for the years ended December 31, 2018 and 2019.

Description	As of December 31, 2018	Fair Value Measurements at December 31, 2018		
		(Level 1)	(Level 2)	(Level 3)
<b>Assets</b>				
Marketable securities <sup>(1)</sup>	\$ 4,700	\$ 4,700	\$ —	\$ —
Undesignated interest rate cap contracts <sup>(2)</sup>	33,086	—	33,086	—
Preferred stock warrant <sup>(3)</sup>	4,100	—	—	4,100
<b>Total assets</b>	<b>\$ 41,886</b>	<b>\$ 4,700</b>	<b>\$ 33,086</b>	<b>\$ 4,100</b>

Description	As of December 31, 2019	Fair Value Measurements at December 31, 2019		
		(Level 1)	(Level 2)	(Level 3)
<b>Assets</b>				
Marketable securities <sup>(1)</sup>	\$ 5,145	\$ 5,145	\$ —	\$ —
Undesignated interest rate cap contracts <sup>(2)</sup>	372	—	372	—
Common stock warrant <sup>(3)</sup>	3,239	—	—	3,239
<b>Total assets</b>	<b>\$ 8,756</b>	<b>\$ 5,145</b>	<b>\$ 372</b>	<b>\$ 3,239</b>

- (1) The valuation measurement inputs of these marketable securities represent unadjusted quoted prices in active markets and, accordingly, we have classified such investments within Level 1 of the fair value hierarchy. The cost basis of our marketable securities was \$4.6 million and \$4.3 million as of December 31, 2018 and 2019, respectively. We sold marketable securities with a cost basis of \$0.7 million for each of the years ended December 31, 2018 and 2019, and recorded a nominal gain on the sale for the years ended December 31, 2018 and 2019, respectively, which is included within other income (expense), net in our consolidated statements of operations.
- (2) The valuation of our interest rate derivative instruments reflects the fair value of premiums paid, taking into account observable inputs including current interest rates, the market expectation for future interest rate volatility and current creditworthiness of the counterparties. As a result, we have determined that the valuation in its entirety is classified as Level 2 within the fair value hierarchy.
- (3) We valued the stock warrants using a valuation technique that reflects the risk-free interest rate, time to maturity and volatility of comparable companies. We identified the inputs used to calculate the fair value as Level 3 inputs and concluded that the valuation in its entirety is classified as Level 3 within the fair value hierarchy.

The following table presents a reconciliation of the preferred and common stock warrants which are measured and recorded at fair value on a recurring basis using Level 3 inputs (in thousands):

	Year Ended December 31, 2018	Year Ended December 31, 2019
Balance as of beginning of period	\$ 4,100	\$ 4,100
Purchase of investments	—	3,239
Unrealized loss included in other income (expense), net	—	(4,100)
Balance as of end of period	<u>\$ 4,100</u>	<u>\$ 3,239</u>

#### *Nonrecurring Fair Value Measurements*

The carrying values of certain assets may be adjusted to fair value in subsequent periods on a nonrecurring basis if an event occurs or circumstances change that indicate that the asset is impaired or, for investments in equity securities without readily determinable fair values, observable transactions for identical or similar investments of the same issuer support a change in the investment fair value. During the year ended December 31, 2019, we recorded net impairment charges on certain investments in equity securities without readily determinable fair values. See Note 9—Investments for additional information related to these fair value measurements.

#### *Other Fair Value Disclosures*

See Note 9—Investments and Note 11—Long-Term Debt for fair value disclosures related to our loan receivables and long-term debt, respectively. The carrying amounts of the Company's other financial instruments are reasonable estimates of their related fair values due to their short-term nature.

### **Note 7 Retirement Plans and Other Retiree Benefits**

#### ***(a) Pension and Other Postretirement Benefits***

We maintain a noncontributory defined benefit retirement plan covering substantially all of our employees hired prior to July 19, 2001. The cost of providing benefits to eligible participants under the defined benefit retirement plan is calculated using the plan's benefit formulas, which take into account the participants' remuneration, dates of hire, years of eligible service, and certain actuarial assumptions. In addition, as part of the overall medical plan, we provide postretirement medical benefits to certain current retirees who meet the criteria under the medical plan for postretirement benefit eligibility. In 2015, we amended the defined benefit retirement plan to end the accrual of additional benefits for the remaining active participants.

The defined benefit retirement plan is subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended. We expect that our future contributions to the defined benefit retirement plan will be based on the minimum funding requirements of the Internal Revenue Code and on the plan's funded status. Any significant decline in the fair value of our defined benefit retirement plan assets or other adverse changes to the significant assumptions used to determine the plan's funded status would negatively impact its funded status and could result in increased funding in future years. The impact on the funded status is determined based upon market conditions in effect when we completed our annual valuation. We anticipate that our contributions to the defined benefit retirement plan in 2020 will be approximately \$4.0 million. We fund the postretirement medical benefits throughout the year based on benefits paid. We anticipate that our contributions to fund postretirement medical benefits in 2020 will be approximately \$2.9 million.

Prior service credits and actuarial losses are reclassified from accumulated other comprehensive loss to net periodic pension benefit costs, which are included in other income (expense), net on our consolidated statements of operations. All amounts recorded in accumulated other comprehensive loss are being recognized as net periodic benefit cost or benefit over the average remaining life expectancy of plan participants.

*Reconciliation of Funded Status and Accumulated Benefit Obligation.* Intelsat uses December 31 as the measurement date for its defined benefit retirement plan. The following table summarizes the projected benefit obligations, plan assets and funded status of the defined benefit retirement plan, as well as the projected benefit obligations of the postretirement medical benefits provided under our medical plan (in thousands, except percentages):



	Year Ended December 31, 2018		Year Ended December 31, 2019	
	Pension Benefits	Other Post- retirement Benefits	Pension Benefits	Other Post- retirement Benefits
<b>Change in benefit obligation</b>				
Benefit obligation at beginning of year	\$ 447,222	\$ 82,587	\$ 394,082	\$ 40,526
Interest cost	14,428	2,314	15,390	1,532
Employee contributions	—	390	—	181
Plan amendments	—	(33,907)	—	—
Benefits paid	(30,741)	(3,600)	(24,875)	(1,787)
Actuarial net (gain) loss	(36,827)	(7,258)	38,939	(577)
Benefit obligation at end of year	<u>\$ 394,082</u>	<u>\$ 40,526</u>	<u>\$ 423,536</u>	<u>\$ 39,875</u>
<b>Change in plan assets</b>				
Plan assets at beginning of year	\$ 334,582	\$ —	\$ 297,631	\$ —
Employer contributions	5,115	3,210	4,232	1,606
Employee contributions	—	390	—	181
Actual return on plan assets	(11,325)	—	57,833	—
Benefits paid	(30,741)	(3,600)	(24,875)	(1,787)
Plan assets at fair value at end of year	<u>\$ 297,631</u>	<u>\$ —</u>	<u>\$ 334,821</u>	<u>\$ —</u>
Accrued benefit costs and funded status of the plans	<u>\$ (96,451)</u>	<u>\$ (40,526)</u>	<u>\$ (88,715)</u>	<u>\$ (39,875)</u>
Accumulated benefit obligation	<u>\$ 394,082</u>		<u>\$ 423,536</u>	
<b>Weighted average assumptions used to determine accumulated benefit obligation and accrued benefit costs</b>				
Discount rate	4.35%	4.27%	3.29%	3.19%
<b>Weighted average assumptions used to determine net periodic benefit costs</b>				
Discount rate	3.67%	3.64%/4.18%	4.35%	4.27%
Expected rate of return on plan assets	7.60%	—	7.60%	—
<b>Amounts in accumulated other comprehensive loss recognized in net periodic benefit cost</b>				
Actuarial net (gain) loss, net of tax	\$ 4,640	\$ (576)	\$ 4,151	\$ (1,208)
Prior service credits, net of tax	(854)	15	—	(2,502)
Total	<u>\$ 3,786</u>	<u>\$ (561)</u>	<u>\$ 4,151</u>	<u>\$ (3,710)</u>
<b>Amounts in accumulated other comprehensive loss not yet recognized in net periodic benefit cost</b>				
Actuarial net (gain) loss, net of tax	\$ 93,509	\$ (15,377)	\$ 111,637	\$ (16,646)
Prior service credits, net of tax	(343)	(32,514)	—	(30,011)
Total	<u>\$ 93,166</u>	<u>\$ (47,891)</u>	<u>\$ 111,637</u>	<u>\$ (46,657)</u>
<b>Amounts in accumulated other comprehensive loss expected to be recognized in net periodic benefit cost in the subsequent year</b>				
Actuarial net (gain) loss	\$ 4,222	\$ (1,229)	\$ 6,399	\$ (1,219)
Prior service credits	—	(2,544)	—	(2,545)
Total	<u>\$ 4,222</u>	<u>\$ (3,773)</u>	<u>\$ 6,399</u>	<u>\$ (3,764)</u>

Our benefit obligations are determined by discounting each future year's expected benefit cash flow using the corresponding spot rates along a yield curve that is derived from the monthly bid-price data of bonds that are rated high grade by either Moody's Investor Service or Standard and Poor's Rating Services. The bond types included are noncallable bonds, private placement bonds that are traded among qualified institutional buyers and are at least two years from date of issuance, bonds with a make-whole provision, and bonds issued by foreign corporations that are denominated in U.S. dollars. Excluded are bonds that are callable, sinkable and puttable as well as those for which the quoted yield-to-maturity is zero. Using the bonds from this universe that have a yield higher than the regression mean yield curve for the full universe, regression analysis is used to determine the best-fitting curve, which gives a good fit to the data at both long and short maturities. The resulting regressed coupon yield curve is smoothed continuously along its entire length and represents an unbiased average of the observed market data.

Interest rates used in these valuations are key assumptions, including discount rates used in determining the present value of future benefit payments and expected return on plan assets, which are reviewed and updated on an annual basis. The

discount rates reflect market rates for high-quality corporate bonds. We consider current market conditions, including changes in interest rates, in making assumptions. The Society of Actuaries published new mortality tables for private retirement plans ("Pri-2012") and a new mortality improvement scale ("MP-2019") in 2019. Our December 31, 2019 valuation is based on Pri-2012 and MP-2019, adjusted to reflect (1) an ultimate rate of mortality improvement consistent with both historical experience and U.S. Social Security long-term projections, and (2) a shorter transition period to reach the ultimate rate, which is consistent with historical patterns.

In establishing the expected return on assets assumption, we review the asset allocations considering plan maturity and develop return assumptions based on different asset classes. The return assumptions are established after reviewing historical returns of broader market indexes, as well as historical performance of the investments in the plan. Our pension plan assets are managed in accordance with an investment policy, as discussed below.

*Plan Assets.* The investment policy of the plan includes target allocation percentages of approximately 49% for investments in equity securities (29% U.S. equities and 20% non-U.S. equities), 36% for investments in fixed income securities and 15% for investments in other securities, which is broken down further into 5% for investments in hedge fund of funds and 10% for investments in real estate fund of funds. Plan assets include investments in both U.S. and non-U.S. equity funds. Fixed income investments include a long duration bond fund, a high yield bond fund and an emerging markets debt fund. The funds in which the plan's assets are invested are institutionally managed and have diversified exposures into multiple asset classes implemented with over 63 investment managers. The guidelines and objectives of the funds are congruent with the Intelsat investment policy statement.

The target and actual asset allocation of our pension plan assets were as follows:

Asset Category	As of December 31, 2018		As of December 31, 2019	
	Target Allocation	Actual Allocation	Target Allocation	Actual Allocation
Equity securities	49%	45%	49%	48%
Debt securities	36%	36%	36%	34%
Other securities	15%	19%	15%	18%
Total	100%	100%	100%	100%

The fair values of our pension plan assets by asset category were as follows (in thousands):

Asset Category	Fair Value Measurements at December 31, 2018			
	Level 1	Level 2	Level 3	
Equity Securities				
U.S. Large-Cap (1)	\$ 62,243	\$ —	\$ —	\$ —
U.S. Small/Mid-Cap (2)	15,739	—	—	—
World Equity Ex-U.S. (3)	54,994	—	—	—
Fixed Income Securities				
Long Duration Bonds (4)	91,278	—	—	—
High Yield Bonds (5)	8,440	—	—	—
Emerging Market Fixed Income (Non-U.S.) (6)	8,923	—	—	—
Other Securities		\$ 241,617	\$ —	\$ —
Hedge Funds (7)	18,062	—	—	—
Core Property Fund (8)	37,559	—	—	—
Income earned but not yet received	393	—	—	—
<b>Total</b>	<b>\$ 297,631</b>			



Asset Category	Fair Value Measurements at			
	December 31, 2019	Level 1	Level 2	Level 3
Equity Securities				
U.S. Large-Cap (1)	\$ 75,380	\$ 75,380	\$ —	\$ —
U.S. Small/Mid-Cap (2)	19,566	19,566	—	—
World Equity Ex-U.S. (3)	65,882	65,882	—	—
Fixed Income Securities				
Long Duration Bonds (4)	95,327	95,327	—	—
High Yield Bonds (5)	9,610	9,610	—	—
Emerging Market Fixed Income (Non-U.S.) (6)	9,720	9,720	—	—
Other Securities				
Hedge Funds (7)	18,803	\$ 275,485	\$ —	\$ —
Core Property Fund (8)	40,205			
Cash and income earned but not yet received	328			
<b>Total</b>	<b>\$ 334,821</b>			

- (1) U.S. Large-Cap Equity includes investments in funds that invest primarily in a portfolio of common stocks included in the S&P 500 Index, as well as other equity securities and derivative instruments whose value is derived from the performance of the S&P 500.
- (2) U.S. Small/Mid-Cap includes investments in funds that (1) invest primarily in U.S. small- and mid-cap stocks with market capitalization ranges similar to those found in the FTSE Russell 2500 Index, or (2) aim to produce investment results that correspond to the performance of the FTSE/Russell Small Cap Completeness Index.
- (3) World Equity Ex-U.S. includes an investment in a fund that invests primarily in common stocks and other equity securities whose issuers comprise a broad range of capitalizations and that are located outside of the U.S. The fund invests primarily in developed countries but may also invest in emerging markets.
- (4) Long Duration Bonds includes an investment in a fund that invests primarily in long-duration government and corporate fixed income securities and uses derivative instruments (including interest rate swaps and U.S. Treasury futures contracts) for the purpose of managing the overall duration and yield curve exposure of the fund's portfolio.
- (5) High Yield Bonds includes an investment in a fund that seeks to maximize return by investing primarily in a diversified portfolio of higher yielding, lower rated fixed income securities. The fund will invest primarily in securities rated below investment grade, including corporate bonds, convertible and preferred securities and zero coupon obligations.
- (6) Emerging Markets Fixed Income (Non-U.S.) includes an investment in a fund that seeks to maximize return by investing in fixed income securities of emerging markets issuers. The fund will invest primarily in U.S. dollar denominated debt securities of government, government-related and corporate issuers in emerging market countries, as well as entities organized to restructure the outstanding debt of such issuers.
- (7) Hedge Funds includes an investment in a collective trust fund that seeks to provide returns that are different from (less correlated with) investments in more traditional asset classes. The fund will pursue its investment objective by investing substantially all of its assets in various hedge funds. The fund has semi-annual redemptions in June and December with a pre-notification period of 95 days, and a two year lock-up on all purchases which have expired.
- (8) The Core Property Fund is a collective trust fund that invests in direct commercial property funds primarily in the U.S. The fund is meant to provide current income-oriented returns, diversification, and modest inflation protection to an overall investment portfolio. Total returns are expected to be somewhere between stocks and bonds, with moderate volatility and low correlation to public markets. The fund has quarterly redemptions with a pre-notification period of 95 days, and no lock-up period.

Our plan assets are measured at fair value. ASC 820 prioritizes the inputs used in valuation techniques including Level 1, Level 2 and Level 3 (see Note 1 (d)—Background and Summary of Significant Accounting Policies—Fair Value Measurements).

The majority of our plan assets are valued using measurement inputs which include unadjusted prices in active markets and we have therefore classified these assets within Level 1 of the fair value hierarchy. Our other securities include Hedge Funds and Core Property Funds, which are measured at fair value using the net asset value per share practical expedient, and are not classified in the fair value hierarchy.

Net periodic pension income included the following components (in thousands):

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Interest cost	\$ 14,778	\$ 14,428	\$ 15,390
Expected return on plan assets	(24,410)	(24,482)	(23,490)
Amortization of unrecognized net loss	3,751	5,307	4,221
Total income	<u>\$ (5,881)</u>	<u>\$ (4,747)</u>	<u>\$ (3,879)</u>

We had accrued benefit costs at December 31, 2018 and 2019 of \$96.4 million and \$88.7 million, respectively, related to the pension benefits, of which \$0.6 million was recorded within other current liabilities for both years ended December 31, 2018 and 2019, and \$95.8 million and \$88.1 million were recorded in other long-term liabilities, respectively.

Net periodic other postretirement benefit costs (income) included the following components (in thousands):

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Interest cost	\$ 2,869	\$ 2,314	\$ 1,532
Amortization of prior service credit	(8)	(854)	(2,544)
Amortization of unrecognized net gain	(455)	(630)	(1,229)
Total costs (income)	<u>\$ 2,406</u>	<u>\$ 830</u>	<u>\$ (2,241)</u>

We had accrued benefit costs at December 31, 2018 and 2019 related to the other postretirement benefits of \$40.5 million and \$39.9 million, respectively, of which \$3.1 million and \$2.9 million were recorded in other current liabilities, respectively, and \$37.4 million and \$37.0 million were recorded in other long-term liabilities, respectively.

Depending on our actual future health care claims, our actual costs may vary significantly from those projected above. As of December 31, 2018 and 2019, the assumed health care cost trend rates for retirees who are not eligible for Medicare were 6.3% and 6.0%, respectively. These rates are expected to decrease annually to an ultimate rate of 4.5% by December 31, 2038. Increasing the assumed health care cost trend rate by 1% each year would increase the other postretirement benefits obligation as of December 31, 2019 by \$3.5 million. Decreasing this trend rate by 1% each year would reduce the other postretirement benefits obligation as of December 31, 2019 by \$3.0 million. A 1% increase in the assumed health care cost trend rate would have increased the net periodic other postretirement benefits cost by \$0.1 million and a 1% decrease would have decreased the cost by \$0.1 million for 2019.

Effective January 1, 2019, Medicare eligible retirees and dependents receive an annual stipend in the form of a contribution to a Health Reimbursement Account (“HRA”) to be used as a reimbursement for qualified health care costs. Therefore, the value of the benefits provided to these participants is not affected by the assumed health care cost trend rate. While the terms of the plan do not guarantee increases to the stipend, the Company intends to evaluate the stipend annually. When valuing the benefit obligation as of December 31, 2019, we assumed no increase to the subsidy in fiscal year 2020 and 3.0% annual increases beginning in fiscal year 2021. When valuing the benefit obligation as of December 31, 2018, we assumed no increase to the subsidy in fiscal year 2019 and 3.0% annual increases beginning in fiscal year 2020.

The benefits expected to be paid in each of the next five years and in the aggregate for the five years thereafter are as follows (in thousands):

	Pension Benefits	Other Post- retirement Benefits
2020	\$ 41,114	\$ 2,884
2021	28,167	2,901
2022	27,458	2,892
2023	27,473	2,852
2024	26,454	2,785
2025 to 2029	124,270	12,809
Total	<u>\$ 274,936</u>	<u>\$ 27,123</u>

### **(b) Other Retirement Plans**

We maintain a defined contribution retirement plan, qualified under the provisions of Section 401(k) of the Internal Revenue Code, for our employees in the United States. We recognized compensation expense for this plan of \$7.8 million, \$7.9 million and \$8.1 million for the years ended December 31, 2017, 2018 and 2019, respectively. We also maintain other defined contribution retirement plans in several non-U.S. jurisdictions, but such plans are not material to our financial position or results of operations.

## **Note 8 Satellites and Other Property and Equipment**

### **(a) Satellites and Other Property and Equipment, net**

Satellites and other property and equipment, net were comprised of the following (in thousands):

	<b>As of December 31, 2018</b>	<b>As of December 31, 2019</b>
Satellites and launch vehicles	\$ 10,786,802	\$ 10,407,690
Information systems and ground segment	894,796	968,482
Buildings and other	273,155	280,109
Total cost	11,954,753	11,656,281
Less: accumulated depreciation	(6,443,051)	(6,954,218)
Total	\$ 5,511,702	\$ 4,702,063

Satellites and other property and equipment, net as of December 31, 2018 and 2019 included construction-in-progress of \$371.3 million and \$191.5 million, respectively. These amounts relate primarily to satellites under construction and related launch services. Interest costs of \$30.2 million and \$31.5 million were capitalized for the years ended December 31, 2018 and 2019, respectively. Additionally, we recorded depreciation expense of \$665.6 million, \$649.1 million and \$623.3 million for the years ended December 31, 2017, 2018 and 2019, respectively.

We have entered into launch contracts for the launch of both specified and unspecified future satellites. Each of these launch contracts may be terminated at our option, subject to payment of a termination fee that increases as the applicable launch date approaches. In addition, in the event of a failure of any launch, we may exercise our right to obtain a replacement launch within a specified period following our request for re-launch.

### **(b) Satellite Launches**

Horizons 3e, a satellite owned by a joint venture between the Company and JSAT International, Inc. ("JSAT"), was successfully launched on September 25, 2018 and completed the Intelsat Epic constellation. Horizons 3e brings high-throughput satellite solutions in both the C- and Ku-bands to broadband, mobility and government customers in the Asia-Pacific Ocean region from its orbital slot at 169°E. Horizons 3e is the first Intelsat Epic satellite to feature a multiport amplifier that enables power portability across all Ku-band spot beams. This enhanced, advanced digital payload features full beam interconnectivity in three commercial bands and significant upgrades to power, efficiency and coverage flexibility. Horizons 3e entered into service in January 2019.

Intelsat 38, a customized Ku-band payload positioned on a third-party satellite, was successfully launched on September 25, 2018. Intelsat 38 replaced Intelsat 12 at the 45°E location and hosts direct-to-home platforms for Central and Eastern Europe as well as the Asia-Pacific region. The satellite also provides connectivity for corporate networks and government applications in Africa. Intelsat 38 entered into service in January 2019.

Intelsat 39 was successfully launched on August 6, 2019. Intelsat 39 replaced Intelsat 902 at the 62°E location and delivers connectivity services in both the C- and Ku-bands to mobile network operators, enterprises and government customers, as well as aeronautical and maritime mobility service providers operating in the Europe, Africa, Middle East and Asia-Pacific regions. Intelsat 39 entered into service in October 2019.

### **(c) Significant Anomalies**

In April 2019, the Intelsat 29e satellite (in service since 2016) experienced an anomaly that resulted in a total loss of the satellite. In accordance with our existing satellite anomaly contingency plans, we restored service for most Intelsat 29e customers on other satellites in our network, as well as on third-party satellites. We recorded a non-cash impairment charge of

\$381.6 million in the second quarter of 2019, of which \$377.9 million related to the write off of the carrying value of the satellite and associated deferred performance incentive obligations and \$3.7 million related to prepaid regulatory fees.

A Failure Review Board comprised of the satellite's manufacturer, Boeing Satellite Systems, Inc., the Company and external independent experts was convened to complete a comprehensive analysis of the cause of the anomaly. The board concluded that the anomaly was either caused by a harness flaw in conjunction with an electrostatic discharge event related to solar weather activity, or the impact of a micrometeoroid.

#### ***(d) Satellite Health***

Our satellite fleet is diversified by manufacturer and satellite type, and as a result, our fleet is generally healthy. We have experienced some technical problems with our current fleet but have been able to minimize the impact of these problems on our customers, our operations and our business in recent years. Many of these problems have been component failures and anomalies that have had little long-term impact to date on the overall transponder availability in our satellite fleet. All of our satellites have been designed to accommodate an anticipated rate of equipment failures with adequate redundancy to meet or exceed their orbital design lives, and to date, this redundancy design scheme has proven effective. After each anomaly we have generally restored services for our customers on the affected satellite, provided alternative capacity on other satellites in our fleet, or provided capacity that we purchased from other satellite operators.

#### **Note 9 Investments**

We have an ownership interest in two entities that meet the criteria of a variable interest entity ("VIE"): Horizons Satellite Holdings LLC ("Horizons Holdings") and Horizons-3 Satellite LLC ("Horizons 3"), which are discussed in further detail below, including our analyses of the primary beneficiary determination as required under ASC 810, *Consolidation* ("ASC 810"). We also own noncontrolling investments in equity securities and loan receivables as discussed further below.

#### ***(a) Horizons Holdings***

Horizons Holdings is a joint venture with JSAT that consists of two investments: Horizons-1 Satellite LLC and Horizons-2 Satellite LLC. Horizons Holdings borrowed from JSAT a portion of the funds necessary to finance the construction of the Horizons 2 satellite pursuant to a loan agreement. The borrowing was subsequently repaid. We provide certain services to the joint venture and in return utilize capacity from the joint venture.

We have determined that this joint venture meets the criteria of a VIE under ASC 810, and we have concluded that we are the primary beneficiary because decisions relating to any future relocation of the Horizons 2 satellite, the most significant asset of the joint venture, are effectively controlled by us. In accordance with ASC 810, as the primary beneficiary, we consolidate Horizons Holdings within our consolidated financial statements. Total assets of Horizons Holdings were \$28.8 million and \$22.2 million as of December 31, 2018 and 2019, respectively. Total liabilities were nominal as of December 31, 2018 and 2019.

We have a revenue sharing agreement with JSAT related to services sold on the Horizons 1 and Horizons 2 satellites. We are responsible for billing and collection for such services, and we remit 50% of the revenue, less applicable fees and commissions, to JSAT. Amounts payable to JSAT related to the revenue sharing agreement, net of applicable fees and commissions, from the Horizons 1 and Horizons 2 satellites were \$5.5 million and \$1.6 million as of December 31, 2018 and 2019, respectively.

#### ***(b) Horizons-3 Satellite LLC***

On November 4, 2015, we entered into an additional joint venture agreement with JSAT. The joint venture, Horizons 3, was formed for the purpose of developing, launching, managing, operating and owning a high-performance satellite located at the 169°E orbital location.

Horizons 3, which is 50% owned by each of Intelsat and JSAT, was set up with a joint share of management authority and equal rights to profits and revenues from the joint venture. Similar to Horizons Holdings, we have a revenue sharing agreement with JSAT related to services sold on the Horizons 3e satellite. In addition, we are responsible for billing and collection for such services, and we remit 50% of the revenue, less applicable fees and commissions, to JSAT. Amounts payable to JSAT related to the revenue sharing agreement, net of applicable fees and commissions, from the Horizons 3e satellite were \$3.3 million as of December 31, 2019 with no comparable amounts as of December 31, 2018.

We have determined that this joint venture meets the criteria of a VIE under ASC 810, however we have concluded that we are not the primary beneficiary and therefore do not consolidate Horizons 3. The assessment considered both quantitative and qualitative factors, including an analysis of voting power and other means of control of the joint venture as well as each owner's exposure to risk of loss or gain. Because we and JSAT equally share control over the operations of the joint venture and also equally share exposure to risk of losses or gains, we concluded that we are not the primary beneficiary of Horizons 3. Our investment, included within other assets in our consolidated balance sheets, is accounted for using the equity method of accounting. The investment balance, which is equivalent to our maximum exposure to loss, was \$109.9 million and \$110.2 million as of December 31, 2018 and 2019, respectively. The investment balance exceeded our equity in the net assets of Horizons 3 by \$11.9 million and \$11.6 million as of December 31, 2018 and 2019, respectively. This basis difference represents the capitalized interest that we incurred in relation to financing our investment and we recognize it as a reduction of our equity in earnings of Horizons 3 on a straight-line basis over the life of the satellite. We recognized a nominal amount of equity in earnings of Horizons 3 in other income (expense), net for each of the years ended December 31, 2018 and 2019.

In connection with our investment in Horizons 3, we entered into a capital contribution and subscription agreement which requires us to fund our 50% share of the amounts due in order to maintain our respective 50% interest in the joint venture. Pursuant to this agreement, we made contributions of \$41.2 million and \$5.0 million for the years ended December 31, 2018 and 2019, respectively. We received distributions of \$5.0 million for the year ended December 31, 2019, with no comparative amounts in 2018. In addition, our indirect subsidiary that holds our investment in Horizons 3 has entered into a security and pledge agreement with Horizons 3, pursuant to which it has granted a security interest in its membership interests in Horizons 3. Further, our indirect subsidiary has granted a security interest to Horizons 3 in its customer capacity contracts and its ownership interest in its wholly-owned subsidiary that will hold the U.S. Federal Communications Commission license required for the joint venture's operations.

The Horizons 3e satellite entered into service in January 2019. The Company purchases satellite capacity and related services from the Horizons 3 joint venture, and then sells that capacity to its customers. We incurred direct costs of revenue related to these purchases of \$19.9 million for the year ended December 31, 2019. The Company also sells managed ground network services to the Horizons 3 joint venture and provides program management services for a fee. We recorded an offset to direct costs of revenue of \$5.6 million related to the provision of these services for the year ended December 31, 2019. On the consolidated balance sheet as of December 31, 2019, \$0.5 million due from Horizons 3 was included in receivables and \$1.7 million due to Horizons 3 was included in accounts payable and accrued liabilities.

### ***(c) Investments in Equity Securities***

The Company holds noncontrolling equity investments in six separate privately held companies, including investments in equity securities without readily determinable fair values and common stock warrants.

In accordance with ASC 321, *Investments—Equity Securities*, we use the measurement alternative to measure the fair value of our investments in equity securities without readily determinable fair values. Accordingly, these investments are measured at cost, less any impairment, and are adjusted for changes in fair value resulting from observable transactions for identical or similar investments of the same issuer. These investments are recorded in other assets in our consolidated balance sheets and had a total carrying value of \$59.6 million and \$27.2 million as of December 31, 2018 and 2019, respectively. We recognized impairment losses related to these investments of \$36.8 million for the year ended December 31, 2019, with no comparative amounts in 2018. We recognized an increase in fair value relating to investments of \$1.7 million for the year ended December 31, 2019, with no comparative amounts in 2018. These changes, which are recognized in other income (expense), net in our consolidated statements of operations, were determined using Level 3 inputs including third-party valuations, private transactions and internal projections of future profitability.

We measure our stock warrants at fair value (See Note 6—Fair Value Measurements and Note 12—Derivative Instruments and Hedging Activities for additional information). The warrants are recorded in other assets in our consolidated balance sheets and had a cumulative fair value of \$4.1 million and \$3.2 million as of December 31, 2018 and 2019, respectively.

### ***(d) Loan Receivables***

The Company has loan receivables from four privately held companies that it is holding for long-term investment. These loan receivables are reported at outstanding principal, adjusted for the allowance for loan losses, unamortized discounts, and deferred transaction costs. The Company recognizes interest income on loan receivables using the effective-interest method applied on a loan-by-loan basis. Direct costs associated with originating loans are offset against any related fees received and

the balance, along with any premium or discount, is deferred and amortized as an adjustment to interest income over the term of the related loan receivable using the effective interest method.

Loan receivables are recorded in other assets in our consolidated balance sheets and had a total carrying value of \$10.0 million and \$70.4 million as of December 31, 2018 and 2019, respectively. The carrying value of loans at December 31, 2019 was net of an allowance for loan losses of \$4.6 million, unamortized discount of \$3.0 million, and \$1.0 million of unamortized deferred transaction costs. As of December 31, 2019, \$1.5 million of accrued interest related to our loan receivables was recorded in prepaid expenses and other current assets in our consolidated balance sheet. We recognized interest income related to our loan receivables of \$1.5 million for the year ended December 31, 2019, with no comparative amounts in 2018.

A loan is determined to be impaired and placed on non-accrual status when, in management's judgment based on current information and events, it is probable that the Company will be unable to collect all amounts due according to the contractual terms of the loan agreement. We recognized an allowance for losses related to loan receivables of \$4.6 million for the year ended December 31, 2019, with no comparative amounts in 2018.

The fair value of loan receivables is evaluated on a loan-by-loan basis, and is determined based on assessments of discounted cash flows that are considered probable of collection. We consider these inputs to be Level 3 on the fair value hierarchy. The cumulative fair value of our loan receivables as of December 31, 2018 and 2019 was \$10.0 million and \$69.3 million, respectively.

#### Note 10 Goodwill and Other Intangible Assets

We account for goodwill and other non-amortizable intangible assets in accordance with ASC 350 and have deemed these assets to have indefinite lives. Therefore, these assets are not amortized but are instead tested on an annual basis for impairment during the fourth quarter, or when events or changes in circumstances indicate that the carrying amount may not be fully recoverable.

##### (a) Goodwill

The carrying amounts of goodwill consisted of the following (in thousands):

	As of December 31, 2018	As of December 31, 2019
Goodwill	\$ 6,780,827	\$ 6,780,827
Accumulated impairment losses	(4,160,200)	(4,160,200)
Net carrying amount	<u>\$ 2,620,627</u>	<u>\$ 2,620,627</u>

We perform our annual goodwill impairment assessment using a qualitative approach to identify and consider the significance of relevant key factors, events, and circumstances that affect the fair value of our reporting unit. We make our qualitative evaluation considering, among other things, general macroeconomic conditions, industry and market considerations, cost factors, overall financial performance and other relevant entity-specific events.

We are required to identify reporting units at a level that is not above the Company's identified operating segments for impairment analysis. We have identified only one reporting unit for the goodwill impairment test.

Based on our examination of the qualitative factors at December 31, 2018 and 2019, we concluded that there was not a likelihood of more than 50% that the fair value of our reporting unit was less than its carrying value; therefore, no further testing of goodwill was required.

##### (b) Orbital Locations, Trade Name and other Intangible Assets

The carrying amounts of acquired intangible assets not subject to amortization consisted of the following (in thousands):

	As of December 31, 2018	As of December 31, 2019
Orbital locations	\$ 2,387,700	\$ 2,387,700
Trade name	65,200	65,200
Total non-amortizable intangible assets	<u>\$ 2,452,900</u>	<u>\$ 2,452,900</u>

Intelsat is authorized by governments to operate satellites at certain orbital locations—i.e., longitudinal coordinates along the Clarke Belt. The Clarke Belt is the part of space approximately 35,800 kilometers above the plane of the equator where geostationary orbit may be achieved. Various governments acquire rights to these orbital locations through filings made with the International Telecommunication Union, a sub-organization of the United Nations. We will continue to have rights to operate satellites at our orbital locations so long as we maintain our authorizations to do so.

Our rights to operate at orbital locations can be used and sold individually; however, since satellites and customers can be and are moved from one orbital location to another, our rights are used in conjunction with each other as a network that can be adapted to meet the changing needs of our customers and market demands. Due to the interchangeable nature of orbital locations, the aggregate value of all of the orbital locations is used to measure the extent of impairment, if any.

At each of December 31, 2018 and 2019, we determined, based on an examination of qualitative factors, that there was no impairment of our orbital locations and trade name.

The carrying amount and accumulated amortization of acquired intangible assets subject to amortization consisted of the following (in thousands):

	As of December 31, 2018			As of December 31, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Backlog and other	\$ 743,760	\$ (701,445)	\$ 42,315	\$ 743,760	\$ (713,205)	\$ 30,555
Customer relationships	534,030	(265,242)	268,788	534,030	(287,833)	246,197
Total	<u>\$ 1,277,790</u>	<u>\$ (966,687)</u>	<u>\$ 311,103</u>	<u>\$ 1,277,790</u>	<u>\$ (1,001,038)</u>	<u>\$ 276,752</u>

Intangible assets are amortized based on the expected pattern of consumption. Amortization expense was \$42.3 million, \$38.5 million and \$34.4 million for the years ended December 31, 2017, 2018 and 2019, respectively.

Scheduled amortization charges for intangible assets over the next five years are as follows (in thousands):

Year	Amount
2020	\$ 31,103
2021	28,635
2022	25,479
2023	21,353
2024	18,760

Our policy is to expense all costs incurred to renew or extend the terms of our intangible assets.

## Note 11 Long-Term Debt

The carrying values and fair values of our notes payable and long-term debt were as follows (in thousands):

	As of December 31, 2018		As of December 31, 2019	
	Carrying Value	Fair Value	Carrying Value	Fair Value
<i>Intelsat S.A.:</i>				
4.5% Convertible Senior Notes due June 2025	\$ 402,500	\$ 590,427	\$ 402,500	\$ 265,231
Unamortized prepaid debt issuance costs and discount on 4.5% Convertible Senior Notes	(149,083)	—	(133,310)	—
<i>Total Intelsat S.A. obligations</i>	<u>253,417</u>	<u>590,427</u>	<u>269,190</u>	<u>265,231</u>
<i>Intelsat Luxembourg:</i>				
7.75% Senior Notes due June 2021	421,219	381,203	421,219	336,975
Unamortized prepaid debt issuance costs on 7.75% Senior Notes	(2,062)	—	(1,257)	—
8.125% Senior Notes due June 2023	1,000,000	765,000	1,000,000	590,000
Unamortized prepaid debt issuance costs on 8.125% Senior Notes	(7,256)	—	(5,838)	—
12.5% Senior Notes due November 2024	403,350	376,807	403,350	277,152



Unamortized prepaid debt issuance costs and discount on 12.5% Senior Notes	(198,620)	—	(184,344)	—
<i>Total Intelsat Luxembourg obligations</i>	<u>1,616,631</u>	<u>1,523,010</u>	<u>1,633,130</u>	<u>1,204,127</u>
<i>Intelsat Connect Finance:</i>				
9.5% Senior Notes due February 2023	1,250,000	1,062,500	1,250,000	865,625
Unamortized prepaid debt issuance costs and discount on 9.5% Senior Notes	(34,904)	—	(27,741)	—
<i>Total Intelsat Connect Finance obligations</i>	<u>1,215,096</u>	<u>1,062,500</u>	<u>1,222,259</u>	<u>865,625</u>
<i>Intelsat Jackson:</i>				
9.5% Senior Secured Notes due September 2022	490,000	556,150	490,000	562,275
Unamortized prepaid debt issuance costs and discount on 9.5% Senior Secured Notes	(14,545)	—	(11,204)	—
8% Senior Secured Notes due February 2024	1,349,678	1,390,168	1,349,678	1,380,046
Unamortized prepaid debt issuance costs and premium on 8% Senior Secured Notes	(4,671)	—	(3,903)	—
5.5% Senior Notes due August 2023	1,985,000	1,717,025	1,985,000	1,687,250
Unamortized prepaid debt issuance costs on 5.5% Senior Notes	(10,859)	—	(8,723)	—
9.75% Senior Notes due July 2025	1,485,000	1,488,713	1,885,000	1,729,488
Unamortized prepaid debt issuance costs on 9.75% Senior Notes	(18,230)	—	(20,487)	—
8.5% Senior Notes due October 2024	2,950,000	2,832,000	2,950,000	2,669,750
Unamortized prepaid debt issuance costs and premium on 8.5% Senior Notes	(15,310)	—	(12,916)	—
Senior Secured Credit Facilities due November 2023	2,000,000	1,940,000	2,000,000	1,985,000
Unamortized prepaid debt issuance costs and discount on Senior Secured Credit Facilities	(26,965)	—	(22,149)	—
Senior Secured Credit Facilities due January 2024	395,000	395,988	395,000	398,950
Unamortized prepaid debt issuance costs and discount on Senior Secured Credit Facilities	(1,933)	—	(1,600)	—
6.625% Senior Secured Credit Facilities due January 2024	700,000	694,750	700,000	712,250
Unamortized prepaid debt issuance costs and discount on Senior Secured Credit Facilities	(3,427)	—	(2,832)	—
<i>Total Intelsat Jackson obligations</i>	<u>11,258,738</u>	<u>11,014,794</u>	<u>11,670,864</u>	<u>11,125,009</u>
<i>Eliminations:</i>				
8.125% Senior Notes of Intelsat Luxembourg due June 2023 owned by Intelsat Jackson	(111,663)	(85,422)	(111,663)	(65,881)
Unamortized prepaid debt issuance costs on 8.125% Senior Notes	810	—	652	—
12.5% Senior Notes of Intelsat Luxembourg due November 2024 owned by Intelsat Connect Finance, Intelsat Jackson and Intelsat Envision	(403,245)	(376,708)	(403,245)	(277,080)
Unamortized prepaid debt issuance costs and discount on 12.5% Senior Notes	198,568	—	184,296	—
<i>Total eliminations:</i>	<u>(315,530)</u>	<u>(462,130)</u>	<u>(329,960)</u>	<u>(342,961)</u>
<b>Total Intelsat S.A. long-term debt</b>	<u><u>\$ 14,028,352</u></u>	<u><u>\$ 13,728,601</u></u>	<u><u>\$ 14,465,483</u></u>	<u><u>\$ 13,117,031</u></u>

The fair value for publicly traded instruments is determined using quoted market prices, and the fair value for non-publicly traded instruments is based upon composite pricing from a variety of sources, including market leading data providers, market makers and leading brokerage firms. Substantially all of the inputs used to determine the fair value of our debt are classified as Level 1 inputs within the fair value hierarchy from ASC 820, except our senior secured credit facilities and our 2025 Convertible Notes, the inputs for which are classified as Level 2.



Required principal repayments of long-term debt over the next five years and thereafter as of December 31, 2019 were as follows (in thousands):

Year	Amount
2020	\$ —
2021	421,219
2022	490,000
2023	6,123,337
2024	5,394,783
2025 and thereafter	2,287,500
<b>Total principal repayments</b>	<b>14,716,839</b>
Unamortized discounts, premiums and prepaid issuance costs	(251,356)
<b>Total Intelsat S.A. long-term debt</b>	<b>\$ 14,465,483</b>

### **2019 Debt Transaction**

#### *June 2019 Intelsat Jackson Senior Notes Add-On Offering*

In June 2019, Intelsat Jackson completed an add-on offering of \$400.0 million aggregate principal amount of its 9.75% Senior Notes due 2025 ("2025 Jackson Notes"). The notes are guaranteed by all of Intelsat Jackson's subsidiaries that guarantee its obligations under the Intelsat Jackson Secured Credit Agreement and senior notes, as well as by certain of Intelsat Jackson's parent entities.

### **2018 Debt and Other Capital Markets Transactions**

#### *March 2018/May 2018 ICF Tender Offer for Intelsat Luxembourg Notes and Redemption*

In March 2018, ICF commenced a cash tender offer to purchase any and all of the outstanding aggregate principal amount of the 6.75% Senior Notes due 2018 (the "2018 Luxembourg Notes"). ICF purchased a total of \$31.2 million aggregate principal amount of the 2018 Luxembourg Notes at par value in March 2018 and April 2018. In May 2018, pursuant to a previously issued notice of redemption, Intelsat Luxembourg redeemed \$46.0 million aggregate principal amount of the 2018 Luxembourg Notes at par value together with accrued and unpaid interest thereon.

#### *June 2018 Intelsat S.A. Senior Convertible Notes Offering and Common Shares Offering*

In June 2018, we completed an offering of 15,498,652 Intelsat S.A. common shares, nominal value \$0.01 per share (the "Common Shares"), at a public offering price of \$14.84 per common share, and we completed an offering of \$402.5 million aggregate principal amount of the 2025 Convertible Notes. These notes are guaranteed by a direct subsidiary of Intelsat Luxembourg, Intelsat Envision. The net proceeds from the Common Shares offering and 2025 Convertible Notes offering were used to repurchase approximately \$600 million aggregate principal amount of Intelsat Luxembourg's 7.75% Senior Notes due 2021 (the "2021 Luxembourg Notes") in privately negotiated transactions with individual holders in June 2018. In connection with the repurchase of the 2021 Luxembourg Notes, we recognized a net gain on early extinguishment of debt of \$22.1 million consisting of the difference between the carrying value of debt repurchased and the total cash amount paid (including related fees and expenses), together with a write-off of unamortized debt issuance costs. We used the remaining net proceeds of the Common Shares offering and 2025 Convertible Notes offering for further repurchases of 2021 Luxembourg Notes and for other general corporate purposes, including repurchases of other tranches of debt of Intelsat S.A.'s subsidiaries.

The 2025 Convertible Notes mature on June 15, 2025 unless earlier repurchased, converted or redeemed, as set forth in the 2025 Indenture. Holders may elect to convert their notes depending upon the trading price of our common shares and under other conditions set forth in the 2025 Indenture until December 15, 2024, and thereafter without regard to any conditions. The initial conversion rate is 55.0085 common shares per \$1,000 principal amount of notes, which is equivalent to an initial conversion price of approximately \$18.18 per common share, subject to customary adjustments, and will be increased upon the occurrence of specified events set forth in the 2025 Indenture. We may redeem the 2025 Convertible Notes at our option, on or after June 15, 2022, and prior to the forty-second scheduled trading day preceding the maturity date, in whole or in part, depending upon the trading price of our common shares as set forth in the optional redemption provisions in the 2025 Indenture or in the event of certain developments affecting taxation with respect to the 2025 Convertible Notes. Based on the closing price of our common shares of \$7.03 on December 31, 2019, the if-converted value of the 2025 Convertible Notes did not exceed the aggregate principal amount.

In accounting for the transaction, the 2025 Convertible Notes were separated into liability and equity components. The carrying amount of the liability component was calculated by measuring the fair value of a similar debt instrument that does not have an associated convertible feature. The carrying amount of the equity component is \$149.4 million, which is also recognized as a discount on the 2025 Convertible Notes and represents the value assigned to the conversion option which was determined by deducting the fair value of the liability component from the par value of the 2025 Convertible Notes. The \$149.4 million equity component was included in additional paid-in capital on our consolidated balance sheets as of both December 31, 2018 and 2019, and will not be remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the liability component over its carrying amount was recorded as a discount on the 2025 Convertible Notes and will be amortized to interest expense over the contractual term of the 2025 Convertible Notes at an effective interest rate of 13.0%.

We incurred debt issuance costs of \$12.7 million related to the 2025 Convertible Notes, which were allocated to the liability and equity components based on their relative values. Issuance costs attributable to the liability component were \$7.3 million and will be amortized to interest expense using the effective interest method over the contractual term of the 2025 Convertible Notes. Issuance costs attributable to the equity component were netted against the equity component in additional paid-in capital.

Interest expense related to the 2025 Convertible Notes was as follows (in thousands):

	Year Ended December 31, 2018	Year Ended December 31, 2019
Coupon interest	\$ 9,710	\$ 18,113
Amortization of discount and prepaid debt issuance costs	7,654	15,774
Total interest expense	<u>\$ 17,364</u>	<u>\$ 33,887</u>

#### *August 2018 Intelsat Connect Senior Notes Refinancing and Exchange of Intelsat Luxembourg Senior Notes*

In August 2018, Intelsat Connect completed an offering of \$1.25 billion aggregate principal amount of 9.5% Senior Notes due 2023 (the "2023 ICF Notes"). These notes are guaranteed by Intelsat Envision and Intelsat Luxembourg. Intelsat Connect used the net proceeds from the offering to repurchase or redeem all \$731.9 million outstanding aggregate principal amount of its 12.5% Senior Notes due 2022 (the "2022 ICF Notes"). The remaining net proceeds from the offering were used to repurchase approximately \$448.9 million of aggregate principal amount of Intelsat Jackson's 7.25% Senior Notes due 2020 (the "2020 Jackson Notes") and \$30.0 million aggregate principal amount of other unsecured notes of Intelsat Jackson. Also in August 2018, Intelsat Connect and Intelsat Envision completed debt exchanges receiving new notes issued by Intelsat Luxembourg, which mature in August 2026 and have an interest rate of 13.5% in exchange for \$1.58 billion aggregate principal amount of 2021 Luxembourg Notes that were previously held by Intelsat Connect and Intelsat Envision. In connection with these transactions, we recognized a loss on extinguishment of debt of \$188.2 million, consisting of the difference between the carrying value of the debt and the total cash amount paid (including related fees and expenses), together with a write-off of unamortized debt issuance costs and unamortized discount or premium, if applicable.

#### *September 2018 Intelsat Jackson Senior Notes Offering and Tender Offer*

In September 2018, Intelsat Jackson completed an offering of \$2.25 billion aggregate principal amount of 8.5% Senior Notes due 2024 (the "2024 Jackson Senior Unsecured Notes"). The notes are guaranteed by all of Intelsat Jackson's subsidiaries that guarantee its obligations under the Intelsat Jackson Secured Credit Agreement, as well as by certain of Intelsat Jackson's parent entities. Intelsat Jackson used the net proceeds from the offering to repurchase through a tender offer and redeem all remaining outstanding 2020 Jackson Notes. The remaining net proceeds from the 2024 Jackson Senior Unsecured Notes offering were used to repurchase and redeem \$195.3 million aggregate principal amount of Intelsat Jackson's 7.5% Senior Notes due 2021 (the "2021 Jackson Notes") as of September 30, 2018, \$246.0 million additional aggregate principal amount of 2021 Jackson Notes in October 2018, and to pay related fees and expenses. In connection with the repurchase and redemption, we recognized a loss on extinguishment of debt of \$15.9 million, consisting of the difference between the carrying value of the debt and the total cash amount paid (including related fees and expenses), together with a write-off of unamortized debt issuance costs and unamortized premium, if applicable.

#### *October 2018 Intelsat Jackson Senior Notes Add-On Offering and Redemption of 2021 Jackson Notes*

In October 2018, Intelsat Jackson completed an add-on offering of \$700.0 million aggregate principal amount of its 2024 Jackson Senior Unsecured Notes. The net proceeds from the add-on offering, together with cash on hand, were used to repurchase and redeem all of the remaining approximately \$708.7 million aggregate principal amount of outstanding 2021 Jackson Notes in October 2018 that were not earlier repurchased or redeemed, and to pay related fees and expenses. In

connection with the repurchase, we recognized a loss on extinguishment of debt of \$17.8 million, consisting of the difference between the carrying value of the debt and the total cash amount paid (including related fees and expenses), together with a write-off of unamortized debt issuance costs.

## **Description of Indebtedness**

### **(a) Intelsat S.A.**

#### *4 ½% Convertible Senior Notes due 2025*

In June 2018, we completed an offering of \$402.5 million aggregate principal amount of the 2025 Convertible Notes. See —2018 Debt and Other Capital Markets Transactions—June 2018 Intelsat S.A. Senior Convertible Notes Offering and Common Shares Offering, above.

### **(b) Intelsat Luxembourg**

#### *7 ¾% Senior Notes due 2021*

Intelsat Luxembourg had \$421.2 million in aggregate principal amount of the 2021 Luxembourg Notes outstanding at December 31, 2019. The 2021 Luxembourg Notes bear interest at 7 ¾% annually and mature in June 2021. The 2021 Luxembourg Notes are guaranteed by Intelsat S.A., Intelsat Investment Holdings S.à r.l., Intelsat Holdings S.A. and Intelsat Investments S.A. (the “Parent Guarantors”).

Interest is payable on the 2021 Luxembourg Notes semi-annually on June 1 and December 1. Intelsat Luxembourg may redeem some or all of the notes at the applicable redemption prices set forth in the notes.

The 2021 Luxembourg Notes are senior unsecured obligations of Intelsat Luxembourg and rank equally with Intelsat Luxembourg’s other senior unsecured indebtedness.

#### *8 ⅛% Senior Notes due 2023*

Intelsat Luxembourg had \$1.0 billion in aggregate principal amount of the 2023 Luxembourg Notes outstanding at December 31, 2019. \$111.7 million principal amount was held by Intelsat Jackson. The 2023 Luxembourg Notes bear interest at 8 ⅛% annually and mature in June 2023. The 2023 Luxembourg Notes are guaranteed by the Parent Guarantors.

Interest is payable on the 2023 Luxembourg Notes semi-annually on June 1 and December 1. Intelsat Luxembourg may redeem some or all of the notes at the applicable redemption prices set forth in the notes.

The 2023 Luxembourg Notes are senior unsecured obligations of Intelsat Luxembourg and rank equally with Intelsat Luxembourg’s other senior unsecured indebtedness.

#### *12 ½% Senior Notes due 2024*

Intelsat Luxembourg had \$403.4 million in aggregate principal amount of its unsecured 12 ½% Senior Notes due 2024 (the “2024 Luxembourg Notes”) outstanding at December 31, 2019. \$182.0 million principal amount was held by ICF, \$220.6 million was held by Intelsat Jackson and \$0.7 million was held by Intelsat Envision. The 2024 Luxembourg Notes bear interest at 12 ½% annually and mature in November 2024.

Interest is payable on the 2024 Luxembourg Notes semi-annually on May 15 and November 15.

The 2024 Luxembourg Notes are senior unsecured obligations of Intelsat Luxembourg and rank equally with Intelsat Luxembourg’s other senior unsecured indebtedness.

### **(c) Intelsat Connect Finance**

#### *9 ½% Senior Notes due 2023*

ICF had \$1.3 billion in aggregate principal amount of 2023 ICF Notes outstanding at December 31, 2019. The 2023 ICF Notes bear interest at 9 ½% annually and mature in February 2023. These notes are guaranteed by Intelsat Envision and Intelsat Luxembourg.

Interest is payable on the 2023 ICF Notes semi-annually on June 15 and December 15. ICF may redeem the 2023 ICF Notes, in whole or in part, prior to August 15, 2020, at a price equal to 100% of the principal amount plus the applicable premium described in the notes. Thereafter, ICF may redeem some or all of the notes at the applicable redemption prices set forth in the notes.

**(d) Intelsat Jackson**

*9 ½% Senior Secured Notes due 2022*

Intelsat Jackson had \$490.0 million in aggregate principal amount of 2022 Jackson Secured Notes outstanding at December 31, 2019. The 2022 Jackson Secured Notes bear interest at 9 ½% annually and mature in September 2022. These notes are guaranteed by ICF and certain of Intelsat Jackson's subsidiaries.

Interest is payable on the 2022 Jackson Secured Notes semi-annually on March 30 and September 30. Intelsat Jackson may redeem some or all of the notes at the applicable redemption prices set forth in the notes.

The 2022 Jackson Secured Notes are senior secured obligations of Intelsat Jackson.

*8% Senior Secured Notes due 2024*

Intelsat Jackson had \$1.3 billion in aggregate principal amount of 2024 Jackson Secured Notes outstanding at December 31, 2019. The 2024 Jackson Secured Notes bear interest at 8% annually and mature in February 2024. These notes are guaranteed by ICF and certain of Intelsat Jackson's subsidiaries.

Interest is payable on the 2024 Jackson Secured Notes semi-annually on February 15 and August 15. Intelsat Jackson may redeem some or all of the notes at the applicable redemption prices set forth in the notes.

The 2024 Jackson Secured Notes are senior secured obligations of Intelsat Jackson.

*5 ½% Senior Notes due 2023*

Intelsat Jackson had \$2.0 billion in aggregate principal amount of the 2023 Jackson Notes outstanding at December 31, 2019. The 2023 Jackson Notes bear interest at 5 ½% annually and mature in August 2023. These notes are guaranteed by the Parent Guarantors, Intelsat Luxembourg, ICF and certain of Intelsat Jackson's subsidiaries.

Interest is payable on the 2023 Jackson Notes semi-annually on February 1 and August 1. Intelsat Jackson may redeem some or all of the 2023 Jackson Notes at the applicable redemption prices set forth in the notes.

The 2023 Jackson Notes are senior unsecured obligations of Intelsat Jackson and rank equally with Intelsat Jackson's other senior unsecured indebtedness.

*9 ¾% Senior Notes due 2025*

Intelsat Jackson had \$1.9 billion in aggregate principal amount of the 2025 Jackson Notes outstanding at December 31, 2019. The 2025 Jackson Notes bear interest at 9 ¾% annually and mature in July 2025. These notes are guaranteed by the Parent Guarantors, Intelsat Luxembourg, ICF and certain of Intelsat Jackson's subsidiaries.

Interest is payable on the 2025 Jackson Notes semi-annually on January 15 and July 15. Intelsat Jackson may redeem some or all of the 2025 Jackson Notes at any time prior to July 15, 2021 at a price equal to 100% of the principal amount thereof plus the applicable premium described in the notes. Thereafter, Intelsat Jackson may redeem some or all of the notes at the applicable redemption prices set forth in the notes.

The 2025 Jackson Notes are senior unsecured obligations of Intelsat Jackson and rank equally with Intelsat Jackson's other senior unsecured indebtedness.

*8 ½% Senior Unsecured Notes due 2024*

Intelsat Jackson had \$3.0 billion in aggregate principal amount of the 2024 Jackson Senior Unsecured Notes outstanding at December 31, 2019. The 2024 Jackson Senior Unsecured Notes bear interest at 8 ½% annually and mature in October 2024. These notes are guaranteed by the Parent Guarantors, Intelsat Luxembourg, ICF and certain of Intelsat Jackson's subsidiaries.

Interest is payable on the 2024 Jackson Senior Unsecured Notes semi-annually on April 15 and October 15. Intelsat Jackson may redeem some or all of the 2024 Jackson Senior Unsecured Notes at any time prior to October 15, 2020 at a price equal to 100% of the principal amount thereof plus the applicable premium described in the notes. Thereafter, Intelsat Jackson may redeem some or all of the 2024 Jackson Senior Unsecured Notes at the applicable redemption prices set forth in the notes.

The 2024 Jackson Senior Unsecured Notes are senior unsecured obligations of Intelsat Jackson and rank equally with Intelsat Jackson's other senior unsecured indebtedness.

#### *Intelsat Jackson Senior Secured Credit Agreement*

On January 12, 2011, Intelsat Jackson entered into a secured credit agreement (the "Intelsat Jackson Secured Credit Agreement"), which included a \$3.25 billion term loan facility and a \$500.0 million revolving credit facility, and borrowed the full \$3.25 billion under the term loan facility. The term loan facility required regularly scheduled quarterly payments of principal equal to 0.25% of the original principal amount of the term loan beginning six months after January 12, 2011, with the remaining unpaid amount due and payable at maturity.

On October 3, 2012, Intelsat Jackson entered into an Amendment and Joinder Agreement (the "Jackson Credit Agreement Amendment"), which amended the Intelsat Jackson Secured Credit Agreement. As a result of the Jackson Credit Agreement Amendment, interest rates for borrowings under the term loan facility and the revolving credit facility were reduced. In April 2013, our corporate family rating was upgraded by Moody's, and as a result, the interest rate for the borrowing under the term loan facility and revolving credit facility were further reduced to LIBOR plus 3.00% or the Above Bank Rate ("ABR") plus 2.00%.

On November 27, 2013, Intelsat Jackson entered into a Second Amendment and Joinder Agreement (the "Second Jackson Credit Agreement Amendment"), which further amended the Intelsat Jackson Secured Credit Agreement. The Second Jackson Credit Agreement Amendment reduced interest rates for borrowings under the term loan facility and extended the maturity of the term loan facility. In addition, it reduced the interest rate applicable to \$450 million of the \$500 million total revolving credit facility and extended the maturity of such portion. As a result of the Second Jackson Credit Agreement Amendment, interest rates for borrowings under the term loan facility and the new tranche of the revolving credit facility were (i) LIBOR plus 2.75%, or (ii) the ABR plus 1.75%. The LIBOR and the ABR, plus applicable margins, related to the term loan facility and the new tranche of the revolving credit facility were determined as specified in the Intelsat Jackson Secured Credit Agreement, as amended by the Second Jackson Credit Agreement Amendment, and the LIBOR was not to be less than 1.00% per annum. The maturity date of the term loan facility was extended from April 2, 2018 to June 30, 2019 and the maturity of the new \$450 million tranche of the revolving credit facility was extended from January 12, 2016 to July 12, 2017. The interest rates and maturity date applicable to the \$50 million tranche of the revolving credit facility that was not amended did not change. The Second Jackson Credit Agreement Amendment further removed the requirement for regularly scheduled quarterly principal payments under the term loan facility.

In June 2017, Intelsat Jackson terminated all remaining commitments under its revolving credit facility.

On November 27, 2017, Intelsat Jackson entered into a Third Amendment and Joinder Agreement (the "Third Jackson Credit Agreement Amendment"), which further amended the Intelsat Jackson Secured Credit Agreement. The Third Jackson Credit Agreement Amendment extended the maturity date of \$2.0 billion of the existing floating rate B-2 Tranche of term loans (the "B-3 Tranche Term Loans"), to November 27, 2023, subject to springing maturity in the event that certain series of Intelsat Jackson's senior notes are not refinanced prior to the dates specified in the Third Jackson Credit Agreement Amendment. The B-3 Tranche Term Loans have an applicable interest rate margin of 3.75% for LIBOR loans and 2.75% for base rate loans (at Intelsat Jackson's election as applicable).

The B-3 Tranche Term Loans were subject to a prepayment premium of 1.00% of the principal amount for any voluntary prepayment of, or amendment or modification in respect of, the B-3 Tranche Term Loans prior to November 27, 2018 in connection with prepayments, amendments or modifications that have the effect of reducing the applicable interest rate margin on the B-3 Tranche Term Loans, subject to certain exceptions. The Third Jackson Credit Agreement Amendment also (i) added a provision requiring that, beginning with the fiscal year ending December 31, 2018, Intelsat Jackson apply a certain percentage of its Excess Cash Flow (as defined in the Third Jackson Credit Agreement Amendment), if any, after operational needs for each fiscal year towards the repayment of outstanding term loans, subject to certain deductions, (ii) amended the most-favored nation provision with respect to the incurrence of certain indebtedness by Intelsat Jackson and its restricted subsidiaries, and (iii) amended the covenant limiting the ability of Intelsat Jackson to make certain dividends, distributions and other restricted payments to its shareholders based on its leverage level at that time.

On December 12, 2017, Intelsat Jackson further amended the Intelsat Jackson Secured Credit Agreement by entering into a Fourth Amendment and Joinder Agreement (the "Fourth Jackson Credit Agreement Amendment"), which, among other things, (i) permitted Intelsat Jackson to establish one or more series of additional incremental term loan tranches if the proceeds thereof are used to refinance an existing tranche of term loans, and (ii) added a most-favored nation provision applicable to the B-3 Tranche Term Loans for further extensions of the existing floating rate B-2 Tranche Term Loans under certain circumstances.

On January 2, 2018, Intelsat Jackson entered into a Fifth Amendment and Joinder Agreement (the "Fifth Jackson Credit Agreement Amendment"), which further amended the Intelsat Jackson Secured Credit Agreement. The Fifth Jackson Credit Agreement Amendment refinanced the remaining \$1.095 billion B-2 Tranche Term Loans, through the creation of (i) a new incremental floating rate tranche of term loans with a principal amount of \$395.0 million (the "B-4 Tranche Term Loans"), and (ii) a new incremental fixed rate tranche of term loans with a principal amount of \$700.0 million (the "B-5 Tranche Term Loans"). The maturity date of both the B-4 Tranche Term Loans and the B-5 Tranche Term Loans is January 2, 2024, subject to springing maturity in the event that certain series of Intelsat Jackson's senior notes are not refinanced or repaid prior to the dates specified in the Fifth Jackson Credit Agreement Amendment. The B-4 Tranche Term Loans have an applicable interest rate margin of 4.50% per annum for LIBOR loans and 3.50% per annum for base rate loans (at Intelsat Jackson's election as applicable).

We entered into interest rate cap contracts in December 2017 and amended them in May 2018 to mitigate the risk of interest rate increases on the B-3 and B-4 Tranche Term Loans. The B-5 Tranche Term Loans have an interest rate of 6.625% per annum. The Fifth Jackson Credit Agreement Amendment also specified make-whole and prepayment premiums applicable to the B-4 Tranche Term Loans and the B-5 Tranche Term Loans at various dates.

Intelsat Jackson's obligations under the Intelsat Jackson Secured Credit Agreement are guaranteed by ICF and certain of Intelsat Jackson's subsidiaries. Intelsat Jackson's obligations under the Intelsat Jackson Secured Credit Agreement are secured by a first priority security interest in substantially all of the assets of Intelsat Jackson and the guarantors party thereto, to the extent legally permissible and subject to certain agreed exceptions, and by a pledge of the equity interests of the subsidiary guarantors and the direct subsidiaries of each guarantor, subject to certain exceptions, including exceptions for equity interests in certain non-U.S. subsidiaries, existing contractual prohibitions and prohibitions under other legal requirements.

The Intelsat Jackson Secured Credit Agreement following a further amendment in November 2018 includes one financial covenant: Intelsat Jackson must maintain a consolidated secured debt to consolidated EBITDA ratio equal to or less than 3.50 to 1.00 at the end of each fiscal quarter, measured based on the trailing 12 months, as such financial measure is defined in the Intelsat Jackson Secured Credit Agreement. Intelsat Jackson was in compliance with this financial maintenance covenant ratio with a consolidated secured debt to consolidated EBITDA ratio of 3.20 to 1.00 as of December 31, 2019.

## **Note 12 Derivative Instruments and Hedging Activities**

### *Interest Rate Cap Contracts*

As of December 31, 2018 and 2019, we held interest rate cap contracts with an aggregate notional value of \$2.4 billion that mature in February 2021. These interest rate cap contracts, which were entered into in 2017 and amended in 2018, are designed to mitigate our risk of interest rate increases on the floating rate portion of our senior secured credit facilities (see Note 11—Long-Term Debt). The contracts have not been designated for hedge accounting treatment in accordance with ASC 815, *Derivatives and Hedging* ("ASC 815"), and the changes in fair value of these instruments, net of payments received, are recognized in the consolidated statements of operations during the period of change. We received \$3.7 million and \$9.8 million in settlement payments related to the interest rate cap contracts for the years ended December 31, 2018 and 2019, respectively.

### *Preferred Stock Warrant and Common Stock Warrant*

During 2017, we were issued a warrant to purchase preferred shares of one of our investments. We concluded that the warrant is a free standing derivative in accordance with ASC 815. During 2019, we were issued a warrant to purchase common shares of a separate investment. We concluded that the warrant is a free standing derivative in accordance with ASC 815.

The following table sets forth the fair value of our derivatives by category (in thousands):

Derivatives not designated as hedging instruments	Classification	As of December 31, 2018	As of December 31, 2019
Interest rate cap contracts	Other assets	\$ 33,086	\$ 372
Preferred stock warrant	Other assets	4,100	—
Common stock warrant	Other assets	—	3,239
Total derivatives		<u>\$ 37,186</u>	<u>\$ 3,611</u>

The following table sets forth the effect of the derivative instruments in our consolidated statements of operations (in thousands):

Derivatives not designated as hedging instruments	Classification	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Interest rate cap contracts	(Loss) gain included in interest expense, net	\$ (1,006)	\$ 14,435	\$ (22,918)
Preferred stock warrant	Loss included in other income (expense), net	—	—	(4,100)
Total (loss) gain on derivative financial instruments		<u>\$ (1,006)</u>	<u>\$ 14,435</u>	<u>\$ (27,018)</u>

### Note 13 Leases

#### *Lessee*

We lease corporate and branch offices, various facilities, land and equipment, specifically third-party teleport and circuit/dark fiber. Certain leases include one or more options to renew, with renewal terms that can extend the lease term from one year to fifteen years. The exercise of lease renewal options is at our sole discretion. Considering the nature of our business and ongoing technology upgrades relating to the services we provide, we determined that the likelihood of exercising a renewal on any leased property and equipment is uncertain. Therefore, we do not generally include the renewal period in the expected lease terms. Some of our leases may include options to terminate the leases within six months of inception. Our lease agreements generally do not include options to purchase the leased property. The depreciable life of leasehold improvements is limited by the expected lease term in the absence of a transfer of title or purchase option reasonably certain of exercise.

Certain of our lease agreements include rental payments with escalation provisions as defined in the contracts. These escalation provisions are included in the calculation of the present value of the lease payments for purposes of determining the value of the respective ROU asset and lease liability. Our lease agreements do not contain any material residual value guarantees or materially restrictive covenants. We rent, license or sublease certain office space and land to third parties. Our sublease portfolio consists mainly of property operating leases for office space within our McLean, Virginia U.S. administrative headquarters office building.

The following table sets forth supplemental balance sheet information related to ROU assets and lease liabilities (in thousands):

	Classification	As of December 31, 2019
<b>Assets</b>		
Operating	Other assets	\$ 86,780
Finance	Other assets <sup>(1)</sup>	10,084
Total leased assets		<u>\$ 96,864</u>
<b>Liabilities</b>		
Current		
Operating	Other current liabilities	\$ 12,744
Finance	Other current liabilities	2,215
Long-term		
Operating	Other long-term liabilities	99,072
Finance	Other long-term liabilities	16,137
Total lease liabilities		<u>\$ 130,168</u>

(1) Net of accumulated amortization of \$542.

The following table sets forth supplemental information related to the components of lease expense (in thousands):

	Classification	Year Ended December 31, 2019
Operating lease cost	Direct costs of revenue	\$ 14,210
Operating lease cost	Selling, general and administrative expenses	6,159
Finance lease cost		
Amortization of leased assets	Depreciation and amortization	542
Interest on lease liabilities	Interest expense, net	813
Sublease income	Other income (expense), net	(1,206)
Net lease cost		<u>\$ 20,518</u>

The following table sets forth future minimum lease payments together with the present value of lease liabilities under leases as of December 31, 2019 for the next five years and thereafter (in thousands):

	Operating Leases	Finance Leases	Total
2020	\$ 20,136	\$ 3,423	\$ 23,559
2021	16,329	3,629	19,958
2022	15,508	3,489	18,997
2023	15,122	3,419	18,541
2024	15,006	1,813	16,819
2025 and thereafter	71,633	8,242	79,875
Total lease payments	<u>\$ 153,734</u>	<u>\$ 24,015</u>	<u>\$ 177,749</u>
Less: Imputed interest <sup>(1)</sup>	41,918	5,663	47,581
Present value of lease liabilities	<u>\$ 111,816</u>	<u>\$ 18,352</u>	<u>\$ 130,168</u>

(1) Calculated using the incremental borrowing rate assessed for each lease.

As of December 31, 2019, we had additional operating leases for in-orbit, satellite servicing vehicles, which had not yet commenced, totaling approximately \$144.0 million. These leases are expected to commence between 2020 and 2021 and have lease terms of 5 years.



The following table sets forth the contractual commitments under leases as of December 31, 2018 for 2019 through 2024 and thereafter (in thousands):

	Operating Leases	Sublease Rental Income	Total
2019	\$ 20,065	\$ (826)	\$ 19,239
2020	18,730	(745)	17,985
2021	14,832	(535)	14,297
2022	13,979	(372)	13,607
2023	13,600	(78)	13,522
2024 and thereafter	80,216	(150)	80,066
Total contractual commitments	\$ 161,422	\$ (2,706)	\$ 158,716

The following table sets forth supplemental cash flow information related to leases (in thousands):

	Year Ended December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows from operating leases	\$ 20,919
Leased assets obtained in exchange for new operating lease liabilities	98,621
Leased assets obtained in exchange for new finance lease liabilities	10,626

The following table sets forth the weighted average remaining lease term and weighted average discount rate under leases:

	As of December 31, 2019
Weighted average remaining lease term (in years)	
Operating leases	8.9
Finance leases	8.0
Weighted average discount rate <sup>(1)</sup>	
Operating leases	7.4%
Finance leases	7.0%

(1) Discount rate is the incremental borrowing rate assessed for each lease.

#### Lessor

We have two sales-type leases related to managed service contracts.

One sales-type lease commenced in 2019 and has an expiration date of March 31, 2030, with an option to extend the term provided the extension is reasonably feasible from a regulatory and technical standpoint. We evaluated the lease and determined that it contains lease and non-lease components. The sales-type lease component is accounted for separately from the other lease and non-lease components that meet the practical expedient criteria to be combined. Judgment is required in determining the allocation between the lease and non-lease components. ASC 606 is applied to the combined lease and non-lease components. There is no residual value of the leased assets and no interest income to be recognized under the lease. For the year ended December 31, 2019, the Company recorded revenue and direct costs of revenue of \$14.7 million and \$16.2 million, respectively, resulting in a net loss at commencement of the sales-type lease of approximately \$1.5 million.

The second sales-type lease commenced in 2018 and has an expiration date of December 31, 2022, with automatic renewals on an annual basis unless either party terminates the lease by providing written notice at least one year prior to the renewal date. The sales-type lease also contains non-lease components that were separated and accounted for as service arrangements. The lessee has an option to purchase the underlying equipment during or after the contract term. Upon such purchase, the lessee will have option to either terminate the underlying service or continue to receive service from the Company until the end of the service term. No residual value is assumed given the term and estimated useful life of the

underlying equipment. The Company recognizes an insignificant amount of interest income annually under the lease terms. For the year ended December 31, 2018, the Company recorded revenue and direct costs of revenue of \$3.1 million and \$2.4 million, respectively, resulting in a net profit at commencement of the sales-type lease of approximately \$0.7 million.

The Company recorded a cumulative net investment in sales-type leases of approximately \$15.9 million as of December 31, 2019, of which \$2.0 million was included within prepaid and other current assets and \$13.9 million was included within other assets in the consolidated balance sheets. The carrying value of the lease receivables approximates the net investments in the leases. As of December 31, 2019, the Company expects to receive approximately \$16.3 million of lease payments over the remaining term of the service agreements, of which \$2.2 million, \$2.2 million, \$2.2 million, \$1.3 million, \$1.3 million, and \$7.1 million are expected to be received in 2020, 2021, 2022, 2023, 2024 and 2025 and thereafter, respectively.

#### Note 14 Income Taxes

In February 2018, the FASB issued ASU 2018-02, *Income Statement—Reporting Comprehensive Income (Topic 220)—Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which allows for an optional reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act (the "Act"), which was signed into law on December 22, 2017. Consequently, the amendments eliminated the stranded tax effects resulting from the Act for those entities that elect the optional reclassification. ASU 2018-02 is effective for all entities for interim and annual periods beginning after December 15, 2018. We adopted ASU 2018-02 in the first quarter of 2019, which resulted in a reclassification of stranded tax effects of \$16.2 million from accumulated other comprehensive loss to accumulated deficit.

The Act includes a number of provisions, including the lowering of the U.S. corporate tax rate from 35 percent to 21 percent, effective January 1, 2018. The Act limits our U.S. interest expense deductions to approximately 30 percent of EBITDA through December 31, 2021 and approximately 30 percent of earnings before net interest and taxes thereafter. The Act also introduced a new minimum tax, the Base Erosion Anti-Abuse Tax ("BEAT"). We are treating the BEAT as a period cost.

Effective January 1, 2019, the Luxembourg corporate tax rate decreased from 26.01% to 24.94%. This resulted in a decrease in deferred tax assets and corresponding valuation allowance.

The Company recognized the income tax effects of the Act in its 2017 financial statements in accordance with Staff Accounting Bulletin No. 118, which provides SEC staff guidance for the application of ASC 740 in the reporting period in which the Act was signed into law.

The Company measures deferred tax assets and liabilities using enacted tax rates that will apply in the years in which the temporary differences are expected to be recovered or paid. Accordingly, the Company's U.S. deferred tax assets and liabilities were remeasured to reflect the reduction in the U.S. corporate income tax rate from 35 percent to 21 percent, resulting in a \$28.0 million decrease in net deferred tax liabilities as of December 31, 2017.

On July 2, 2018, we implemented a series of internal transactions and related steps that reorganized the ownership of certain assets among our subsidiaries (the "2018 Internal Reorganization"). The 2018 Internal Reorganization resulted in the majority of our operations being owned by a U.S.-based partnership, with certain of our wholly-owned Luxembourg and U.S. subsidiaries as partners.

The following table summarizes our total income (loss) before income taxes (in thousands):

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Domestic income (loss) before income taxes	\$ (18,149)	\$ (424,590)	\$ (869,247)
Foreign income (loss) before income taxes	(85,535)	(41,031)	(49,347)
Total income (loss) before income taxes	<u>\$ (103,684)</u>	<u>\$ (465,621)</u>	<u>\$ (918,594)</u>

The primary reason for the variance in domestic income before income tax from 2018 to 2019 was related to the satellite impairment loss our Luxembourg entities recorded in 2019. Loss before income tax increased from 2017 to 2018 due to a loss on early extinguishment of debt in 2018 and a significant increase in interest expense, primarily related to ASC 606.

The provision for (benefit from) income taxes consisted of the following (in thousands):

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Current income tax provision (benefit)			
Domestic	\$ (125)	\$ 792	\$ —
Foreign	27,309	50,117	20,323
Total	27,184	50,909	20,323
Deferred income tax provision (benefit):			
Domestic	72	—	—
Foreign	43,874	79,160	(27,707)
Total	43,946	79,160	(27,707)
Total income tax provision (benefit):	\$ 71,130	\$ 130,069	\$ (7,384)

The income tax provision (benefit) was different from the amount computed using the Luxembourg statutory income tax rate of 24.94% for 2019, 26.01% for 2018 and 27.08% for 2017, for the reasons set forth in the following table (in thousands):

	Year Ended December 31, 2017	Year Ended December 31, 2018	Year Ended December 31, 2019
Expected tax provision (benefit) at Luxembourg statutory income tax rate	\$ (28,078)	\$ (121,108)	\$ (229,097)
Foreign income tax differential	66,242	2,216	(23,603)
Lux Financing Activities	30,232	51,250	(5,930)
Change in tax rate	(28,250)	(684)	163,831
Changes in unrecognized tax benefits	(79)	(2,205)	(4,178)
Changes in valuation allowance	40,853	746,905	(166,683)
Tax effect of 2011 Intercompany Sale	(6,073)	1,655	1,269
Foreign tax credits	(3,107)	138	—
Research and development tax credits	(2,786)	—	—
2018 Internal Reorganization	—	(549,382)	257,921
Other	2,176	1,284	(914)
Total income tax provision (benefit)	\$ 71,130	\$ 130,069	\$ (7,384)

The majority of our operations are located in taxable jurisdictions, including Luxembourg, the U.S. and the United Kingdom ("UK"). Due to our cumulative losses in recent years, and the inherent uncertainty associated with the realization of taxable income in the foreseeable future, we recorded a full valuation allowance against the cumulative net operating losses generated in Luxembourg. The difference between tax expense (benefit) reported in the consolidated statements of operations and tax computed at statutory rates is attributable to the valuation allowance on losses generated in Luxembourg, the provision for foreign taxes, which were principally in the U.S. as a result of the final BEAT regulations and the UK, as well as withholding taxes on revenue earned in some of the foreign markets in which we operate.

The following table details the composition of the net deferred tax balances on our consolidated balance sheets as of December 31, 2018 and 2019 (in thousands):

	As of December 31, 2018	As of December 31, 2019
Long-term deferred taxes, net	\$ (82,488)	\$ (55,171)
Other assets	20,969	21,417
Net deferred taxes	\$ (61,519)	\$ (33,754)

The components of the net deferred tax liability were as follows (in thousands):

	As of December 31, 2018	As of December 31, 2019
<b>Deferred tax assets:</b>		
Accruals and advances	\$ 6,001	\$ 5,812
Amortizable intangible assets	1,133,702	788,134
Non-Amortizable intangible assets	42,265	40,527
Customer deposits	3,404	3,489
Bad debt reserve	1,350	4,468
Disallowed interest expense carryforward	74,825	109,229
Net operating loss carryforward	2,964,634	3,077,101
Tax credits	12,235	13,135
Tax basis differences in investments and affiliates	78,950	99,396
Other	2,346	3,287
Total deferred tax assets	4,319,712	4,144,578
<b>Deferred tax liabilities:</b>		
Satellites and other property and equipment	(80,376)	(51,392)
Amortizable intangible assets	(8,948)	(7,299)
Non-amortizable intangible assets	(31,359)	(31,407)
Tax basis differences in investments and affiliates	(51,645)	(51,314)
Other	(5,654)	(354)
Total deferred tax liabilities	(177,982)	(141,766)
Valuation allowance	(4,203,249)	(4,036,566)
<b>Total net deferred tax liabilities</b>	<b>\$ (61,519)</b>	<b>\$ (33,754)</b>

As of December 31, 2018 and 2019, our consolidated balance sheets included a deferred tax asset in the amount of \$3.0 billion and \$3.1 billion, respectively, attributable to the future benefit from the utilization of certain net operating loss carryforwards. In addition, our balance sheets as of December 31, 2018 and 2019 included \$12.2 million and \$13.1 million of deferred tax assets, respectively, attributable to the future benefit from the utilization of tax credit carryforwards. As of December 31, 2019, we had tax-effected U.S. federal, state and other foreign tax net operating loss carryforwards of \$90.1 million expiring, for the most part, between 2024 and 2038. Of this amount, \$8.5 million has an indefinite life. In addition, as of December 31, 2019, we had Luxembourg tax-effected net operating loss carryforwards of \$3.0 billion and of this amount \$617.1 million expires, for the most part, in 2035. These Luxembourg net operating loss carryforwards were caused primarily by our interest expense, satellite depreciation and amortization and impairment charges related to investments in subsidiaries, goodwill and other intangible assets. Our research and development credit of \$1 million may be carried forward to 2037. Our foreign tax credit of \$12.1 million may be carried forward to 2026.

Our valuation allowance as of December 31, 2018 and 2019 was \$4.2 billion and \$4.0 billion, respectively. Almost all of the valuation allowance relates to Luxembourg net operating loss carryforwards and deferred tax assets created by differences between the U.S. GAAP and the Luxembourg tax basis in our assets. Certain operations of our subsidiaries are controlled by various intercompany agreements which provide these subsidiaries with predictable operating profits. Other subsidiaries, principally Luxembourg and U.S. subsidiaries, are subject to the risks of our overall business conditions which make their earnings less predictable. Our valuation allowance as of December 31, 2019 also relates to certain deferred tax assets in our U.S. subsidiaries, including foreign tax credit carryforward and disallowed interest expense carryforward.

The following table summarizes the activity related to our unrecognized tax benefits (in thousands):

	2018	2019
Balance at January 1	\$ 31,380	\$ 29,144
Increases related to current year tax positions	928	70
Increases related to prior year tax positions	234	226
Decreases related to prior year tax positions	(81)	(432)
Expiration of statute of limitations for the assessment of taxes	(3,317)	(4,054)
Balance at December 31	\$ 29,144	\$ 24,954

As of December 31, 2018 and 2019, our gross unrecognized tax benefits were \$29.1 million and \$25.0 million, respectively (including interest and penalties), of which \$25.6 million and \$21.5 million, respectively, if recognized, would affect our effective tax rate. As of both December 31, 2018 and 2019, we had recorded reserves for interest and penalties in the amount of \$0.6 million. We continue to recognize interest and, to the extent applicable, penalties with respect to the unrecognized tax benefits as income tax expense. Since December 31, 2018, the change in the balance of unrecognized tax benefits consisted of an increase of \$0.1 million related to current tax positions, a decrease of \$0.2 million related to prior tax positions, and a decrease of \$4.1 million due to the expiration of statutes of limitations for the assessment of taxes.

We operate in various taxable jurisdictions throughout the world and our tax returns are subject to audit and review from time to time. We consider Luxembourg, the United States, the United Kingdom and Brazil to be our significant tax jurisdictions. Our Luxembourg, U.S., United Kingdom and Brazilian subsidiaries are subject to income tax examination for periods after December 31, 2013. Within the next twelve months, we believe that there are no jurisdictions in which the outcome of unresolved tax issues or claims is likely to be material to our results of operations, financial position or cash flows.

During 2019, the Company made payments to the government of India in the amount of \$7.0 million with respect to ongoing administrative proceedings. We believe it is more likely than not that the positions which we have presented in these matters will result in a favorable outcome for the Company. As a result, the payments have been recorded in taxes receivable.

On March 29, 2017, the UK Government gave formal notice of its intention to leave the European Union (“EU”). After the balance sheet date of December 31, 2019, the UK formally exited the EU, effective January 31, 2020. As a result of the withdrawal, existing tax reliefs and exemptions on intra-European transactions will likely cease to apply to transactions between UK entities and EU entities. In addition, transactions with non-EU countries, such as the U.S., may also be affected. As of December 31, 2019, all relevant tax laws and treaties remained unchanged and the tax consequences were unknown. Therefore, we have not recognized any impacts of the withdrawal in the income tax provision as of December 31, 2019. We will recognize any impacts to the tax provision when changes in tax laws or treaties between the UK and the EU or individual EU member states are enacted.

On December 2, 2019, the U.S. Department of Treasury and the U.S. Internal Revenue Service released final regulations with respect to BEAT as enacted by the 2017 Tax Reform Act. These regulations represent the final version of proposed regulations which were released in December 2018. The BEAT is a minimum tax established by the Act that subjects certain payments made by U.S. corporations or subsidiaries to foreign related parties to a secondary federal income tax regime in the U.S. The final regulations clarify which taxpayers are subject to the BEAT and how the BEAT rules apply to certain payments and transactions. We have adopted the final BEAT regulations as of the release date. These regulations are effective for the Company as of its tax year ended December 31, 2018. The Company has included the impact of BEAT tax expense for the final regulations related to both 2018 and 2019 tax years in its 2019 tax expense.

## Note 15 Contractual Commitments

In the further development and operation of our commercial global communications satellite system, significant additional expenditures are anticipated. In connection with these and other expenditures, we have a significant amount of long-term debt, as described in Note 11—Long-Term Debt. In addition to these debt and related interest obligations, we have expenditures represented by other contractual commitments. The additional expenditures as of December 31, 2019 and the expected year of payment are as follows (in thousands):

	Satellite Construction and Launch Obligations	Satellite Performance Incentive Obligations	Horizons-3 Satellite LLC Contribution and Purchase Obligations <sup>(1)</sup>	Customer and Vendor Contracts	Sublease Rental Income	Total
2020	\$ 137,370	\$ 65,301	\$ 28,586	\$ 138,885	\$ (775)	\$ 369,367
2021	163,325	51,685	32,358	58,208	(492)	305,084
2022	122,621	36,816	33,600	51,866	(236)	244,667
2023	9,442	25,366	33,723	47,498	(120)	115,909
2024	7,832	24,726	34,314	38,573	(56)	105,389
2025 and thereafter	20,956	104,084	192,618	81,362	(138)	398,882
Total contractual commitments	\$ 461,546	\$ 307,978	\$ 355,199	\$ 416,392	\$ (1,817)	\$1,539,298

- (1) This amount includes commitments to make capital contributions to and purchase satellite capacity from Horizons 3. See Note 9(b)—Investments—Horizons-3 Satellite LLC.

***(a) Satellite Construction and Launch Obligations***

As of December 31, 2019, we had approximately \$461.5 million of expenditures remaining under our existing satellite construction and launch contracts, including expected orbital performance incentive payments for satellites currently in the construction phase.

These contracts typically require that we make progress payments during the period of the satellites' construction and contain provisions that allow us to cancel the contracts for or without cause. If cancelled without cause, we could be subject to substantial termination penalties, including the forfeiture of progress payments made to-date and additional penalty payments. If cancelled for cause, we are entitled to recover progress payments made to-date and liquidated damages as specified in the contracts.

***(b) Satellite Performance Incentive Obligations***

Satellite construction contracts also typically require that we make orbital incentive payments (plus interest as defined in each agreement with the satellite manufacturer) over the orbital life of the satellite. The incentive obligations may be subject to reduction or refund if the satellite fails to meet specific technical operating standards. As of December 31, 2019, we had \$308.0 million of satellite performance incentive obligations, including future interest payments, for satellites currently in orbit.

***(c) Customer and Vendor Contracts***

We have contracts with certain customers that require us to provide equipment, services and other support during the term of the related contracts. We also have long-term contractual obligations with service providers primarily for the operation of certain of our satellites. As of December 31, 2019, we had commitments under these customer and vendor contracts which totaled approximately \$416.4 million related to the provision of equipment, services and other support.

***(d) Rental Income and Expense***

Rental income and sublease income are included in other expense, net in the accompanying consolidated statements of operations. Total rent expense for the years ended December 31, 2017 and 2018, was \$14.8 million and \$14.0 million, respectively, under ASC 840. We adopted ASC 842 effective January 1, 2019. Please refer to Note 13—Leases for operating lease expense for 2019 and Note 1—Background and Summary of Significant Accounting Policies for transition guidance.

**Note 16 Contingencies**

We are subject to litigation in the ordinary course of business. Management does not believe that the resolution of any pending proceedings would have a material adverse effect on our financial position or results of operations.

**Note 17 Related Party Transactions**

***(a) Shareholders' Agreements***

Certain shareholders of Intelsat Global S.A. entered into shareholders' agreements on February 4, 2008. The shareholders' agreements were assigned to Intelsat S.A. by amendments effective as of March 30, 2012 in connection with our IPO in April 2013, and then terminated in December 2018 and replaced by a new agreement. The new shareholders agreement provides, among other things, specific rights to and limitations upon the holders of Intelsat S.A.'s share capital with respect to shares held by such holders.

***(b) Governance Agreement***

Prior to the consummation of the IPO, we entered into a governance agreement with our shareholder affiliated with BC Partners (the "BC Shareholder"), our shareholder affiliated with Silver Lake (the "Silver Lake Shareholder") and David McGlade, our Non-Executive Chairman. This agreement was terminated in December 2018 and replaced with a new agreement between the BC Shareholder and the Company, containing provisions relating to the composition of our board of directors and certain other matters.

***(c) Indemnification Agreements***

We have entered into agreements with our executive officers and directors to provide contractual indemnification in addition to the indemnification provided for in our articles of incorporation.

**(d) Horizons Holdings**

We have a 50% ownership interest in Horizons Holdings as a result of a joint venture with JSAT (see Note 9(a)—Investments—Horizons Holdings).

**(e) Horizons-3 Satellite LLC**

We have a 50% ownership interest in Horizons 3 as a result of a joint venture with JSAT (see Note 9(b)—Investments—Horizons-3 Satellite LLC).

**(f) Additional BC Shareholder Share Purchase in June 2018**

In connection with an offering of common shares by the Company completed in June 2018, the BC Shareholder purchased an additional 2,021,563 common shares of Intelsat S.A. at the public offering price of \$14.84 per share for approximately \$30.0 million in the aggregate.

**Note 18 Quarterly Results of Operations (in thousands, except per share amounts; unaudited)**

2018	Quarter Ended			
	March 31	June 30	September 30	December 31
Revenue <sup>(1)</sup>	\$ 543,782	\$ 537,714	\$ 536,922	\$ 542,771
Income from operations <sup>(1)</sup>	234,472	237,755	237,269	232,374
Net loss	(65,849)	(45,840) <sup>(3)</sup>	(373,642) <sup>(3)</sup>	(110,359) <sup>(3)</sup>
Net loss attributable to Intelsat S.A.	(66,801)	(46,828) <sup>(3)</sup>	(374,631) <sup>(3)</sup>	(111,346) <sup>(3)</sup>
Net loss per share attributable to Intelsat S.A.:				
Basic <sup>(2)</sup>	\$ (0.56)	\$ (0.38)	\$ (2.74)	\$ (0.81)
Diluted <sup>(2)</sup>	(0.56)	(0.38)	(2.74)	(0.81)

2019	Quarter Ended			
	March 31	June 30	September 30	December 31
Revenue <sup>(1)</sup>	\$ 528,449	\$ 509,407	\$ 506,658	\$ 516,951
Income (loss) from operations <sup>(1)</sup>	200,292	(187,268) <sup>(4)</sup>	179,629	195,943
Net loss	(120,042)	(529,112) <sup>(4)</sup>	(147,698)	(114,358)
Net loss attributable to Intelsat S.A.	(120,622)	(529,722) <sup>(4)</sup>	(148,292)	(114,959)
Net loss per share attributable to Intelsat S.A.:				
Basic <sup>(2)</sup>	\$ (0.87)	\$ (3.76)	\$ (1.05)	\$ (0.81)
Diluted <sup>(2)</sup>	(0.87)	(3.76)	(1.05)	(0.81)

- (1) Our quarterly revenue and operating income (loss) are generally not impacted by seasonality, as customer contracts for satellite utilization are generally long-term.
- (2) Basic and diluted earnings per share are computed independently for each of the quarters presented. Therefore, the sum of quarterly basic and diluted per share information may not equal annual basic and diluted earnings per share.
- (3) The quarter ended June 30, 2018 included a \$22.1 million gain on early extinguishment of debt related to the repurchase of the 2021 Luxembourg Notes. The quarter ended September 30, 2018 included a \$204.1 million loss on early extinguishment of debt related to the 2023 ICF Notes and the 2024 Jackson Senior Unsecured Notes. The quarter ended December 31, 2018 included a \$17.8 million loss on early extinguishment of debt related to the repurchase of the 2024 Jackson Senior Unsecured Notes and the redemption of 2021 Jackson Notes (see Note 11—Long-Term Debt).
- (4) The quarter ended June 30, 2019 included an impairment charge of \$381.6 million relating to the loss of Intelsat 29e (see Note 8—Satellites and Other Property and Equipment).

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

None.

**Item 9A. Controls and Procedures**

***Disclosure Controls and Procedures***

Disclosure controls and procedures are controls and procedures that are designed to ensure that information required to be disclosed by us in reports that we file or furnish under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms. We periodically review the design and effectiveness of our disclosure controls and procedures worldwide, including compliance with various laws and regulations that apply to our operations. We make modifications to improve the design and effectiveness of our disclosure controls and procedures, and may take other corrective action, if our reviews identify a need for such modifications or actions. In designing and evaluating the disclosure controls and procedures, we recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives.

We have carried out an evaluation, under the supervision and with the participation of our management, including our principal executive officer and our principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) and 15d-15(e) under the Exchange Act), as of the year ended December 31, 2019. Based upon that evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective as of December 31, 2019.

***Management’s Annual Report on Internal Control over Financial Reporting***

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework set forth in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on our evaluation, management has concluded that our internal control over financial reporting was effective as of December 31, 2019.

***Attestation Report of the Registered Public Accounting Firm***

See the report of KPMG LLP, an independent registered public accounting firm, included under Item 8—Financial Statements and Supplementary Data of this Annual Report.

***Changes in Internal Control over Financial Reporting***

There were no changes in our internal control over financial reporting for the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information**

None.



## PART III

### **Item 10. Directors, Executive Officers and Corporate Governance**

The information required by this item will be included in our proxy statement for our 2020 annual meeting of shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2019 (the “2020 Proxy Statement”), under the heading “Corporate Governance” and is incorporated herein by reference.

### **Item 11. Executive Compensation**

The information required by this item will be included in our 2020 Proxy Statement under the heading “Compensation Discussion and Analysis” and is incorporated herein by reference.

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

The information required by this item will be included in our 2020 Proxy Statement under the heading “Corporate Governance” and is incorporated herein by reference.

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

The information required by this item will be included in our 2020 Proxy Statement under the heading “Corporate Governance” and is incorporated herein by reference.

### **Item 14. Principal Accounting Fees and Services**

The information required by this item will be included in our 2020 Proxy Statement under the heading “Corporate Governance” and is incorporated herein by reference.

## PART IV

### Item 15. Exhibits, Financial Statement Schedules

(a)(1) The following financial statements are included in this Annual Report on Form 10-K:

	<b>Page</b>
<a href="#">Report of Independent Registered Public Accounting Firm</a>	64
<a href="#">Consolidated Balance Sheets</a>	66
<a href="#">Consolidated Statements of Operations</a>	67
<a href="#">Consolidated Statements of Comprehensive Loss</a>	68
<a href="#">Consolidated Statements of Changes in Shareholders' Deficit</a>	69
<a href="#">Consolidated Statements of Cash Flows</a>	70
<a href="#">Notes to Consolidated Financial Statements</a>	72

(a)(2) The following financial statement schedule is included in this Annual Report on Form 10-K:

<a href="#">Schedule II—Valuation and Qualifying Accounts</a>	121
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(b) The following exhibits are filed as part of this Annual Report on Form 10-K:

<b>Exhibit No.</b>	<b>Document Description</b>
3.1	<a href="#">Consolidated Articles of Incorporation of Intelsat S.A., as amended on September 9, 2019.*</a>
4.1	<a href="#">Indenture for Intelsat S.A.'s 4½% Convertible Senior Notes due 2025, dated as of June 18, 2018, by and between Intelsat S.A., as Issuer, Intelsat Envision Holdings LLC, as Guarantor and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed on June 19, 2018).</a>
4.2	<a href="#">Indenture for Intelsat (Luxembourg) S.A.'s 7¼% Senior Notes due 2021 and 8 1/8% Senior Notes due 2023, dated as of April 5, 2013, by and among Intelsat (Luxembourg) S.A., as Issuer, Intelsat S.A., as Parent Guarantor, and Wells Fargo Bank, National Association, as Trustee (incorporated by reference to Exhibit 4.1 of Intelsat Investments S.A.'s Current Report on Form 8-K, File No. 000-50262, filed on April 5, 2013).</a>
4.3	<a href="#">First Supplemental Indenture for Intelsat (Luxembourg) S.A.'s 7¼% Senior Notes due 2021 and 8 1/8% Senior Notes due 2023, dated as of May 20, 2013, by and among Intelsat S.A., Intelsat Investment Holdings S.à r.l., Intelsat Holdings S.A., each as a Guarantor, Intelsat Jackson Holdings S.A., as Issuer, and Wells Fargo Bank, National Association, as Trustee (incorporated by reference to Exhibit 2.32 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 001-35878, filed on February 20, 2014).</a>
4.4	<a href="#">Indenture for Intelsat (Luxembourg) S.A.'s 12½% Senior Notes due 2024, dated as of January 6, 2017, by and between Intelsat (Luxembourg) S.A., as Issuer and U.S. Bank, National Association, as Trustee (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed on January 6, 2017).</a>
4.5	<a href="#">Indenture for Intelsat Connect Finance S.A.'s 9 1/2% Senior Notes due 2023, dated as of August 16, 2018, by and among Intelsat Connect Finance S.A., as Issuer, Intelsat Envision Holdings LLC, Intelsat (Luxembourg) S.A., as Parent Guarantor and U.S. Bank, National Association, as Trustee (including the form of the 9 1/2% Notes) (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed on August 16, 2018).</a>
4.6	<a href="#">Indenture for Intelsat Jackson Holdings S.A.'s 5½% Senior Notes due 2023, dated as of June 5, 2013, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat S.A., Intelsat Investment Holdings S.à r.l., Intelsat Holdings, S.A., Intelsat Investments S.A., Intelsat (Luxembourg) S.A., each as a Parent Guarantor, the subsidiary guarantors named therein and Wells Fargo Bank, National Association, as Trustee (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed on June 5, 2013).</a>
4.7	<a href="#">First Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 5½% Senior Notes due 2023, dated as of June 28, 2013, by and among Intelsat Finance Bermuda Ltd., as guarantor, Intelsat Jackson Holdings S.A., as Issuer, and Wells Fargo Bank, National Association, as Trustee (incorporated by reference to Exhibit 2.35 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 001-35878, filed on February 20, 2014).</a>
4.8	<a href="#">Second Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 5 1/2% Senior Notes due 2023, dated as of November 25, 2015, by and among Intelsat Ireland Operations Limited, as guarantor, Intelsat Jackson Holdings S.A., as Issuer, and Wells Fargo Bank, National Association, as Trustee (incorporated by reference to Exhibit 2.25 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 001-35878, filed on March 8, 2016).</a>
4.9	<a href="#">Third Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 5 1/2% Senior Notes due 2023, dated as of December 22, 2016, by and among Intelsat Connect Finance S.A., as New Guarantor, Intelsat Jackson Holdings S.A., as Issuer, and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 2.25 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</a>

Exhibit No.	Document Description
4.10	<a href="#"><u>Fourth Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 5½% Senior Notes due 2023, dated as of June 29, 2018, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat Genesis Inc., as New Guarantor, and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 2.22 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</u></a>
4.11	<a href="#"><u>Fifth Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 5½% Senior Notes due 2023, dated as of July 2, 2018, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat Alliance LP, Intelsat Genesis GP LLC and Intelsat Ventures S.à r.l., collectively as New Guarantors, and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 2.23 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</u></a>
4.12	<a href="#"><u>Sixth Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 5½% Senior Notes due 2023, dated as of May 2, 2019, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat US Finance LLC, as New Guarantor, and U.S. Bank National Association, as Trustee.*</u></a>
4.13	<a href="#"><u>Indenture for Intelsat Jackson Holdings S.A.'s 8½% Senior Notes due 2024, dated as of September 19, 2018, by and between Intelsat Jackson Holdings S.A., as Issuer, Intelsat S.A., Intelsat Investment Holdings S.à r.l., Intelsat Holdings S.A., Intelsat Investments S.A., Intelsat (Luxembourg) S.A. and Intelsat Connect Finance S.A., each as a Parent Guarantor, the subsidiary guarantors named therein and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 99.2 to Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed September 19, 2018).</u></a>
4.14	<a href="#"><u>First Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 8½% Senior Notes due 2024, dated as of May 2, 2019, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat US Finance LLC, as New Guarantor, and U.S. Bank National Association, as Trustee.*</u></a>
4.15	<a href="#"><u>Indenture for Intelsat Jackson Holdings S.A.'s 9 3/4% Senior Notes due 2025, dated as of July 5, 2017, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat S.A., Intelsat Investment Holdings S.à r.l., Intelsat Holdings S.A., Intelsat Investments S.A., Intelsat (Luxembourg) S.A. and Intelsat Connect Finance S.A., each as a Parent Guarantor, the subsidiary guarantors named therein and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed on July 5, 2017).</u></a>
4.16	<a href="#"><u>First Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 9¼% Senior Notes due 2025, dated as of June 29, 2018, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat Genesis Inc., as New Guarantor, and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 2.16 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</u></a>
4.17	<a href="#"><u>Second Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 9¼% Senior Notes due 2025, dated as of July 2, 2018, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat Alliance LP and Intelsat Genesis GP LLC, collectively as New Guarantors, and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 2.17 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</u></a>
4.18	<a href="#"><u>Third Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 9¼% Senior Notes due 2025, dated as of May 2, 2019, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat US Finance LLC, as New Guarantor, and U.S. Bank National Association, as Trustee.*</u></a>
4.19	<a href="#"><u>Indenture for Intelsat Jackson Holdings S.A.'s 8% Senior Secured Notes due 2024, dated as of March 29, 2016, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat (Luxembourg) S.A. as Parent Guarantor, the subsidiary guarantors named therein and Wilmington Trust, National Association, as Trustee (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 000-35878, filed on March 29, 2016).</u></a>
4.20	<a href="#"><u>First Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 8% Senior Secured Notes due 2024, dated as of December 22, 2016, by and among Intelsat (Luxembourg) S.A., as Released Guarantor, Intelsat Connect Finance S.A., as New Guarantor, Intelsat Jackson Holdings S.A., as Issuer, and Wilmington Trust, National Association, as Trustee (incorporated by reference to Exhibit 2.27 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</u></a>
4.21	<a href="#"><u>Second Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 8% Senior Secured Notes due 2024, dated as of June 29, 2018, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat Genesis Inc., as New Guarantor, and Wilmington Trust, National Association, as Trustee (incorporated by reference to Exhibit 2.20 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</u></a>
4.22	<a href="#"><u>Third Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 8% Senior Secured Notes due 2024, dated as of July 2, 2018, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat Alliance LP, Intelsat Genesis GP LLC and Intelsat Ventures S.à r.l., collectively as New Guarantors, and Wilmington Trust, National Association, as Trustee (incorporated by reference to Exhibit 2.21 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</u></a>
4.23	<a href="#"><u>Fourth Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 8% Senior Secured Notes due 2024, dated as of May 2, 2019, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat US Finance LLC, as New Guarantor, and Wilmington Trust, National Association, as Trustee.*</u></a>
4.24	<a href="#"><u>Indenture for Intelsat Jackson Holdings S.A.'s 9½% Senior Secured Notes due 2022, dated as of June 30, 2016, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat (Luxembourg) S.A. as Parent Guarantor, the subsidiary guarantors named therein and Wilmington Trust, National Association, as Trustee (including the form of the 9½% Notes) (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed on July 1, 2016).</u></a>
4.25	<a href="#"><u>First Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 9½% Senior Secured Notes due 2022, dated as of December 22, 2016, by and among Intelsat (Luxembourg) S.A., as Released Guarantor, Intelsat Connect Finance S.A., as New Guarantor, Intelsat Jackson Holdings S.A., as Issuer, and Wilmington Trust, National Association, as Trustee (incorporated by reference to Exhibit 2.29 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</u></a>
4.26	<a href="#"><u>Second Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 9½% Senior Secured Notes due 2022, dated as of June 29, 2018, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat Genesis Inc., as New Guarantor, and Wilmington Trust, National Association, as Trustee (incorporated by reference to Exhibit 2.18 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</u></a>

Exhibit No.	Document Description
4.27	<a href="#">Third Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 9½% Senior Secured Notes due 2022, dated as of July 2, 2018, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat Alliance LP, Intelsat Genesis GP LLC and Intelsat Ventures S.à r.l., collectively as New Guarantors, and Wilmington Trust, National Association, as Trustee (incorporated by reference to Exhibit 2.19 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</a>
4.28	<a href="#">Fourth Supplemental Indenture for Intelsat Jackson Holdings S.A.'s 9% Senior Secured Notes due 2022, dated as of May 2, 2019, by and among Intelsat Jackson Holdings S.A., as Issuer, Intelsat US Finance LLC, as New Guarantor, and Wilmington Trust, National Association, as Trustee.*</a>
4.29	<a href="#">Description of Intelsat S.A.'s Common Shares*</a>
10.1	<a href="#">Governance Agreement, dated as of December 6, 2018, by and among Intelsat S.A. and the shareholders of Intelsat S.A. party thereto (incorporated by reference to Exhibit 3.1 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</a>
10.2	<a href="#">Shareholders Agreement, dated as of December 6, 2018, by and among Intelsat S.A. and the shareholders party thereto (incorporated by reference to Exhibit 4.15 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 20, 2019).</a>
10.3	<a href="#">Credit Agreement, dated as of January 12, 2011, by and among Intelsat Jackson, as the Borrower, Intelsat (Luxembourg) S.A., the several lenders from time to time parties thereto, Bank of America, N.A., as Administrative Agent, Credit Suisse Securities (USA) LLC ("Credit Suisse") and J.P. Morgan Securities LLC ("J.P. Morgan"), as Co-Syndication Agents, Barclays Bank Plc and Morgan Stanley Senior Funding, Inc., as Co-Documentation Agents, Merrill Lynch, Pierce, Fenner &amp; Smith Incorporated ("Merrill Lynch"), Credit Suisse and J.P. Morgan, as Joint Lead Arrangers, Merrill Lynch, Credit Suisse, J.P. Morgan, Barclays Capital, Deutsche Bank Securities Inc., Morgan Stanley &amp; Co. Incorporated and UBS Securities LLC, as Joint Bookrunners, and HSBC Bank USA, N.A., Goldman Sachs Partners LLC and RBC Capital Markets, as Co-Managers (incorporated by reference to Exhibit 10.1 of Intelsat Investments S.A.'s Current Report on Form 8-K, File No. 000-50262, filed on January 19, 2011).</a>
10.4	<a href="#">Amendment and Joinder Agreement, dated as of October 3, 2012, by and among Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., the Subsidiary Guarantors party thereto, Bank of America, N.A., as Administrative Agent for the Lenders and collateral agent for the Secured Parties, the Lenders party thereto and the Tranche B-1 Term Loan Lenders party thereto, to the Credit Agreement, dated as of January 12, 2011 (incorporated by reference to Exhibit 10.1 of Intelsat Investments S.A.'s Current Report on Form 8-K, File No. 000-50262, filed on October 3, 2012).</a>
10.5	<a href="#">Amendment No. 2 and Joinder Agreement, dated as of November 27, 2013, by and among Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., the Subsidiary Guarantors party hereto, Bank of America, N.A., as Administrative Agent for the lenders and collateral agent for the secured parties thereto, the lenders party thereto and the Tranche B-2 Term Loan Lenders (as defined therein) party thereto, to the Credit Agreement, dated as of January 12, 2011 (as amended by the Amendment and Joinder Agreement, dated as of October 3, 2012) (incorporated by reference to Exhibit 4.7 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 001-35878, filed on February 20, 2014).</a>
10.6	<a href="#">Joinder No. 1 to Credit Agreement, dated as of December 22, 2016, by and between Intelsat Connect Finance S.A. and Bank of America, N.A., as Administrative Agent (incorporated by reference to Exhibit 4.58 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</a>
10.7	<a href="#">Release of Intelsat (Luxembourg) S.A. from Credit Agreement, dated as of December 22, 2016, by Bank of America, N.A., as Administrative Agent (incorporated by reference to Exhibit 4.59 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</a>
10.8	<a href="#">Amendment No. 3 and Joinder Agreement, dated as of November 27, 2017, by and among Intelsat Connect Finance S.A., Intelsat Jackson Holdings S.A., the Subsidiary Guarantors party hereto, Bank of America, N.A., as Administrative Agent for the lenders and collateral agent for the secured parties thereto, the lenders party thereto and the Tranche B-3 Term Loan Lenders (as defined therein) party thereto, to the Credit Agreement, dated as of January 12, 2011 (as amended by the Amendment and Joinder Agreement, dated as of October 3, 2012, and the Amendment No. 2 and Joinder Agreement, dated as of November 27, 2013) (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed on November 27, 2017).</a>
10.9	<a href="#">Amendment No. 4 and Joinder Agreement, dated as of December 12, 2017, by and among Intelsat Connect Finance S.A., Intelsat Jackson Holdings S.A., the Subsidiary Guarantors party hereto, Bank of America, N.A., as Administrative Agent for the lenders and collateral agent for the secured parties thereto, the lenders party thereto and the Tranche B-3 Term Loan Lenders (as defined therein) party thereto, to the Credit Agreement, dated as of January 12, 2011 (as amended by the Amendment and Joinder Agreement, dated as of October 3, 2012, the Amendment No. 2 and Joinder Agreement, dated as of November 27, 2013, and the Amendment No. 3 and Joinder Agreement, dated as of November 27, 2017) (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed on December 12, 2017).</a>
10.10	<a href="#">Amendment No. 5 and Joinder Agreement, dated as of January 2, 2018, by and among Intelsat Connect Finance S.A., Intelsat Jackson Holdings S.A., the Subsidiary Guarantors party hereto, Bank of America, N.A., as Administrative Agent for the lenders and collateral agent for the secured parties thereto, the lenders party thereto and the Tranche B-4 Term Loan Lenders and the Tranche B-5 Term Loan Lenders (as defined therein) party thereto, to the Credit Agreement, dated as of January 12, 2011 (as amended by the Amendment and Joinder Agreement, dated as of October 3, 2012, the Amendment No. 2 and Joinder Agreement, dated as of November 27, 2013, the Amendment No. 3 and Joinder Agreement, dated as of November 27, 2017, and the Amendment No. 4 and Joinder Agreement, dated as of December 12, 2017) (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, filed on January 2, 2018).</a>
10.11	<a href="#">Amendment No. 6 and Joinder Agreement, dated as of November 8, 2018, by and among Intelsat Connect Finance S.A., Intelsat Jackson Holdings S.A., the Subsidiary Guarantors party hereto, Bank of America, N.A., as Administrative Agent for the lenders and collateral agent for the secured parties thereto, the lenders party thereto, to the Credit Agreement, dated as of January 12, 2011 (as amended by the Amendment and Joinder Agreement, dated as of October 3, 2012, the Amendment No. 2 and Joinder Agreement, dated as of November 27, 2013, the Amendment No. 3 and Joinder Agreement, dated as of November 27, 2017, the Amendment No. 4 and Joinder Agreement, dated as of December 12, 2017, and the Amendment No. 5 and Joinder Agreement, dated January 2, 2018) (incorporated by reference to Exhibit 99.1 of Intelsat S.A.'s Current Report on Form 6-K, File No. 001-35878, November 8, 2018).</a>

Exhibit No.	Document Description
10.12	<a href="#"><u>Guarantee, dated as of January 12, 2011, made among each of the subsidiaries of Intelsat Jackson Holdings S.A. listed on Annex A thereto and Bank of America, N.A., as Administrative Agent (incorporated by reference to Exhibit 10.2 of Intelsat Investments S.A.'s Current Report on Form 8-K, File No. 000-50262, filed on January 19, 2011).</u></a>
10.13	<a href="#"><u>Supplement to Guarantee, dated as of July 2, 2018, to the Guarantee dated as of January 12, 2011, by and among each of the subsidiaries of Intelsat Jackson Holdings S.A. listed on Annex A thereto, as New Guarantors, and Bank of America, N.A., as Administrative Agent.*</u></a>
10.14	<a href="#"><u>Supplement No.3 to Guarantee, dated as of May 3, 2019, to the Guarantee dated as of January 12, 2011, by and between Intelsat US Finance LLC, as New Guarantor, and Bank of America, N.A., as Administrative Agent.*</u></a>
10.15	<a href="#"><u>Luxembourg Shares and Beneficiary Certificates Pledge Agreement, dated as of January 12, 2011, by and among Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., Intelsat Intermediate Holding Company S.A., Intelsat Phoenix Holdings S.A., Intelsat Subsidiary Holding Company S.A., Intelsat (Gibraltar) Limited, as Pledgors, and Wilmington Trust FSB, as Pledgee (incorporated by reference to Exhibit 10.3 of Intelsat Investments S.A.'s Current Report on Form 8-K, File No. 000-50262, filed on January 19, 2011).</u></a>
10.16	<a href="#"><u>Agreement for the Adherence by Intelsat Luxembourg Investment S.à r.l. and Intelsat Corporation to the Luxembourg Shares and Beneficiary Certificates Pledge Agreement, dated as of January 12, 2011, and for the Amendment of the Pledge Agreement, dated as of July 31, 2012, by and among the Pledgors listed therein and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee (incorporated by reference to Exhibit 10.3 of Intelsat Investments S.A.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, File No. 000-50262, filed on August 1, 2012).</u></a>
10.17	<a href="#"><u>Agreement for the Adherence by Intelsat Align S.à r.l. to the Luxembourg Shares and Beneficiary Certificates Pledge Agreement, dated as of January 12, 2011, and for the Amendment of the Pledge Agreement, dated as of January 31, 2013, by and among the Pledgors listed therein and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee (incorporated by reference to Exhibit 10.85 of Intelsat Investments S.A.'s Annual Report on Form 10-K, File No. 000-50262, filed on February 28, 2013).</u></a>
10.18	<a href="#"><u>Amendment Agreement to the Luxembourg Shares and Beneficiary Certificates Pledge Agreement, dated as of March 23, 2016, by and among Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., Intelsat Operations S.A., and Intelsat Corporation, as Pledgors, and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee or Pledgee (incorporated by reference to Exhibit 4.54 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</u></a>
10.19	<a href="#"><u>Luxembourg Claims Pledge Agreement, dated as of January 12, 2011, by and among Intelsat Jackson Holdings S.A., Intelsat Intermediate Holding Company S.A., Intelsat Phoenix Holdings S.A., Intelsat Subsidiary Holding Company S.A., Intelsat Operations S.A. and Intelsat (Luxembourg) Finance Company S.a r.l., as Pledgors, and Wilmington Trust FSB, as Pledgee.*</u></a>
10.20	<a href="#"><u>Confirmation and Amendment Agreement to the Luxembourg Shares and Beneficiary Certificates Pledge Agreement, dated as of October 24, 2016, by and among Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., Intelsat Operations S.A., and Intelsat Corporation, as Pledgors, and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee or Pledgee (incorporated by reference to Exhibit 4.56 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</u></a>
10.21	<a href="#"><u>Agreement for the Adherence by Intelsat Connect Finance S.A. to the Luxembourg Shares and Beneficiary Certificates Pledge Agreement, dated as of December 22, 2016, by and among Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., Intelsat Operations S.A., Intelsat Connect Finance S.A. and Intelsat Corporation, as Pledgors, and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee or Pledgee (incorporated by reference to Exhibit 4.61 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</u></a>
10.22	<a href="#"><u>Agreement for the Adherence by Intelsat Ventures S.à r.l. and Intelsat Alliance LP to the Luxembourg Shares and Beneficiary Certificates Pledge Agreement, dated as of July 2, 2018, by and among the Pledgors listed therein and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee.*</u></a>
10.23	<a href="#"><u>Confirmation and Amendment Agreement to the Luxembourg Claims Pledge Agreement, dated as of October 24, 2016, by and among Intelsat Jackson Holdings S.A., Intelsat Operations S.A. and Intelsat Align S.à r.l., as Pledgors, and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee or Pledgee (incorporated by reference to Exhibit 4.55 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</u></a>
10.24	<a href="#"><u>Agreement for the Adherence by Intelsat Connect Finance S.A. to the Luxembourg Claims Pledge Agreement, dated as of December 22, 2016, by and among Intelsat Jackson Holdings S.A., Intelsat Operations S.A., Intelsat Align S.à r.l. and Intelsat Connect Finance S.A. as Pledgors, and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee or Pledgee.*</u></a>
10.25	<a href="#"><u>Agreement for the Adherence to the Luxembourg Claims Pledge Agreement, dated as of July 2, 2018, by and among Intelsat Jackson Holdings S.A., Intelsat Align S.à r.l. and by Intelsat Ventures S.à r.l., as Pledgors, and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee or Pledgee.*</u></a>
10.26	<a href="#"><u>Security and Pledge Agreement, dated as of January 12, 2011, by and among Intelsat Jackson Holdings S.A., each of the subsidiaries of Intelsat Jackson Holdings S.A. listed on Annex A thereto, Bank of America, N.A., as Administrative Agent, and Wilmington Trust FSB, as Collateral Trustee (incorporated by reference to Exhibit 10.4 of Intelsat Investments S.A.'s Current Report on Form 8-K, File No. 000-50262, filed on January 19, 2011).</u></a>
10.27	<a href="#"><u>Supplement No. 3 to Security and Pledge Agreement, dated as of January 31, 2013, to the Security and Pledge Agreement, dated as of January 12, 2011, by and among Intelsat Align S.à r.l. and Intelsat Nevada LLC, as New Guarantors, Bank of America, N.A., as Administrative Agent and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee (incorporated by reference to Exhibit 10.86 of Intelsat Investments S.A.'s Annual Report on Form 10-K, File No. 000-50262, filed on February 28, 2013).</u></a>

Exhibit No.	Document Description
10.28	<a href="#">Supplement to Security and Pledge Agreement, dated as of July 2, 2018, to the Security and Pledge Agreement, dated as of January 12, 2011, by and among Intelsat Jackson Holdings S.A., each of the subsidiaries of Intelsat Jackson Holdings S.A. listed on Annex A thereto, as New Guarantors, Bank of America, N.A., as Administrative Agent, and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee.*</a>
10.29	<a href="#">Supplement No. 3 to Security and Pledge Agreement, dated as of May 3, 2019, to the Security and Pledge Agreement, dated as of January 12, 2011, by and among Intelsat Jackson Holdings S.A., Intelsat US Finance LLC, as a New Guarantor, Bank of America, N.A., as Administrative Agent, and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee.*</a>
10.30	<a href="#">Collateral Agency and Intercreditor Agreement, dated as of January 12, 2011 by and among Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., the other grantors from time to time party thereto, Bank of America, N.A., as Administrative Agent under the Existing Credit Agreement, each additional First Lien Representative from time to time a party thereto, each Second Lien Representative from time to time a party thereto and Wilmington Trust FSB, as Collateral Trustee (incorporated by reference to Exhibit 10.5 of Intelsat Investments S.A.'s Current Report on Form 8-K, File No. 000-50262, filed on January 19, 2011).</a>
10.31	<a href="#">Collateral Agency and Intercreditor Joinder, dated as of January 31, 2013, by and among Intelsat Align S.à r.l. and Intelsat Nevada LLC, as new Grantors, and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee (incorporated by reference to Exhibit 10.87 of Intelsat Investments S.A.'s Annual Report on Form 10-K, File No. 000-50262, filed on February 28, 2013).</a>
10.32	<a href="#">Collateral Agency and Intercreditor Joinder, dated as of March 29, 2016, by and among Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., the other grantors from time to time party thereto, Bank of America, N.A., as Administrative Agent under the Existing Credit Agreement, each additional First Lien Representative from time to time a party thereto, each Second Lien Representative from time to time a party thereto and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee (incorporated by reference to Exhibit 4.52 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</a>
10.33	<a href="#">Collateral Agency and Intercreditor Joinder, dated as of June 30, 2016, by and among Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., the other grantors from time to time party thereto, Bank of America, N.A., as Administrative Agent under the Existing Credit Agreement, each additional First Lien Representative from time to time a party thereto, each Second Lien Representative from time to time a party thereto and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee (incorporated by reference to Exhibit 4.53 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</a>
10.34	<a href="#">Collateral Agency and Intercreditor Joinder, dated as of December 22, 2016, by and among Intelsat Connect Finance S.A., Intelsat (Luxembourg) S.A., Intelsat Jackson Holdings S.A., the other grantors from time to time party thereto, Bank of America, N.A., as Administrative Agent under the Existing Credit Agreement, each additional First Lien Representative from time to time a party thereto, each Second Lien Representative from time to time a party thereto and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee (incorporated by reference to Exhibit 4.57 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 000-35878, filed on February 28, 2017, as amended).</a>
10.35	<a href="#">Collateral Agency and Intercreditor Joinder, dated as of July 2, 2018, by and among Intelsat Connect Finance S.A., Intelsat Jackson Holdings S.A., the other grantors from time to time party thereto, Bank of America, N.A., as Administrative Agent under the Existing Credit Agreement, each additional First Lien Representative from time to time a party thereto, each Second Lien Representative from time to time a party thereto and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee.*</a>
10.36	<a href="#">Collateral Agency and Intercreditor Joinder, dated as of May 3, 2019, by and among Intelsat Connect Finance S.A., Intelsat Jackson Holdings S.A., the other grantors from time to time party thereto, Bank of America, N.A., as Administrative Agent under the Existing Credit Agreement, each additional First Lien Representative from time to time a party thereto, each Second Lien Representative from time to time a party thereto and Wilmington Trust, National Association (as successor by merger to Wilmington Trust FSB), as Collateral Trustee.*</a>
10.37	<a href="#">Employment Agreement, dated as of March 18, 2013, by and between Intelsat Corporation and Stephen Spengler (incorporated by reference to Exhibit 10.77 to Amendment No. 7 to Intelsat Global Holdings S.A.'s Registration Statement on Form F-1, File No. 333-181527, filed on March 20, 2013).†</a>
10.38	<a href="#">First Amendment, dated as of April 18, 2013, to Employment Agreement, dated as of March 18, 2013, by and between Intelsat Corporation and Stephen Spengler.*†</a>
10.39	<a href="#">Second Amendment, dated as of December 11, 2014, to Employment Agreement, dated as of March 18, 2013, by and between Stephen Spengler and Intelsat Corporation (incorporated by reference to Exhibit 4.63 to Intelsat S.A.'s Annual Report on Form 20-F, File No. 001-35878, filed on February 18, 2015).†</a>
10.40	<a href="#">Third Amendment, dated as of December 31, 2017, to Employment Agreement, dated as of March 18, 2013, by and among Stephen Spengler, Intelsat S.A. and Intelsat Management LLC.*†</a>
10.41	<a href="#">Fourth Amendment, dated as of December 24, 2018, to Employment Agreement, dated as of March 18, 2013, by and among Stephen Spengler, Intelsat S.A., Intelsat Management LLC and Intelsat US LLC.*†</a>
10.42	<a href="#">Employment Agreement, dated as of June 3, 2019, by and among David M. Tolley, Intelsat S.A. and Intelsat US LLC.*†</a>
10.43	<a href="#">Employment Agreement, dated as of January 9, 2018, by and between Samer Halawi and Intelsat Corporation.*†</a>
10.44	<a href="#">First Amendment, dated as of December 28, 2018, to Employment Agreement, dated as of January 9, 2018, by and between Samer Halawi and Intelsat US LLC.*†</a>
10.45	<a href="#">Employment Agreement, dated as of March 18, 2013, by and among Intelsat Global Holdings S.A., Intelsat S.A. and Michelle Bryan (incorporated by reference to Exhibit 10.78 to Amendment No. 7 to Intelsat Global Holdings S.A.'s Registration Statement on Form F-1, File No. 333-181527, filed on March 20, 2013).†</a>



Exhibit No.	Document Description
10.46	<a href="#">First Amendment, dated as of April 18, 2013, to Employment Agreement, dated as of March 18, 2013, by and among Intelsat S.A., Intelsat Investments S.A., Intelsat Management LLC and Michelle Bryan.*†</a>
10.47	<a href="#">Second Amendment, dated as of December 24, 2018, to Employment Agreement, dated as of March 18, 2013, by and among Intelsat S.A., Intelsat Management LLC, Intelsat US LLC and Michelle Bryan.*†</a>
10.48	<a href="#">Employment Agreement, dated as of December 21, 2015, by and between Intelsat Corporation and Michael DeMarco.*†</a>
10.49	<a href="#">First Amendment, dated as of August 21, 2017, to Employment Agreement, dated as of December 21, 2015, by and among Intelsat Corporation and Michael DeMarco.*†</a>
10.50	<a href="#">Second Amendment, dated as of December 28, 2018, to Employment Agreement, dated as of December 21, 2015, by and between Intelsat US LLC and Michael DeMarco.*†</a>
10.51	<a href="#">Form of Time-Based Restricted Stock Unit Award Agreement between Intelsat S.A. and certain directors, pursuant to Intelsat S.A.'s 2013 Equity Incentive Plan.*†?</a>
10.52	<a href="#">Form of Time-Based Restricted Stock Unit Award Agreement between Intelsat S.A. and its executive officers, pursuant to Intelsat S.A.'s 2013 Equity Incentive Plan.*†?</a>
10.53	<a href="#">Form of Performance-Based Restricted Stock Unit Award Agreement between Intelsat S.A. and its executive officers, pursuant to Intelsat S.A.'s 2013 Equity Incentive Plan.*†?</a>
10.54	<a href="#">Option Agreement, dated as of April 18, 2013, by and between Intelsat S.A. and David McGlade.*†</a>
10.55	<a href="#">First Amendment to Option Agreement, dated as of October 24, 2014, to Option Agreement, dated as of April 18, 2013, by and between Intelsat S.A. and David McGlade.*†</a>
10.56	<a href="#">Second Amendment to Option Agreement, dated as of January 2, 2016, to Option Agreement, dated as of April 18, 2013, by and between Intelsat S.A. and David McGlade.*†</a>
10.57	<a href="#">Option Agreement, dated as of April 18, 2013, by and between Intelsat S.A. and David McGlade.*†</a>
10.58	<a href="#">First Amendment to Option Agreement, dated as of October 24, 2014, to Option Agreement, dated as of April 18, 2013, by and between Intelsat S.A. and David McGlade.*†</a>
10.59	<a href="#">Second Amendment to Option Agreement, dated as of December 15, 2015, to Option Agreement, dated as of April 18, 2013, by and between Intelsat S.A. and David McGlade.*†</a>
10.60	<a href="#">Employee Nonqualified Option Award Agreement, dated as of May 1, 2013, by and between Intelsat S.A. and David McGlade.*†</a>
10.61	<a href="#">First Amendment, dated as of December 15, 2015, to Employee Nonqualified Option Award Agreement, dated as of May 1, 2013, by and between Intelsat S.A. and David McGlade.*†</a>
10.62	<a href="#">Employee Nonqualified Option Award Agreement, dated as of May 1, 2013, by and between Intelsat S.A. and Stephen Spengler.*†</a>
10.63	<a href="#">First Amendment, dated as of December 15, 2015, to Employee Nonqualified Option Award Agreement, dated as of May 1, 2013, by and between Intelsat S.A. and Stephen Spengler.*†</a>
10.64	<a href="#">Employee Nonqualified Option Award Agreement, dated as of December 15, 2015, by and between Intelsat S.A. and Stephen Spengler.*†</a>
10.65	<a href="#">Intelsat S.A.'s Bonus Plan (incorporated by reference to Exhibit 4.40 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 001-35878, filed on February 20, 2014).†</a>
10.66	<a href="#">Intelsat S.A.'s Amended and Restated 2008 Share Incentive Plan (incorporated by reference to Exhibit 4.15 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 001-35878, filed on February 20, 2014).†</a>
10.67	<a href="#">Intelsat S.A.'s 2013 Equity Incentive Plan (incorporated by reference to Exhibit 4.39 of Intelsat S.A.'s Annual Report on Form 20-F, File No. 001-35878, filed on February 20, 2014).†</a>
10.68	<a href="#">First Amendment to Intelsat S.A.'s 2013 Equity Incentive Plan, effective as of October 23, 2014 (incorporated by reference to Exhibit 4.64 to Intelsat S.A.'s Annual Report on Form 20-F, File No. 001-35878, filed on February 18, 2015).†</a>
10.69	<a href="#">Second Amendment to Intelsat S.A.'s 2013 Equity Incentive Plan, effective as of June 16, 2016 (incorporated by reference to Exhibit 10.3 of Intelsat S.A.'s Registration Statement on Form S-8, File No. 333-212417, filed on July 6, 2016).†</a>
10.70	<a href="#">Form of Indemnification Agreement between Intelsat S.A. and its directors and officers (previously filed as Exhibit 10.64 to Amendment No. 2 to Intelsat Global Holdings S.A.'s Registration Statement on Form F-1, File No. 333-181527, filed on August 8, 2012).†</a>
21.1	<a href="#">List of significant subsidiaries of Intelsat S.A.*</a>
23.1	<a href="#">Consent of KPMG LLP, independent registered public accounting firm.*</a>
31.1	<a href="#">Rule 13a-14(a)/15d-14(a) Certification of Principal Executive Officer.*</a>
31.2	<a href="#">Rule 13a-14(a)/15d-14(a) Certification of Principal Financial Officer.*</a>

**Exhibit  
No.**

**Document Description**

32.1	<a href="#"><u>Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*</u></a>
32.2	<a href="#"><u>Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*</u></a>
101	The following financial information from the Company's Annual Report on Form 10-K for the year ended December 31, 2019, formatted in Inline Extensible Business Reporting Language (iXBRL): (i) Consolidated Balance Sheets as of December 31, 2018 and 2019, (ii) Consolidated Statements of Operations for the years ended December 31, 2017, 2018 and 2019, (iii) Consolidated Statements of Comprehensive Loss for the years ended December 31, 2017, 2018 and 2019, (iv) Consolidated Statements of Changes in Shareholders' Deficit for the years ended December 31, 2016, 2017, 2018 and 2019, (v) Consolidated Statements of Cash Flows for the years ended December 31, 2017, 2018 and 2019, and (vi) Notes to Consolidated Financial Statements.*
104	Cover Page Interactive Data File - the cover page XBRL tags are embedded within the Inline XBRL document.

\* Filed herewith.

† Management contract or compensatory plan or arrangement.

? Certain confidential information contained in this exhibit was omitted by means of redacting a portion of the text.



SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS

Description	Balance at Beginning of Period	Charged to Costs and Expenses	Deductions <sup>(1)</sup>	Balance at End of Period
	(in thousands)			
<b>Year ended December 31, 2017:</b>				
Allowance for doubtful accounts	\$ 54,744	\$ (4,094)	\$ (20,981)	\$ 29,669
<b>Year ended December 31, 2018:</b>				
Allowance for doubtful accounts	\$ 29,669	\$ (836)	\$ (291)	\$ 28,542
<b>Year ended December 31, 2019:</b>				
Allowance for doubtful accounts	\$ 28,542	\$ 17,190	\$ (5,704)	\$ 40,028

(1) Uncollectible accounts written off, net of recoveries.

**Item 16. Form 10-K Summary**

None.

