Iridium Communications Inc.
Form 10-K
February 28, 2019

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

FORM 10-K

(Mark One)
ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018
OR
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission File Number 001-33963

Iridium Communications Inc.
(Exact name of registrant as specified in its charter)

Delaware	26-1344998
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1750 Tysons Boulevard, Suite 1400, McLean, Virginia 22102
(Address of principal executive offices, including zip code)
703-287-7400
(Registrant's telephone number, including area code)
Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.001 par value	NASDAQ Global Select Market
6.75% Series B Cumulative Perpetual Convertible Preferred Stock, $0.0001 par value	NASDAQ Global Select Market

Securities Registered Pursuant to Section 12(g) of the Act: None

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Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ý No
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No ý
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 ý 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 ý No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ý

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. (Check one):

Large accelerated filer	ý	Accelerated filer	
Non-accelerated filer	(Do not check if a smaller reporting company)	Smaller Reporting Company	
		Emerging Growth Company	

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No ý

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold as of June 29, 2018, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $1,566.7 million.

The number of shares of the registrant's common stock, par value $0.001 per share, outstanding as of February 22, 2019 was 112,239,417.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2019 annual meeting of stockholders to be filed pursuant to Regulation 14A with the Securities and Exchange Commission not later than 120 days after the registrant's fiscal year end of December 31, 2018, are incorporated by reference into Part III of this Form 10-K.

IRIDIUM COMMUNICATIONS INC.

ANNUAL REPORT ON FORM 10-K
Year Ended December 31, 2018

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Forward-Looking Statements

This report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. For this purpose, any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Such forward-looking statements include those that express plans, anticipation, intent, contingencies, goals, targets or future developments or otherwise are not statements of historical fact. Without limiting the foregoing, the words “believes,” “anticipates,” “plans,” “expects,” “intends” and similar expressions are intended to identify forward-looking statements. These forward-looking statements are based on our current expectations and projections about future events, and they are subject to risks and uncertainties, known and unknown, that could cause actual results and developments to differ materially from those expressed or implied in such statements. The important factors discussed under the caption “Risk Factors” in this Form 10-K could cause actual results to differ materially from those indicated by forward-looking statements made herein. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

PART I

Item 1. Business

Corporate Background

We were formed as GHL Acquisition Corp., a special purpose acquisition company, in November 2007, for the purpose of effecting a merger, capital stock exchange, asset acquisition, stock purchase, reorganization or other similar business combination. On February 21, 2008, we consummated our initial public offering. On September 29, 2009, we acquired, directly and indirectly, all the outstanding equity of Iridium Holdings LLC, or Iridium Holdings, and changed our name from GHL Acquisition Corp. to Iridium Communications Inc.

Iridium Holdings was formed under the laws of Delaware in 2000, and on December 11, 2000, Iridium Holdings, through its wholly owned subsidiary Iridium Satellite LLC, or Iridium Satellite, acquired certain satellite assets from Iridium LLC, a non-affiliated debtor in possession, pursuant to an asset purchase agreement.

Business Overview

We are the only commercial provider of communications services offering true global coverage, connecting people, organizations and assets to and from anywhere, in real time. Our unique L-band satellite network provides reliable communications services to regions of the world where terrestrial wireless or wireline networks do not exist or are limited, including remote land areas, open ocean, airways, the polar regions and regions where the telecommunications infrastructure has been affected by political conflicts or natural disasters.

We provide voice and data communications services to businesses, the U.S. and foreign governments, non-governmental organizations and consumers via our satellite network, which has an architecture of 66 operational satellites with in-orbit and ground spares and related ground infrastructure. We utilize an interlinked mesh architecture to route traffic across our satellite constellation using radio frequency crosslinks between satellites. This unique architecture minimizes the need for local ground facilities to support the constellation, which facilitates the global reach of our services and allows us to offer services in countries and regions where we have no physical presence.

In February 2019, we completed the replacement of our first-generation satellites with our Iridium® NEXT satellite constellation, which supports higher data speeds for new products, including our recently introduced Iridium Certus℠ broadband service. Iridium NEXT is an approximately $3 billion project and maintains the same interlinked mesh architecture of our first-generation constellation, with 66 operational satellites, as well as in-orbit and ground spares and is compatible with all end-user equipment. We financed the construction of Iridium NEXT with the substantial majority of funds from a $1.8 billion loan facility, or the Credit Facility, as well as cash and cash equivalents on hand and internally generated cash flows.

The Iridium NEXT constellation also hosts the Aireon℠ system, which will provide a global air traffic surveillance service through a series of automatic dependent surveillance-broadcast, or ADS-B, receivers on the Iridium NEXT satellites. We formed Aireon LLC in 2011, with subsequent investments from the air navigation service providers, or ANSPs, of Canada, Italy, Denmark, Ireland and the United Kingdom, to develop and market this service. Aireon has contracted to provide the service to our co-investors in Aireon and to other ANSPs around the world. Aireon is also offering the service to ANSP customers worldwide, including the U.S. Federal Aviation Administration, or FAA. The FAA recently announced that it will run operational trials of the Aireon system beginning in 2020. Aireon has also contracted to pay us a fee to host the ADS-B receivers on Iridium NEXT, as well as data service fees for the delivery of the air traffic surveillance data over the Iridium NEXT system. In addition, we have entered into an agreement with Harris Corporation, the manufacturer of the Aireon hosted payload, pursuant to which Harris pays us fees to allocate

the remaining hosted payload capacity to its customers and data service fees on behalf of these customers.

Our commercial business, which we view as our primary source of long-term growth, is diverse and serves markets such as emergency services, maritime, aviation, government, utilities, oil and gas, mining, recreation, forestry, heavy equipment, construction and transportation. Many of our end users view our products and services as critical to their daily operations and integral to their communications and business infrastructure. For example, multinational corporations in various sectors use our services for business telephony, e-mail and data transfer, including telematics, and to provide mobile communications services for employees in areas inadequately served by other telecommunications networks. Commercial enterprises use our services to track assets in remote areas and provide telematics information such as location and engine diagnostics. Ship crews and passengers use our services for ship-to-shore calling, as well as to send and receive e-mail and data files, and to receive electronic media, weather reports, emergency bulletins and electronic charts. Shipping operators use our services to manage

operations on board ships and to transmit data, such as course, speed and fuel stock. Aviation end users use our services for air-to-ground telephony and data communications for position reporting, emergency tracking, weather information, electronic flight bag updates and airline operational communications. We expect that Iridium Certus will drive future growth opportunities in our commercial business by providing end users an additional competitive broadband communication solution.

The U.S. government, directly and indirectly, has been and continues to be our largest single customer, generating $105.7 million in service and engineering and support service revenue, or 20% of our total revenue, for the year ended December 31, 2018. This does not include revenue from the sale of equipment that may be ultimately purchased by U.S. or non-U.S. government agencies through third-party distributors, or airtime services purchased by U.S. or non-U.S. government agencies that are provided through our commercial gateway, as we lack specific visibility into these activities and the related revenue. We are operating under a multi-year, fixed-price contract with the U.S. government to provide satellite airtime services for an unlimited number of U.S. Department of Defense, or DoD, and other federal government subscribers. This contract had a total value of $400 million over its five-year term, through October 2018. The government has exercised its option to extend the contract for an additional six months, at the same pricing as the final year of the contract, until April 2019. We expect to enter into a new contract with the U.S. government to provide continuing satellite airtime services prior to the extended expiration of the current agreement.

The DoD owns and operates a dedicated gateway that is only compatible with our satellite network. The U.S. armed services, State Department, Department of Homeland Security, Federal Emergency Management Agency, or FEMA, Customs and Border Protection, and other U.S. government agencies, as well as other nations' governmental agencies, use our voice and data services for a wide variety of applications. Our voice and data products are used for numerous primary and backup communications solutions, including logistical, administrative, morale and welfare, tactical, and emergency communications. In addition, our products are installed in ground vehicles, ships, and rotary and fixed-wing aircraft and are used for command-and-control and situational awareness purposes. Our satellite network provides increased network security to the DoD because traffic is routed across our satellite constellation before being brought down to earth through the dedicated, secure DoD gateway. The DoD has made, and continues to make, significant investments to upgrade its dedicated gateway, which is fully compatible with the Iridium NEXT constellation, and to purchase our voice and data devices, all of which are only compatible with our satellite network. In addition, the DoD continues to invest directly and indirectly in research and development and implementation support for additional services on our network, such as Distributed Tactical Communications Services, or DTCS, as well as Iridium Certus.

We sell our products and services to commercial end users primarily through a wholesale distribution network, encompassing approximately 130 service providers, approximately 230 value-added resellers, or VARs, and approximately 90 value-added manufacturers, or VAMs, which create and sell technology that uses the Iridium network either directly to the end user or indirectly through other service providers, VARs or dealers. These distributors often integrate our products and services with other complementary hardware and software and have developed a broad suite of applications using our products and services to target specific lines of business. We expect that demand for our services will increase as more applications are developed and deployed that utilize our technology, including following our commercial launch of Iridium Certus services in January 2019.

At December 31, 2018, we had approximately 1,121,000 billable subscribers worldwide, representing a 16% increase compared to December 31, 2017. Total revenue increased from $448.0 million in 2017 to $523.0 million in 2018.

Industry

We compete in the mobile satellite services sector of the global communications industry. Mobile satellite services operators provide voice and data services to people and machines using a network of satellites and ground facilities.

Mobile satellite services are intended to meet users' needs for connectivity in all locations where terrestrial wireless and wireline communications networks do not exist, do not provide sufficient coverage, or are impaired. Further, many regions of the world benefit from satellite networks, such as rural and developing areas that lack adequate wireless or wireline networks, airways, ocean and polar regions where few alternatives exist, and regions where the telecommunications infrastructure has been affected by political conflicts or natural disasters.

Government organizations, including military and intelligence agencies and disaster response agencies, non-governmental organizations, and industrial operations and support teams depend on mobile and fixed voice and data satellite communications services on a regular basis. Businesses with global operations require reliable communications services when operating in remote locations around the world. Mobile satellite services users span many sectors, including emergency services, maritime, aviation, government, utilities, oil and gas, mining, recreation, forestry, heavy equipment, construction and transportation, among others. Many of our customers view satellite communications services as critical to their daily operations.

We believe that increasing mobile penetration creates additional demand for mobile satellite services. According to a 2018 study by the GSM Association, total mobile connections, excluding cellular Internet of Things, or IoT, reached 7.8 billion throughout the world as of the end of 2017 and are projected to reach 9.0 billion by 2025.

We believe that growth in the terrestrial wireless industry has increased awareness of the need for reliable mobile voice and data communications services. In addition, despite significant penetration and competition, terrestrial wireless systems do not cover a large majority of the earth's surface and are focused mainly in those areas where people live, excluding oceans and other remote regions where ships, airplanes and other remote assets may travel or be located. By offering mobile communications services with global voice and data coverage, mobile satellite service providers address the demand from businesses, governments and individuals for connectivity and reliability in locations not consistently served by wireline and wireless terrestrial networks.

The mobile satellite services industry also benefits from the continued development of innovative, lower-cost technology and applications integrating mobile satellite products and services, including the continued advancement of IoT. We believe that growth in demand for mobile satellite services is driven in large part by the declining cost of these services, the diminishing size and lower costs of voice, data and IoT devices, the rollout of new applications tailored to the specific needs of customers across a variety of markets, and a more favorable regulatory environment in international markets.

Communications industry sectors include:

- mobile satellite services, which provide customers with voice and data connectivity to mobile and fixed devices using ground facilities and networks of geostationary, or GEO, satellites, which are located approximately 22,300 miles above the equator, medium earth orbit satellites, which orbit between approximately 6,400 and 10,000 miles above the earth's surface, or low earth orbit, or LEO, satellites, such as those in our constellation, which orbit between approximately 300 and 1,000 miles above the earth's surface;

- fixed satellite services, which use GEO satellites to provide customers with broadband communications links between fixed points on the earth's surface; and

- terrestrial services, which use a network of land-based equipment, including switching centers and radio base stations, to provide wireless or wireline connectivity and are complementary to satellite services.

Within the two major satellite sectors, fixed satellite services and mobile satellite services, operators differ significantly from each other with respect to size of antenna and types of services offered. Fixed satellite services providers, such as Intelsat S.A., Eutelsat Communications S.A. and SES S.A., are characterized by large, often stationary or fixed ground terminals that send and receive high-bandwidth signals to and from the satellite network for video and high-speed data customers and international telephone markets. By contrast, mobile satellite services providers, such as us, Inmarsat plc, Globalstar, Inc., and ORBCOMM Inc. focus more on voice and data services, where mobility and small-sized terminals are essential.

A LEO system, such as the system we operate, generally has lower transmission delays, or latency, than a GEO system, such as that operated by Inmarsat, due to the shorter distance signals have to travel, which also enables the use of smaller antennas on mobile devices. We believe the unique interlinked mesh architecture of our constellation, combined with the global footprint of our satellites, distinguishes us from regional LEO satellite operators such as Globalstar and ORBCOMM, by allowing us to route voice and data transmissions to and from anywhere on the earth's surface without the need for local infrastructure. As a result, we are the only mobile satellite services operator offering real-time, low-latency services with true global coverage, including full coverage of the polar regions.

Our Competitive Strengths

- Our Constellation. Our new satellite constellation, Iridium NEXT, enables the development of new products and services, including our global broadband offering, Iridium Certus. Iridium NEXT also supports more capacity and higher speeds for new products, provides service continuity and compatibility with our earlier products, and supports Aireon's aircraft tracking service, as well as other hosted payload missions.

- Attractive and growing markets. We believe that the mobile satellite services industry will continue to experience growth driven by the increasing awareness of the need for reliable mobile voice and data communications services, the lack of coverage by terrestrial wireless systems of most of the earth's surface, and the continued development of innovative, lower cost technology, applications integrating mobile satellite products and services, and the continued

development of the IoT. Only satellite providers can offer global coverage, and the satellite industry is characterized by significant financial, technological and regulatory barriers to entry.

True global coverage. Our network provides true global coverage, which none of our competitors, whether LEO or GEO, can offer. Our network design of 66 operational satellites relies on an interlinked mesh architecture to transmit signals from satellite to satellite, which reduces the need for multiple local ground stations around the world and facilitates the global reach of our services. GEO satellites orbit above the earth's equator, limiting their visibility to far northern or southern latitudes and polar regions. LEO satellites from operators like Globalstar and ORBCOMM use an architecture commonly referred to as "bent pipe," which requires voice and data transmissions to be immediately routed to ground stations in the same region as the satellite and can only provide real-time service when they are within view of a ground station, limiting coverage to areas near where they have been able to license and locate ground infrastructure. The LEO design of our satellite constellation produces minimal voice and data transmission delays compared to GEO systems due to the shorter distance our signals have to travel, and LEO systems typically have smaller antenna requirements. As a result, we believe that we are well-positioned to capitalize on the growth in our industry from end users who require reliable, easy-to-use communications services in all locations.

Wholesale distribution network. The specialized needs of our global end users span many markets, including emergency services, maritime, aviation, government, utilities, oil and gas, mining, recreation, forestry, heavy equipment, construction and transportation. We sell our products and services to commercial end users primarily through a wholesale distribution network of service providers, VARs and VAMs, which often specialize in a particular line of business. Our distributors use our products and services to develop innovative and integrated communications solutions for their target markets, embedding our technology in their products or combining our products with other technologies, such as GPS and terrestrial wireless technology. In addition to promoting innovation, our wholesale distribution model allows us to capitalize on the research and development expenditures of our distribution partners, while lowering overall customer acquisition costs and mitigating some risks, such as consumer relationship risks. By supporting these distributors as they develop new products, services and applications, we believe we create additional demand for our products and services and expand our target markets at a lower cost than would a more direct marketing model. We believe our distribution network can continue to grow with us and increase our market penetration. For example, we are using our wholesale distribution approach to introduce Iridium Certus services, with multiple VAMs developing Iridium Certus customer terminals for the maritime, aviation and terrestrial markets at their expense, and agreements with numerous service partners to sell, service and support Iridium Certus terminals and service to global customers across these markets.

Strategic relationship with the U.S. government. The U.S. government is our largest single customer, and we have had a relationship with the DoD since our inception. We believe the DoD views our IoT devices, encrypted handset, DTCS and other products as mission-critical services and equipment. The DoD continues to make significant investments in a dedicated gateway on a U.S. government site to provide operational security and allow DoD handset and IoT users to communicate securely with other U.S. government communications equipment. This gateway is only compatible with our satellite network. In October 2013, we entered into a five-year, fixed-price contract with the U.S. government to provide satellite airtime services for an unlimited number of DoD and other federal government subscribers, with a total contract value of $400 million, which was recently extended by the government to April 2019. We have seen significant annual increases in the number of federal government subscribers during the term of this agreement. As a result, the average cost per user under this agreement has fallen, increasing the value of Iridium services to U.S. government customers. We expect to enter into a new contract with the U.S. government to provide continuing satellite airtime services prior to the expiry of the current agreement.

Our Business and Growth Strategies

Leverage our largely fixed-cost infrastructure by growing our service revenue. Our business model is characterized by high capital costs, primarily incurred every 10 to 15 years, in connection with designing, building and launching new generations of our satellite constellation, like our recently completed Iridium NEXT program, and a low incremental cost of providing service to additional end users. We believe that service revenue will be our largest source of future growth and profits, and we intend to focus on growing both our commercial and government service revenue in order to leverage our largely fixed-cost infrastructure. In particular, we believe that competitive broadband data services through Iridium Certus and satellite IoT services, where we are engaging large, global enterprises as long-term customers for high-speed data and telematics solutions, represent our greatest opportunities for service revenue growth.

- Expand our target markets through the development of new products and services. We believe that we can expand our target markets developing and offering a broader range of products and services, including a wider array of cost-effective and competitive broadband and IoT data services through Iridium Certus technology. Iridium Certus is a multi-service platform that can deliver a range of services, from voice to a high-throughput L-band data connection, at a range of competitive price points, data speeds, and terminal dimensions to meet an expanding set of customer requirements. Iridium Certus services will include background IP data, streaming IP data, high quality voice, messaging, and safety services, including Global Maritime Distress Safety System, or GMDSS, and Aeronautical Mobile Satellite Route Service, or AMSRS. We also recently began collaborating with Amazon Web Services on the development of Iridium CloudConnect, a cloud-based solution offering truly global coverage for IoT applications.

- Accelerate the development of personal communications capabilities. Part of our strategy for the development of personal mobile satellite communications is to allow users to connect to our network in more ways, including from devices such as smartphones, tablets and laptops through our Iridium GO!® device; by making our technology more accessible and cost-effective for our distribution partners to integrate by licensing our core technologies; by adding new functionality, such as push-to-talk, or PTT, capability, allowing multiple users to participate in talk groups worldwide; by providing rugged, dependable devices and services; and by developing new services, such as Iridium Certus, that will take advantage of the improved capabilities of the Iridium NEXT constellation.

- Continue to expand our distribution network. We believe our wholesale distribution network lowers our costs and risks, and we plan to continue to selectively expand our network of service providers, VAMs and VARs and to expand our sales and distribution efforts geographically. We expect that our current and future value-added partners will continue to develop customized products, services and applications targeted to the land mobile, IoT, maritime, aviation and government markets. We believe these markets and the new service providers, VAMs and VARs who join our network as a result of new product offerings represent an attractive opportunity for continued subscriber growth.

- Continued growth in services provided to the DoD. In October 2013, we executed a five-year Enhanced Mobile Satellite Services, or EMSS, contract managed by Air Force Space Command, which was recently extended by the government to April 2019. Under the terms of this agreement, we provide Iridium airtime and airtime support to U.S. government and other authorized customers, including voice, low- and high-speed data, paging, broadcast, and distributed tactical communication services. The service fee under the EMSS contract is currently $88 million per year. We expect to enter into a new contract with the U.S. government to provide satellite airtime services prior to the expiry of the current agreement. In addition, other services such as Iridium Certus and satellite time and location service provide us with opportunities to offer new products and services to the U.S. government for an additional fee.

- Continue to support Aireon in the execution of its business plan. Aireon, which we formed in 2011, is our primary hosted payload customer. Aireon received subsequent investments from five ANSPs, NAV CANADA, Enav (Italy), NATS (United Kingdom), Naviair (Denmark) and the Irish Aviation Authority. Aireon has developed an ADS-B receiver which is hosted on the Iridium NEXT satellites and gathers ADS-B position information from aircraft to provide a global air traffic surveillance service. Aireon has contracted to offer its service to ANSPs and other commercial customers worldwide. The FAA recently announced that it plans to use the Aireon system in a number of areas beginning in 2020. Aireon has also contracted to pay us a fee to host their payloads on Iridium NEXT and pays us data service fees for the delivery of the air traffic surveillance data from those payloads over the Iridium NEXT system. We will also continue to hold a meaningful equity stake in Aireon.

Distribution Channels

We sell our products and services to customers through a wholesale distribution network of approximately 130 service providers, approximately 230 VARs and approximately 90 VAMs. These distributors sell our products and services to

end users, either directly or indirectly through service providers, VARs or dealers. Of these distributors, 34 sell primarily to U.S. and international government customers. Our distributors often integrate our products and services with other complementary hardware and software and have developed individual solutions targeting specific lines of business. We also sell airtime services directly to the U.S. government, including the DoD, for resale to other government agencies. The U.S. government and international government agencies may purchase additional services as well as our products and related applications through our network of distributors.

We provide our distributors with support services, including assistance with coordinating end user sales and marketing, strategic planning and training, and second-tier customer support, as well as helping them respond to new opportunities for our products and services. We have representatives covering three regions around the world to better manage our distributor relationships: the Americas, which includes North, South and Central America; Asia Pacific, which includes Australia and Asia;

and Europe, the Middle East, Africa and Russia. We have also established a global service program to provide portside service for our maritime customers at major ports worldwide. In addition, we maintain various online management tools that allow us to communicate efficiently with our distributors, and allow them to manage their customers' Iridium devices from anywhere in the world. By relying on our distributors to manage end user sales, we believe that we reduce some of the risks and costs related to our business, such as consumer relationship risks and sales and marketing costs, while providing a broad and expanding distribution network for our products and services with access to diverse and geographically dispersed niche markets. We are also able to benefit from the specialized expertise of our distributors, who continue to develop innovative and improved solutions and applications integrating our product and service offerings, providing us with an attractive platform to support our growth.

Commercial Markets

We view our commercial business as our primary source of long-term growth. Service providers and VARs serve as our main distribution channel by purchasing our products and services and marketing them directly to their customers or indirectly through independent dealers. They are each responsible for customer billing, end user customer care, managing credit risk and maintaining all customer account information. If our service providers or VARs provide our services through dealers, these dealers will often provide such services directly to the end user. Service providers typically purchase our most basic products and services, such as mobile voice services and related satellite handsets, and offer additional services such as voice mail. Unlike service providers, our VARs typically focus more on data applications and provide a broader array of value-added services specifically targeted to the niche markets they serve, such as IoT, maritime, aviation and government markets, where high-use customers with specialized needs are concentrated. These VARs integrate our handsets, transceivers, high-speed data devices and Short Burst Data®, or SBD®, modems with other hardware and software to create packaged solutions for end users. Examples of these applications include cockpit voice and data solutions for use by the aviation sector and voice, data and tracking applications for industrial customers, such as Caterpillar Inc., the DoD and other U.S. and foreign government agencies. Our service providers include satellite service providers such as Marlink AS, Applied Satellite Technology Limited and Network Innovations, as well as some of the largest telecommunications companies in the world, including Telstra Corporation Limited, KDDI Corporation and Singapore Telecommunications Limited. Our VARs include ARINC Incorporated, Blue Sky Network, LLC, Caterpillar Inc., Garmin International, Inc., General Dynamics Satellite Communication Services, Inc., Gogo Business Aviation LLC, Komatsu Ltd, Kore Telematics Inc., MetOcean Telematics Limited, Mix Telematics International (Pty) Ltd., NAL Research Corporation, OnixSat Rastreamento de Veículos Ltda. and Zunibal S.A.

We also sell our products to VAMs, who integrate our transceivers into their proprietary hardware. These VAMs produce specialized end-user equipment, including integrated ship, vehicular and aviation communications systems, and global asset tracking devices, which they offer to end users in IoT, maritime, aviation and government markets. As with our service providers and VARs, VAMs sell their products either directly or through other distributors, including some of our service providers and VARs. Our VAMs include Applied Satellite Engineering, Inc., Beam Communications Pty Ltd., Calamp Wireless Networks Corporation, Cobham plc, Garmin Ltd., Gilat Telecom Ltd., Honeywell Global Tracking Limited and Quake Global, Inc.

In addition to VARs and VAMs, we maintain relationships with approximately 50 value-added developers, or VADs. We typically provide technical information to these companies on our products and services, which they then use to develop software and hardware that complements our products and services in line with the specifications of our VARs and VAMs. These products include handset docking stations, airline tracking and flight management applications and crew e-mail applications for the maritime industry. We believe that working with VADs allows us to create new platforms for our products and services and increases our market opportunity while reducing our overall research and development, marketing and support expenses. Our VADs include Global Marine Networks, LLC, TE Connectivity Corporation, Maxtena, Inc. and Two10degrees Limited.

We maintain a pricing model for our commercial products and services with a wholesale rate structure. Under our distribution agreements, we charge our distributors wholesale rates for commercial products and services, subject to discount and promotional arrangements and geographic pricing. We also charge fixed monthly access fees per subscriber for some of our services. Our distributors are in turn responsible for setting their own pricing to their customers. Our agreements with distributors typically have terms of one year and are automatically renewable for additional one-year terms, subject to termination rights. We believe we benefit from the simplicity of this business model, which reduces back-office complexities and costs and allows distributors to remain focused on revenue generation, while also providing incentives for distributors to focus on selling our commercial product and service portfolio and developing additional applications.

Government Markets

We provide mission-critical mobile satellite products and services to all military branches of the DoD as well as other U.S. government departments and agencies. These users require voice and two-way data capability with global coverage, low latency, mobility and security and often operate in areas where no other terrestrial or wireless means of communications are available. We believe we are well-positioned to satisfy demand from these users. Our 9575A satellite handset is the only commercial, mobile handheld satellite phone that is capable of Type I encryption accredited by the U.S. National Security Agency for Top Secret voice communications. In addition, the DoD continues to make significant investments in a dedicated gateway that provides operational security and allows users of encrypted DoD handsets to communicate securely with other U.S. government communications equipment. These investments include upgrading the gateway to take advantage of the enhanced capabilities of Iridium NEXT, including Iridium Certus and other enhanced services. This DoD gateway is only compatible with our satellite network.

We provide airtime and airtime support to U.S. government and other authorized customers pursuant to our five-year EMSS contract, which was extended by the government to April 2019. As of December 2018, this contract, previously managed by the Defense Information Systems Agency, or DISA, is now managed by Air Force Space Command as part of the government's consolidation and reorganization of the way it procures commercial satellite services. Under the terms of this agreement, authorized customers utilize our airtime services through the DoD’s dedicated gateway. These services include unlimited global secure and unsecure voice, low and high-speed data, paging, broadcast, and DTCS services for an unlimited number of DoD and other federal subscribers. Other services may be purchased at an additional cost. The fixed-price rate for the contract is currently $88 million per year, including during the extended contract period. While we sell airtime directly to the U.S. government for resale to end users, our hardware products are sold to U.S. government customers through our network of distributors, which typically integrate them with other products and technologies. Pursuant to federal acquisition regulations, the U.S. government may terminate the EMSS contract, in whole or in part, at any time. We expect to enter into a new contract with the U.S. government to provide satellite airtime services prior to the expiry of the current agreement.

We also provide maintenance services for the DoD gateway pursuant to our Gateway Maintenance and Support Services, or GMSS, contract managed by Air Force Space Command. This agreement, effective September 2013, provided for a one-year base term and four additional one-year options, all of which were exercised, for a total value of the contract to us of approximately $38 million. The U.S. government notified us of its intent to extend this agreement through March 2019, and we expect to enter into a new contract with the U.S. government to provide maintenance and support services for the DoD gateway prior to the expiry of the current agreement. Pursuant to federal acquisition regulations, the U.S. government may terminate the GMSS contract, in whole or in part, at any time.

In October 2012, we were also awarded a five-year indefinite-delivery/indefinite-quantity contract from DISA (now Air Force Space Command) to upgrade the DoD gateway and ensure its compatibility with Iridium NEXT. This contract had a one-year base period and four one-year options, all of which were exercised, and had a value of $47 million to us over the five-year period. Currently, our work for the DoD is performed under a continuing task order.

U.S. government services accounted for approximately 20% of our total revenue for the year ended December 31, 2018. Our reported U.S. government revenue includes airtime revenue derived from the EMSS contract and services provided through the GMSS contract and other engineering and support contracts with the U.S. government. This revenue does not include airtime services purchased by U.S. or non-U.S. government agencies that are provided through our commercial gateway, which we report as commercial service revenue, or equipment purchased by government customers from third-party distributors. We are unable to determine the specific amount of U.S. government revenue derived from these commercial sources.

Lines of Business

The specialized needs of our global customers span many markets. Our system is able to offer our customers cost-effective communications solutions with true global coverage in areas unserved or underserved by existing telecommunications infrastructure. Our mission-critical communications solutions have become an integral part of the communications and business infrastructure of many of our end users. In many cases, our service is the only connectivity for these critical applications or is used to complement terrestrial communications solutions.

Our current principal vertical lines of business include land mobile, maritime, aviation, IoT, hosted payloads and other data services and U.S. government. Land mobile, maritime and aviation are the principal contributors to the revenue we report as commercial voice and data. We report commercial voice and data service, IoT data service, hosted payload and other data service, and government service revenue separately. We expect Iridium Certus services to increase our opportunities in most of our lines of business by providing end users an additional competitive broadband communication solution. As we grow our

Iridium Certus service revenue, we expect to begin separately reporting commercial Iridium Certus revenue with Iridium OpenPort service revenue as a broadband revenue line item. Currently Iridium Certus revenue and Iridium OpenPort service revenue are included in commercial voice and data revenue.

Commercial Voice and Data

Land Mobile

We are the leading provider of mobile satellite communications services to the land mobile sector, providing handset services to areas not served or inconsistently served by existing terrestrial communications networks. In a 2018 report, Northern Sky Research estimated that there were approximately 790,000 satellite units in service in 2017. Mining, forestry, construction, oil and gas, utilities, heavy industry and transport companies as well as the military, public safety and disaster relief agencies constitute the largest portion of our land mobile end users. Sales of Iridium GO! and Iridium PTT services also contribute to the land mobile sector. We believe that demand for mobile communications devices operating outside the coverage of terrestrial networks, combined with our small, lightweight, durable handsets with true global coverage, will allow us to capitalize on growth opportunities among these users.

In addition, we expect Iridium Certus land mobile units to be attractive in this market, as the combination of price, speeds, equipment, service costs and durability/ruggedness of equipment are expected to address a distinct market need.

Our land mobile end users utilize our satellite communications services for:

- Voice and data: Multinational corporations in various sectors use our services for business telephony, e-mail and data transfer services, location-based services, broadband and to provide telephony services for employees in areas inadequately served by terrestrial networks. Oil and gas and mining companies, for example, provide their personnel with our equipment solutions while surveying new drilling and mining opportunities and while conducting routine operations in remote areas that are not served by terrestrial wireless communications networks. In addition, a number of recreational, scientific and other outdoor users rely on our mobile handheld satellite phones and services for use when beyond terrestrial wireless coverage. In addition, Iridium PTT offers military, first responder, oil and gas, civil government and other users the ability to hold group calls using the Iridium Extreme® PTT handset. Our VAMs and VARs can also develop their own land mobile, fixed, aviation or maritime Iridium PTT devices using the Iridium 9523 PTT core transceiver. Our new Iridium Certus offering in this area, the Thales MissionLINK terminal, allows rapid deployment and on-the-move communications, location tracking and telemetry.

- Mobile and remote office connectivity: A variety of enterprises use our services to make and receive voice calls and to establish data, e-mail, internet and corporate network connections.

- Public safety and disaster relief: Relief agencies, such as FEMA, and other agencies, such as the Department of Homeland Security, use our products and services in their emergency response plans, particularly in the aftermath of natural disasters such as Hurricane Harvey, Hurricane Irma, Hurricane Maria and the 2017 Mexico City area earthquake and in places like Puerto Rico after the 2017 hurricanes. These agencies generate significant demand for both our voice and data products, especially in advance of the hurricane season in North America.

- Public telephone infrastructure: Telecommunications service providers use our services to satisfy regulatory mandates and government expectations regarding the availability of communications services for rural populations currently not served by terrestrial infrastructure. Telstra Corporation, for example, uses our services to provide communications services in some of Australia’s most remote locations.

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Maritime

We serve the commercial maritime market with a variety of products including broadband terminals, embedded devices and handsets. This market space includes merchant shipping, fishing, research vessels and specialized watercraft. The majority of our revenue from the maritime market has been derived from shipboard data terminals including the Iridium Pilot®, which uses the Iridium OpenPort® service; however we expect that Iridium Certus services will account for an increasing portion of our revenue from this market in the future. While some Iridium Pilot equipment serves the terrestrial market, the vast majority of Iridium OpenPort service revenue comes from the commercial maritime market. Our products and services targeting the maritime market typically have high average revenue per subscriber. Once one of our maritime systems is installed on a vessel, it often generates a multi-year recurring revenue stream from the customer. As a consequence, from time to time we may offer promotions or rebates to accelerate new customer acquisitions and solidify this expected long-term revenue stream.

We believe demand for higher-speed, low-cost data services will allow us to capitalize on opportunities in this market. We believe Iridium Pilot, which uses our Iridium OpenPort service to offer uncompressed data speeds of up to 134 kilobits per second, or Kbps, and three independent voice lines, presents a competitive communication solution at this speed to users in the maritime market. Our maritime Iridium Certus service provides initial uncompressed data speeds of up to 352 Kbps, which we expect to later increase to 704 Kbps with a firmware update. We expect these higher speeds to increase the addressable market for our maritime services.

Maritime end users utilize our satellite communications services for the following:

- Business critical data applications: Ship operators use our services to exchange e-mail and data files and to receive other information such as meteorological reports, emergency bulletins, cargo and voyage data and electronic chart updates. We believe Iridium Certus and Iridium OpenPort provide attractively priced options for shipping operators and fishing fleets seeking increased functionality, as well as for yachts, work boats and other vessels for which traditional marine satellite systems have typically been costly and underperforming.

- Voice services: Maritime global voice services are used for both vessel operations and communications for crew welfare. Merchant shipping companies use prepaid phone cards for crew use at preferential around-the-clock flat rates.

- Vessel management and asset tracking: Shipping operators, such as China Ocean Shipping Company, or COSCO, and Zodiac Shipping Ltd., use our services to manage operations on ships and to transmit data, such as course, speed and fuel stock. Our services are commonly integrated with GPS to provide a real-time position reporting capability. Many fishing vessels are required by law to carry terminals using approved mobile satellite services for tracking purposes as well as to monitor catches and to ensure compliance with geographic fishing restrictions. European Union regulations, for example, require EU-registered fishing vessels of over 15 meters to carry terminals for the purpose of positional reporting of those vessels. Furthermore, new security regulations in some jurisdictions are expected to require tracking of merchant vessels in territorial waters, which would provide an additional growth opportunity for us.

- Safety and Security applications: Ships in distress, including as a result of potential piracy, hijack or terrorist activity, rely on mobile satellite voice and data services. The Ship Security and Alert Systems, or SSAS, and Long Range Identification Tracking, or LRIT, regulations were adopted by the International Maritime Organization, or IMO, to enhance maritime security in response to the threat from terrorism and piracy. Most deep-sea passenger and cargo ships must be fitted with a device that can send an alert message containing the ship’s ID and position whenever the ship is under threat or has been compromised. In addition, the IMO and a NATO advisory group have recommended the installation of a safe room equipped with a standalone secure communication link the crew can use from inside the room to communicate with rescuing forces. Our distribution partners have developed several product solutions using

our network to meet these requirements for merchant and fishing vessels.

The GMDSS is a maritime service built to alert a maritime rescue coordination center of each vessel's situation and position, information that can then be used to coordinate search and rescue efforts among ships in the area. GMDSS service is also used to distribute important navigational and meteorological information to vessels. The IMO requires all vessels flagged by signatories to the International Convention for the Safety of Life at Sea, or SOLAS, over 300 gross tons and certain passenger vessels, irrespective of size, that travel in international waters to carry distress and safety terminals that provide GMDSS services. We have been recognized by the IMO as a provider for the GMDSS. We expect our maritime terminals, which will include GMDSS service capabilities developed by our manufacturing licensees, to be available to vessel operators in 2020, once we have completed the implementation process of the GMDSS service.

Aviation

We are one of the leading providers of mobile satellite communications services to the aviation sector. Our services are increasingly used in commercial and global government aviation applications, principally by corporate jets, corporate and government helicopter fleets, specialized general aviation fleets, such as medevac companies and fire suppression fleets, and high-end personal aircraft. Our services are also employed by commercial airline operators for flight deck voice and data link services for aircraft operational and safety communications. As a result of authorizations by the FAA and U.S. Federal Communications Commissions, or FCC, for us to provide air traffic datalink communications, commercial operators are installing avionics that use the Iridium network on the flight deck to comply with international air navigation communications requirements to operate in oceanic and remote airspace. Voice and data avionics platforms from our VAMs and VARs have been adopted as standard equipment and as factory options for a range of airframes in business aviation and air transport, such as Gulfstream Aerospace Corporation, Bombardier Inc., Cessna Aircraft Company, Boeing and Airbus. Avionics platforms that utilize our network are also retrofitted on thousands of corporate and commercial aircraft already in operation.

Aviation end users utilize our satellite communications services for:

- Air traffic control communications and safety applications: The International Civil Aviation Organization, or ICAO, has approved standards and recommended practices allowing us to provide AMSRS to commercial aircraft on long-haul routes. This allows member states to evaluate and approve our services for safety communications on flights in oceanic and remote airspace. The FAA has approved Iridium for use in the Future Air Navigation Services, or FANS, including Automatic Dependent Surveillance - Contract, or ADS-C, datalink communications and Controller-Pilot Data Link Communications, or CPDLC, with air traffic control. Aircraft crew and air traffic controllers will be able to use our services for data and voice communications between the aircraft flight deck and ground-based air traffic control facilities. We are the only satellite provider capable of offering these critical flight safety applications around the entire globe, including the polar regions. We believe this particular sector of the market provides us with significant growth opportunities, as our services and applications can serve as a cost-effective alternative to systems currently in operation.

- Aviation operational communications: Aircraft crew and ground operations use our services for air-to-ground telephony and data communications. This includes the automatic reporting of an aircraft's position and mission-critical condition data to the ground and controller-pilot data link communication for clearance and information services. We provide critical communications applications for numerous airlines and air transport customers including Hawaiian Airlines, United Airlines, UPS, Cathay Pacific Airways and El Al Airlines. These operators rely on our services because other forms of communication may be unaffordable or unreliable in areas such as the polar regions. Collins Aerospace (ARINC) and SITA, the two leading providers of voice and data link communications services and applications to the commercial airline industry, integrate our products and services into their offerings.

- Aviation passenger communications: Corporate and private fleet aircraft passengers use our services for air-to-ground telephony and data communications. Operators are currently using our services to enable passengers to e-mail using their own Wi-Fi-enabled mobile devices, including smartphones, without causing interference with aircraft operation. We believe our distributors' small, lightweight, cost-effective solutions offer an attractive option for aircraft operators, particularly small fleet operators. We expect that users in the corporate aviation market, and original equipment manufacturers, or OEMs, for business jets, will increase adoption of our services for in-flight, passenger data communications using Iridium. We believe this presents a significant opportunity to increase market penetration and revenues in this market.

- Rotary and general aviation applications: The Iridium network is uniquely suited to these sectors, as we have small antenna designs that work under rotor blades and enable installation on smaller general aviation platforms. We are

also a major supplier for rotary aviation applications to end users in a number of markets, including medevac, law enforcement, oil and gas, and corporate work fleets. Companies such as Air Logistics, EagleMed and Air Evac Lifeteam rely on applications from our distributors for traditional voice communications, fleet tracking and management, and real-time flight diagnostics. VARs and VAMs such as Flightcell International Ltd., Garmin International, Inc., Honeywell International, Inc., SkyTrac and Spider Tracks Limited incorporate Iridium products and services into their applications for this market.

- Unmanned Aerial Vehicles (UAVs): Iridium’s small antennas and system designs support a wide range of UAV platforms. In addition, Iridium’s global footprint enables reliable beyond-line-of-sight communications for these UAV platforms regardless of their operational range. Iridium operates as the communication link for remote-piloted aircraft

for uses such as package delivery, medical supply, law enforcement, corporate surveying and even military applications.

We believe the benefits of Iridium Certus will enhance our ability to address aviation market needs across these sectors.

Commercial IoT Data

We are one of the leading providers of satellite-based IoT services. We believe this market continues to experience increasing penetration and presents opportunities for future growth. As with land mobile, our largest IoT users include mining, construction, oil and gas, utilities, heavy industry, maritime, forestry and transport companies, as well as the military, public safety and disaster relief agencies. We believe increasing demand for automated data collection processes from mobile and remote assets operating outside the coverage of terrestrial wireline and wireless networks, as well as the continued need to integrate the operation of such assets into enterprise management and information technology systems, will likewise increase demand for our IoT applications. For example, our IoT devices have been adopted as standard equipment and as factory options by heavy equipment manufacturers such as Caterpillar Inc., Hitachi, Komatsu and Doosan to provide telematics solutions for end users.

Our IoT services are used for:

- Heavy equipment monitoring: Large, global heavy equipment original equipment manufacturers, such as Caterpillar Inc., Komatsu Limited, Hitachi Construction Machinery Co. Ltd., CNH Global N.V. and AGCO Corporation, use our global IoT services to monitor their off-road heavy equipment in markets such as construction, mining, agriculture and forestry.

- Fleet management: Our global coverage permits our products and services to be used to monitor the location of vehicle fleets, hours of service and engine telemetry data, as well as to conduct two-way communications with drivers around the world. Fleet management companies, such as Trimble Transportation & Logistics, Mix Telematics and Zatix, use our service to provide distance drivers with reliable communication to their dispatchers and their destinations to coordinate changing business needs, and our satellite network provides continuous communications coverage while they are in transit. We expect that the need for more efficient, cost-effective and safer fleet operations, as well as the imposition of regulatory mandates related to driver safety, such as drive-time monitoring, will increase demand for our services in this area.

- Fixed-asset monitoring: Multinational corporations, such as oil-field service companies like Schlumberger Limited and ConocoPhillips Company, use our services to run applications that allow remote monitoring and operation of equipment and facilities around the globe, such as oil pipelines and offshore drilling platforms.

- Asset tracking: Leveraging IoT applications developed by several of our distributors, companies use our services and related devices to track assets, including personnel, for logistics, theft-prevention and safety purposes. Companies and organizations that have fleets of vehicles use IoT solutions from Iridium distributors to improve the efficiency of their operations. For example, customers use Trimble Transportation's solution to provide global communication to transportation assets, and the Department of Homeland Security Office of Enforcement and Removal uses Fleet Management Solutions' IoT solution to transmit position, direction, speed and other data for management of its vehicle fleet.

- Resource management: Our global coverage and data throughput capabilities support natural resource management applications, such as fisheries management systems. CLS, MetOcean Telematics and Rock Seven, three of our VARs, have developed applications for the fishing industry that enable regulatory compliance of fishing practices in a

number of countries around the world.

Scientific data monitoring: The global coverage of our network supports many scientific data collection applications such as the Argo float program of the National Oceanographic and Atmospheric Administration, or NOAA, the Global Ocean Observation project Challenger, operated by Rutgers University, and the anti-poaching programs of organizations such as Smithsonian National Zoo & Conservation Institute, Zoological Society of London, and Veterans Empowered to Protect African Wildlife, or VETPAW. These programs rely on our IoT services to collect scientific data from buoys and ocean gliders located throughout the world's oceans and from wildlife habitats for monitoring and analysis. We believe the increased need for monitoring climate and environmental data associated with global climate change and human impact on the planet will increase demand for these services.

- Personal Tracking Devices and Location-Based Services: Several of our VAMs and VARs, such as Garmin, NAL Research and Track24, market small, portable personal tracking devices that provide personal tracking and data communications services to consumers and commercial end users. In addition, Iridium GO! and the Iridium Extreme handsets offer personal tracking and location-based services. These devices use IoT data services to send location information and other data to web-based portals for tracking of and messaging with users.

Hosted Payload and Other Data Services

Our Iridium NEXT satellites also host customer payloads. We generate revenue from these customers both from the hosted payload capacity and from data service fees. Because these revenues are based on a contractual commitment for the life of the Iridium NEXT constellation, we recognize revenue from these customers over the expected life of the system.

In addition to access and usage fees in the vertical lines of business described above, we generate revenue from several ancillary services related to our core service offerings. In conjunction with Satelles, Inc., we offer Satellite Time and Location services, which helps augment GPS and provides reliable location, timing and positioning data. We provide inbound connections from the public switched telephone network, or PSTN, short message services, or SMS, subscriber identity module, or SIM, activation, customer reactivation, and other peripheral services. We also provide research and development services to assist customers in developing new technologies compatible with our system, which we may leverage for use in service and product offerings in the future. We charge our distributors fees for these services.

U.S. Government

We are one of the leading providers of mobile satellite communications services to the U.S. government, principally the DoD. We provide mobile satellite products and services to all branches of the U.S. armed forces. Our voice products are used for a variety of primary and backup communications solutions, including tactical operations, logistical, administrative, morale and welfare, and emergency communications. In addition, our products and related applications are installed on ground vehicles, ships, rotary- and fixed-wing aircraft, embedded in unattended sensors and used for command and control and situational awareness purposes. Global security concerns are among the factors driving demand for our products and services in this sector. See “—U.S. Government Services” for more information.

Seasonality

Our business is subject to seasonal usage changes for commercial customers, and we expect it to be affected by similar seasonality going forward. March through October are typically the peak months for commercial voice traffic and related subscriber equipment sales, given the predominance of population and outdoor activity in the northern hemisphere. U.S. government usage and commercial IoT usage have been less subject to seasonal changes.

Services and Products

At December 31, 2018, we had approximately 1,121,000 billable subscribers worldwide. Our principal services are mobile satellite services, including mobile voice and data services, high-speed data services, IoT services, hosted payload and other data services and engineering services. Sales of our commercial services collectively accounted for approximately 61% of our total revenue for the year ended December 31, 2018. We also sell related voice and data equipment to our customers, which accounted for approximately 19% of our total revenue for the year ended December 31, 2018. In addition, we offer services to U.S. government customers, including the DoD. U.S. government services, including engineering services, accounted for approximately 20% of our total revenue for

the year ended December 31, 2018.

Commercial Services

Postpaid Mobile Voice and Data Satellite Communications Services

We sell our mobile voice and data services to service providers and VARs who in turn offer such services to end users, either directly or indirectly through dealers, using various packaged solutions such as seasonal or annual plans with differing price levels that vary depending upon expected usage. In exchange for these services, we typically charge service providers and VARs a monthly access fee per subscriber, as well as usage fees for airtime resources consumed by their respective subscribers.

Prepaid Mobile Voice Satellite Communications Services

We also offer mobile voice services to service providers and VARs through prepaid plans. Service providers and VARs pay us in advance for defined blocks of airtime minutes with expiration periods in various configurations, ranging from 30 days to two years. These services are then generally sold to subscribers in the form of prepaid scratch cards and e-vouchers that enable subscribers to use our services on a per-minute basis. Unused minutes generally are forfeited on the applicable expiration date. We believe service providers and VARs are drawn to these services because they enable greater cost control by eliminating the need for monthly billings and reducing collection costs, and can be sold in countries where credit may not be readily available for end users. Our distributors often offer our prepaid voice services through fixed devices to subscribers in rural villages, at remote industrial, commercial and residential sites, and on ships at sea, among other places. Fixed voice satellite communications services are in many cases an attractive alternative to handheld mobile satellite communications services in situations where multiple users will access the service within a defined geographic area and terrestrial wireline or wireless service is not available. Fixed phones, for example, can be configured as pay phones that accept prepaid scratch cards and can be installed at a central location, for example in a rural village or on a maritime vessel.

Iridium PTT Service

Building on the foundation of DTCS technology, which provides regional tactical radio service to DoD users, our Iridium PTT service enables regional or global PTT calls among users on the same talkgroup in up to 10 geographically disparate locations around the world, providing a fast and robust communication experience. Iridium PTT can be used via the Iridium Extreme PTT satellite phone or the Iridium 9523 PTT core transceiver, which gives our VAMs the ability to build Iridium PTT into existing land mobile, maritime and aviation communications platforms. We and our partners are also developing interoperability solutions for existing terrestrial land mobile radio systems, which will further extend the utility of the service. For example, Icom Inc. of Japan is developing the first purpose-built satellite PTT radio handheld unit for use on the Iridium network.

Broadband Data Services

Our new broadband data offering, Iridium Certus, was launched in January 2019. Iridium Certus is a new suite of products and services enabled by the Iridium NEXT satellite constellation. Iridium Certus is a multi-service platform capable of offering higher quality voice, enterprise-grade broadband functionality, SBD, streaming PTT and safety services on a global basis. Initial service offering speeds are 352 Kbps and are expected to be upgradable to 704 Kbps through a firmware upgrade. Ultimately, Iridium Certus is designed to support a variety of cost points, antenna types and data speeds ranging from 22 Kbps to 1.4 Mbps. We have licensed the Iridium Certus technology to an initial group of VAMs who are developing products for the maritime, aviation, land mobile and government markets, as well as distribution partners for the Iridium Certus service in each of these vertical markets. We believe Iridium Certus provides a competitive, cost-effective and reliable range of narrowband and broadband services to the market, in standalone applications or as a complement to other wireless technologies for critical applications and safety services.

We also offer Iridium OpenPort, which provides maritime, aviation and terrestrial users speeds of up to 134 Kbps and three independent voice lines. For our Iridium OpenPort service, we typically charge service providers usage fees for airtime consumed by the respective subscribers for voice and data communications. In conjunction with our distributors, we also offer additional services that permit service providers and VARs to offer complete integrated solutions for prepaid calling, e-mail and IP-based data communications. For example, one of our distribution partners, KVH Industries, Inc., has been integrating Iridium Pilot with its miniature Very Small Aperture Terminal, or mini-VSAT℠, broadband service to provide backup connectivity when the mini-VSAT terminal is out of its coverage area or out of service.

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Internet of Things Services

Our IoT services are designed to address the market need for a small and cost-effective solution for sending and receiving data, such as location, from fixed and mobile assets in remote locations to a central monitoring station. This service operates through a two-way SBD transmission or circuit-switched data, between our network and a transceiver, which may be located, for example, on a container in transit or a buoy monitoring oceanographic conditions. The small size of our devices and their low-cost, omnidirectional antennas make them attractive for use in applications such as tracking asset shipments and monitoring unattended remote assets, including oil and gas assets, as well as vehicle tracking and mobile security. We sell our IoT services to our distributors, who incorporate them and in turn provide a solution package to commercial and government customers. Increasingly, our IoT transceivers are being built into products for consumer markets, such as personal location devices that provide two-way messaging. As with our mobile voice and data offerings, we typically charge service providers and VARs a monthly access fee per subscriber as well as usage fees for data used by their respective subscribers.

U.S. Government Services

We provide U.S. government customers bulk access to our services, including voice, netted voice, data, messaging and paging services, as well as maintenance services for the DoD's dedicated gateway. We provide airtime to U.S. government subscribers through DoD's gateway, under the EMSS contract, which is a fixed-price contract covering voice, low-speed data, paging, broadcast and DTCS services. Additional services, such as broadband capabilities utilizing Iridium Certus technology, would be provided at an additional fee. To comply with U.S. government requirements, we ensure handsets sold for use by the U.S. government are manufactured in the United States. U.S. government customers procure our voice and data devices through specific, approved distributors from our network of service providers and VARs. Our VARs and VAMs typically integrate our products with other products, which they then offer to U.S. government customers as customized products, typically provisioned by DISA. Our voice and data solutions for the U.S. government include:

- personnel tracking devices;
- asset tracking devices for equipment, vehicles and aircraft;
- beyond-line-of-sight aircraft communications applications;
- submarine communications applications;
- specialized communications solutions for high-value individuals; and
- specialized, secure, mobile communications and data devices for the military and other government agencies, such as secure satellite handsets with U.S. National Security Agency Type I encryption capability.

With funding support from the DoD, we continue to invest in research and development to develop new products and applications for use by all branches of the U.S. armed forces. For example, in conjunction with DISA, we and select distribution partners offer DTCS, which provides critical, secure, PTT, netted communications using lightweight, handheld tactical radios, or add-ons to existing government tactical radios. In addition, we offer a secure satellite phone based on the Iridium Extreme, which we also developed with funding support from the DoD, which was accredited by the National Security Agency, or NSA, to provide Type-1 encryption, enabling communications up to Top Secret from anywhere in the world.

Our Products

We offer a broad array of voice and data products for customers that work worldwide. In most cases, our devices or an antenna must be located outside and within view of a satellite to be able to access our network.

Satellite Handsets

Our principal handset offerings are the Iridium 9555 and Iridium Extreme satellite handsets, which are similar in functionality to ordinary cellular phones but with the solid, durable feel that satellite phone users demand. We believe our reputation for industrial-strength products is critical for customers, many of whom are located in the most inhospitable spots on the planet and require rugged and reliable communications equipment.

Iridium 9555. The Iridium 9555 provides voice, SMS and data connectivity. This model features a large, bright screen, SMS and e-mail capabilities, an integrated antenna and a speakerphone. The Iridium 9555 weighs 9.4 ounces and offers up to 3.1 hours of talk time. The Iridium 9555 has an industrial feel, with a rugged housing to protect its sophisticated satellite transceiver.

Iridium Extreme. The Iridium Extreme adds to the Iridium 9555's capabilities by providing a rugged exterior that meets DoD Military Standard 810F for durability, a dedicated, two-way emergency SOS button, and fully integrated GPS and location-based services. These extra features are provided in a handset that is even smaller than the Iridium 9555, weighing 8.7 ounces and offering up to four hours of talk time. An emergency response service provided by GEOS Travel Safety Group, or GEOS, is included with the purchase of the phone and airtime usage. The two-way emergency SOS button initiates a phone call and an emergency message via SMS to GEOS, which then coordinates with local emergency responders.

Iridium Extreme PTT. We also offer the Iridium Extreme PTT, which enhances the Iridium Extreme with an intelligently designed push-to-talk mode, expanded speakerphone, reinforced PTT button, and extended capacity battery. The user interface provides access to multiple communication services, including voice calling, SMS and SOS, allowing users to connect to a talkgroup located in up to 10 geographic regions worldwide. The Iridium Extreme PTT weighs 9.5 ounces and offers up to 6.5 hours of talk time in phone mode and five hours of talk time in PTT mode.

We expect these devices to maintain our competitive position as premium offerings in the market due to their capabilities, mobility, reliability and global coverage. In addition to these devices, we offer variants of the Iridium 9555 handset and the Iridium Extreme handset that are qualified for sale to U.S. government customers.

Iridium GO!

We also offer Iridium GO!, a small, rugged, personal connectivity device that connects to the Iridium network to create a Wi-Fi hotspot, enabling the use of smartphones and tablets for voice calls, text messages and emails, posts to social networking sites, and limited use of optimized mobile websites. Iridium GO! also has an emergency SOS button and GPS and location-based services. Smartphone or tablet access is provided through special applications downloaded for free from the Apple App Store or through Google Play for Android smartphones or tablets. A software development kit is available to enable the creation of additional applications or integrate Iridium GO! connectivity into existing applications.

Voice and Data Modems

We also offer a combined voice transceiver and data modem, which our distributors integrate into a variety of communications solutions that are deployed in different applications around the world. Our principal offering in this space is the Iridium Core 9523 L-Band transceiver, which utilizes the transceiver core of our Iridium Extreme satellite handset. The Iridium Core 9523 provides a small voice and data module that can be integrated with other components to create a modem tailored for typical VAM applications as well as specific applications, such as a dual-mode terrestrial radio and satellite phone or IoT applications that require more efficient data throughput through circuit-switched data transmission. The Iridium 9523 PTT adds PTT capability, allowing development partners to design and build land mobile, fixed, aviation and maritime devices with Iridium PTT. We also offer the 9522B L-Band transceiver, which utilizes the same transceiver core that is used in our Iridium 9555 satellite handset to provide voice and circuit-switched data services. Our principal customers for our L-Band transceivers are VAMs and VARs, who integrate them into specialized devices that access our network.

Broadband Data Devices

We have selected several VAMs to manufacture terminals for use with our Iridium Certus broadband service. Iridium Certus terminals are specifically designed for the maritime, aviation, land mobile or government markets and ultimately will offer a variety of significantly enhanced data speeds and antenna types. Iridium Certus terminals provide enterprise-grade broadband functionality alongside high quality voice capabilities that can be used on a global basis. Initial terminal offering speeds are 352 Kbps and will later be upgradable to 704 Kbps through a firmware upgrade. Ultimately, Iridium Certus terminals are designed to offer a variety of cost points, antenna types and data speeds ranging from 22 Kbps to 1.4 Mbps. We believe Iridium Certus provides a competitive, cost-effective and reliable range of narrowband and broadband services to the market, in standalone applications or as a complement to other wireless technologies.

Iridium Certus is ideal for maritime operational and safety services. These terminals deliver the satellite communications technology that the industry demands, combining all the benefits of L-Band with broadband and truly global coverage. Iridium Certus terminals offer superior connectivity for maritime customers whether used as a standalone service or as a complement to VSAT services. Our principal end users for Iridium Certus in the maritime market are merchant shipping, commercial fishing, large leisure vessels, and work boats. Our initial terminals in this market are the Cobham Sailor 4300 and Thales VesseLINK.

In aviation, Iridium Certus will deliver critical safety services and in-flight communications. Our principal end users for Iridium Certus in the aviation market include commercial, corporate and government users, general aviation, rotorcraft and unmanned aircraft. Our initial terminal in this market will be the FlytLINK by Thales, which is targeted for commercial availability in 2019.

In the land mobile market, we expect enterprises, governments, and individuals that want to extend their use of mobile networks into remote areas without having to deploy ground-based infrastructure or expensive terminals will utilize Iridium Certus. Iridium Certus devices may be integrated with internet, cellular, land mobile radio, and location-based applications to keep users connected, offering global push-to-talk, situational awareness, email, messaging and voice-over-IP. We believe our principal end users for Iridium Certus in the land mobile market will be military users, first responders, non-governmental organizations, oil and gas users, remote fleets and media users. Our initial terminal in this market is Thales MissionLINK, which is now commercially available.

In the government market, Iridium Certus terminals will provide beyond-line-of-sight communications critical to mission
success. The initial terminal in this market is the Thales MissionLINK.

Our legacy terminal, the Iridium Pilot, provides up to three independent voice lines and an internet connection for data communications of up to 134 Kbps, using our Iridium OpenPort service. All voice and data capabilities can be used simultaneously. Our principal customers for Iridium Pilot are service providers who integrate the device with their own hardware and software products to provide a suite of customer-focused voice and IP-based data packages for ship operation, crew calling and e-mail. We believe our Iridium Pilot terminal, with its flexible service options, provides an excellent low-cost option to the maritime market, including market sectors such as luxury yachts, tug boats, and other fishing and cruising vessels. Iridium Pilot also offers a low-cost solution as a complement to maritime Ku- and Ka-Band VSAT systems providing broadband and data services for ships, where Iridium Pilot can fill in coverage gaps and operate during significant rain fade events that impair K-band service, provide services where the VSAT terminal is not licensed to operate, and provide an alternate channel during VSAT maintenance and configuration. We also offer Iridium Pilot Land Station, which allows remote individuals and businesses from off-the-grid terrestrial locations to obtain reliable internet connections and voice calling no matter where they are located.

Internet of Things Data Devices

Our principal IoT devices are the Iridium 9602 and 9603 full-duplex SBD transceivers. The Iridium 9602 is a small data device with two-way transmission, capable of sending packet data to and from any point in the world with low latency. The principal customers for our Iridium 9602 data modems are VARs and VAMs, who embed the device into their tracking, sensor, and data applications and systems, such as asset tracking systems. Our partners often combine the Iridium 9602 with a GPS receiver to provide location information to customer applications. We also offer the Iridium 9603, an even smaller transceiver that is functionally identical to the Iridium 9602. In addition, a number of VARs and VAMs include a cellular modem as part of their Iridium applications to provide low-cost cellular data transmission when available. These types of multimode applications are adopted by end users who require the ability to regularly transfer data but operate in areas with inconsistent cellular coverage. We provide gap-filler coverage for

these applications, allowing users to operate anywhere on the globe.

We also offer Iridium Burst®, our one-to-many global data broadcast service, which enables enterprises to send data to an unlimited number of devices anywhere in the world, even inside buildings, vehicles or aircraft, and Iridium Edge®, an off-the-shelf, environmentally sealed, rugged device that complements existing cellular solutions to create dual-mode connectivity for the most remote and inaccessible areas of the world. Iridium Edge reduces the cost and complications associated with hardware development, manufacture and certification of satellite-specific terminals, which we expect to enable greater adoption of our IoT services.

Device Development and Manufacturing

We contract with Cambridge Consulting Ltd. and other suppliers to develop our devices, with Benchmark Electronics Inc., or Benchmark, to manufacture most of our devices in a facility in Thailand, and with Hybrid Design Associates to manufacture a portion of our devices in the U.S. Pursuant to our contract with Benchmark, we may be required to purchase excess materials at cost plus a contractual markup if the materials are not used in production within the periods specified in the agreement. Benchmark generally repurchases the materials from us at the same price we paid, as required for the production of the devices. Our agreement with Benchmark is automatically renewable for additional one-year terms unless terminated by either party.

We selected several VAMs to manufacture terminals for use with our Iridium Certus broadband service. Iridium Certus terminals are specifically designed for the maritime, aviation or land mobile markets, and certain of these VAMs were given certain limited exclusivity in those markets, in exchange for sales commitments.

We generally provide our distributors with a warranty on subscriber equipment for one to five years from the date of activation, depending on the product. We also utilize other suppliers, some of which are the sole source, to manufacture some of the component parts of our devices.

In addition to our principal products, we also offer a selection of accessories for our devices, including extended-life batteries, holsters, earbud headphones, portable auxiliary antennas, antenna adaptors, USB data cables and charging units, among others. We purchase these products from several third-party suppliers either pursuant to contractual agreements or off the shelf at market prices.

Our Spectrum

We hold licenses to use 8.725 MHz of contiguous spectrum in the L-Band, which operates at 1.6 GHz, and allows for two-way communication between our devices and our satellites. In addition, we are authorized to use 200 MHz of K-Band (23 GHz) spectrum for satellite-to-satellite communications, known as inter-satellite links, and 400 MHz of Ka-Band spectrum (19.4 GHz to 19.6 GHz and 29.1 GHz to 29.3 GHz) for two-way communication between our satellites and our ground stations, known as feeder links. We are also authorized to use the 156.0125-162.0375 MHz spectrum for reception of Automatic Identification System transmissions from maritime vessels and the 1087.7-1092.3 MHz spectrum for reception of Automatic Dependent Surveillance-Broadcast transmissions from aircraft. Access to this spectrum enables us to design satellites, network and terrestrial infrastructure enhancements cost effectively because each product and service can be deployed and sold worldwide. Our products and services are offered in over 100 countries, and we and our distributors continue to seek authorizations in additional countries.

Our use of spectrum is globally coordinated and recorded by, and subject to the frequency rules and regulations of, the International Telecommunication Union, or ITU. The ITU is the United Nations organization responsible for worldwide co-operation in the telecommunications sector. In order to protect satellite systems from harmful radio frequency interference from other satellite systems, the ITU maintains a Master International Frequency Register of radio frequency assignments. Each ITU administration is required to give notice of, coordinate and record its proposed use of radio frequency assignments with the ITU’s Radiocommunication Bureau. The coordination negotiations are conducted by the national administrations with the assistance of satellite operators. When the coordination process is completed, the ITU formally notifies all proposed users of frequencies and orbital locations in order to protect the recorded assignments from subsequent nonconforming or interfering uses by member states of the ITU. Only member states have full standing within this inter-governmental organization. Filings to the ITU were made on our behalf by the United States.

The ITU also controls the assignment of country codes used for placing telephone calls between different countries. Our network has been assigned the 8816 and 8817 country codes and uses these numbers for calling and communications between terminals.

Domestic and Foreign Revenue

We supply services and products to customers in a number of foreign countries. We allocate revenue geographically based on where we invoice our distributors, whom we bill for mobile satellite services and related equipment sales, and not according to the location of the end user. These distributors sell services directly or indirectly to end users, who may be located elsewhere. It is not possible for us to determine the geographical distribution of revenue from end users, as we do not contract directly with them. Substantially all of our revenue is invoiced in U.S. dollars. The table below sets forth the percentage of our revenue by country for the last three years.

	Year Ended December 31,		
	2018	2017	2016
United States	53%	51%	52%
Canada	9 %	10%	10%
United Kingdom	10%	10%	11%
Other Countries [1]	28%	29%	27%

[1] No single country in this group represented more than 10% of our revenue for any of the periods indicated.

For more information about our revenue from sales to foreign and domestic customers, see Note 15 to our consolidated financial statements included in this annual report.

Traffic Originating Outside the United States

A significant portion of our voice and data traffic originates outside the United States. The table below sets forth the percentage of our commercial voice and data traffic originating outside the United States, excluding Iridium OpenPort traffic, for the last three years.

	Year Ended December 31,		
	2018	2017	2016
Commercial voice traffic (minutes)	90%	88%	88%
Commercial data traffic (kilobytes)	72%	75%	72%

Our Network

Our Constellation

Our satellite network has an architecture of 66 operational LEO satellites in six orbital planes of eleven vehicles each in nearly circular polar orbits, in addition to in-orbit spares and related ground infrastructure, as well as ground spares. Our operational satellites orbit at an altitude of approximately 483 miles (778 kilometers) above the earth and travel at approximately 16,689 mph, resulting in a complete orbit of the earth approximately every 100 minutes. The design of our constellation ensures that generally at least one satellite is visible to subscribers from any point on the earth's surface, covering all of the world's population. While our constellation offers true global coverage, most of our devices and antennas must have a direct line of sight to a satellite to transmit or receive a signal, and services on those devices are not available in locations where a satellite signal cannot be transmitted or received, which for some devices includes inside a building.

During 2017, we began de-orbiting our first-generation satellites on an individual basis after they were replaced by Iridium NEXT vehicles. We expect to complete the required de-orbit initiation process for our first-generation satellites during 2019.

Our constellation is unique among commercial constellations in the usage of radio frequency crosslinks between our satellites, which eliminates the need for local ground infrastructure. These crosslinks enable each satellite to communicate with up to four other satellites in space, two in the same orbital plane and two in adjacent planes. Our traffic is routed on a preplanned route between satellites to a predetermined satellite that is in contact with one of the Iridium teleport network, or TPN, locations. The TPN sites then transmit the traffic to and from the gateways which in turn provide the interface to terrestrial-based networks such as the PSTN, a public land mobile network, or PLMN, and the internet. The use of a TPN allows grounding traffic at multiple locations within our ground network infrastructure. This flexibility allows for rapid reconfiguration of grounding traffic from the satellites in the event of a space, antenna or ground routing anomaly and results in greater reliability of our network. The design of our space and ground control system also facilitates the real-time monitoring and management of the

satellite constellation and facilitates service upgrades via software enhancements. All our ground infrastructure, including gateway and teleport technology and satellite control systems, was upgraded in advance of the completion of Iridium NEXT.

We believe our interlinked satellite infrastructure provides several advantages over low earth orbiting "bent-pipe" satellite networks that rely on multiple terrestrial gateways, such as Globalstar's and ORBCOMM's networks. We have the only satellite network with true global coverage, and our constellation is less vulnerable to single points of failure, as traffic can be routed around any one satellite problem to complete the communications path to the ground. In addition, the small number of ground stations increases the security of our constellation, a factor that makes our network particularly attractive to government institutions and large enterprises. The low orbit of our constellation also allows our network to operate with low latency and with smaller antennas due to the proximity of our satellites to the earth.

Our constellation is designed to provide significant coverage overlap for mitigation of service gaps from individual satellite outages, particularly at higher northern and southern latitudes. Each satellite in our constellation was designed with a high degree of on-board subsystem robustness, an on-board fault detection system, and isolation and recovery capabilities for safe and quick risk mitigation. Our ability to reposition our satellites provides us with operating flexibility and enhances our ability to maintain a commercially acceptable level of service. If a satellite should fail or become unusable, in most cases we will be able to reposition one of our in-orbit spare satellites to take over its functions within days, with minimal impact on our services.

Our primary commercial gateway is located in Tempe, Arizona, with a second dedicated commercial gateway located in Russia. A gateway processes and terminates calls and generates and controls user information pertaining to registered users, such as geo-location and call detail records. The DoD owns and operates a dedicated gateway for U.S. government users, which provides an interface between voice and data devices and the Defense Information Systems Network and other terrestrial infrastructure, providing DoD users with secure communications capabilities. Our network has multiple antennas located at the TPN facilities, including the Tempe gateway, that communicate with our satellites and pass calls between the gateway and the satellites as the satellites traverse our antennas, thereby connecting signals from the terminals of end users to our gateways. This system, together with our satellite crosslinks, enables communications that are not dependent on a ground station in the region where the end user is using our services.

We operate our satellite constellation from our satellite network operations center, or SNOC, in Leesburg, Virginia. This facility manages the performance and status of each of our satellites, developing and distributing routing tables for use by the satellites, TPN facilities and gateways, directing traffic routing through the network and controlling the formation of coverage areas by the satellites' main mission antennas. We also operate TPN facilities in Fairbanks, Alaska and Tempe, Arizona in the United States, and in northern Canada and Norway that perform telemetry, tracking and control functions and route commercial services.

From time to time, individual satellites in our constellation experience operating problems that may result in a satellite outage, but due to the overlapping coverage within our constellation and the dynamic nature of our LEO system, the individual satellite outages typically do not negatively affect our customers' use of our system for a prolonged period. In addition, most system processing related to our service is performed using software on board each satellite instead of on the ground. We believe this provides us with significant flexibility and contributes to the longevity of the constellation by enabling engineers to develop additional functionality and software-based solutions to occasional faults and anomalies in the system.

We selectively replace parts for our gateway and TPN facilities as necessary and maintain an inventory of spare parts, which we continuously monitor. When we do not have necessary spares in inventory or our spares become obsolete,

we rely on third parties to develop necessary parts.

The terms of our Credit Facility require us to maintain in-orbit insurance covering losses from satellite failures for a period of time with respect to our Iridium NEXT satellites. See “Our Network—Iridium NEXT” below. Once this requirement lapses, we do not expect to continue to maintain in-orbit insurance covering losses from satellite failures or other operational problems affecting the Iridium NEXT constellation.

Our first-generation satellite constellation license from the FCC has been extended until July 31, 2019, and may be extended again if we request. We also hold a space station license for the launch and operation of our Iridium NEXT constellation, which expires February 23, 2032. Our U.S. gateway earth station and the U.S. government customer and commercial subscriber earth station licenses expire between October 2021 and 2026. We must file renewal applications for earth station licenses between 30 and 90 days prior to expiration.

Iridium NEXT

We recently completed the process of replacing our first-generation constellation with our Iridium NEXT satellite constellation, which supports new services and higher data speeds for new products. We deployed a total of 75 Iridium NEXT satellites on eight Falcon 9 rockets launched by SpaceX.

The Iridium NEXT constellation also hosts the Aireon system. The Aireon system was developed by Aireon LLC, which we formed in 2011, with subsequent investments from the ANSPs of Canada, Italy, the United Kingdom, Denmark and Ireland, to provide a global air traffic surveillance service through a series of ADS-B receivers on the Iridium NEXT satellites, which were activated on an individual basis as the Iridium NEXT satellite began carrying traffic in our constellation. Aireon has contracted to offer this service to our co-investors in Aireon, as well as other ANSPs, and plans to offer the service to other customers worldwide, including the FAA. The FAA recently announced that it will run operational trials of the Aireon system beginning in 2020. These ANSPs will use the service to provide improved air traffic control services over the oceans, as well as polar and remote regions. Aireon also plans to market the data to airlines and other users. Under our agreements with Aireon, Aireon will pay us fees of $200.0 million to host the ADS-B receivers on Iridium NEXT, of which they have paid us $43.1 million as of December 31, 2018, as well as power and data services fees of up to approximately $22.6 million per year, once Aireon achieves specified customer milestones, for the delivery of the air traffic surveillance data over the Iridium NEXT system.

While the Aireon ADS-B receivers are the primary hosted payload on the Iridium NEXT satellites, we have also entered into an agreement with Harris for it to utilize the remaining space for payloads it has constructed for its customers. We expect this agreement to result in an additional $74.1 million in hosting and prepaid data service fees, of which Harris has paid us $64.9 million as of December 31, 2018.

As required by our Credit Facility, we obtained insurance covering the launch and first 12 months of operation of the Iridium NEXT satellites. We do not expect to insure the operation of our Iridium NEXT satellites beyond the timeframe required by our lenders.

Full Scale Development and Launch Services Agreements

In June 2010, we executed a primarily fixed price full scale development contract, or FSD, with Thales Alenia Space for the design and manufacture of satellites for Iridium NEXT. The total price under the FSD will be approximately $2.3 billion, and we expect our payment obligations under the FSD to extend into 2019. As of December 31, 2018, we had made total payments of $2.2 billion to Thales Alenia Space, of which $1.5 billion were from borrowings under the Credit Facility. We used the Credit Facility to pay 85% of each invoice received from Thales Alenia Space under the FSD with the remaining 15% funded from cash on hand until the Credit Facility was fully drawn in February 2017. We now pay 100% of each of the remaining invoices received from Thales Alenia Space from cash on hand.

In March 2010, we entered into an agreement with SpaceX as the primary launch services provider for Iridium NEXT. The contract price under the SpaceX agreement is $448.9 million for seven launches. In November 2016, we entered into an additional agreement with SpaceX for an eighth Falcon 9 launch for a contract price of $61.9 million. Although we are the customer of record with SpaceX, we contracted separately with GFZ German Research Centre for Geosciences, or GFZ, for $29.8 million to share the launch of NASA’s two Gravity Recovery and Climate Experiment Follow-On satellites on a specially designed dispenser on the Falcon 9 rocket. As of December 31, 2018, we had made aggregate payments of $498.9 million to SpaceX, and received the full $29.8 million from GFZ. As of January 2019, all contracted launches with SpaceX were completed.

Aireon Holdings LLC Agreement

In November 2012, we, through our Iridium Satellite subsidiary, and Aireon entered into an Amended and Restated Limited Liability Company Agreement with NAV CANADA, the ANSP of Canada, and a wholly owned subsidiary of NAV CANADA. In February 2014, we entered into a Second Amended and Restated Limited Liability Company Agreement, or the Aireon LLC Agreement, with NAV CANADA; Enav S.p.A., the ANSP of Italy; Naviair, the ANSP of Denmark; Irish Aviation Authority Limited, the ANSP of Ireland, or IAA; and wholly owned subsidiaries of NAV CANADA, Enav and Naviair. In May 2018, we entered into a Third Amended and Restated Limited Liability Company Agreement, or the Aireon LLC Agreement, with NAV CANADA; Enav; NATS (Services) Limited, the ANSP of the United Kingdom; Naviair; IAA; and wholly owned subsidiaries of NAV CANADA, Enav, NATS, Naviair, and IAA. In December 2018, in connection with Aireon's entry into a debt facility, we and the other Aireon investors contributed our interests in Aireon into a new holding company, Aireon Holdings LLC, and entered into an Amended and Restated Aireon Holdings LLC Agreement. Aireon Holdings holds 100% of the membership interests in Aireon LLC, which remains the operating entity.

Under the Aireon Holdings LLC Agreement, we hold a common membership interest, and the other investors hold preferred membership interests resulting from their investments in Aireon for an aggregate purchase price of approximately $339 million. If and when funds are available, Aireon Holdings is required to redeem a portion of our ownership interest for a payment of $120 million, following which NAV CANADA's subsidiary will hold a 45% interest in Aireon Holdings, and the other ANSP subsidiaries will collectively hold a 33% interest, with Iridium retaining a 22% interest. Based on Aireon's business plan and restrictions under Aireon's debt facility, we do not expect this redemption of our ownership interest to occur before early 2022.

The Aireon Holdings LLC Agreement provides for Aireon Holdings to be managed by a board of directors consisting of 11 members. Currently, we may nominate two directors, NAV CANADA may nominate five directors, Enav and NATS may each nominate one director, and Naviair and IAA may together nominate one director. The chief executive officer of Aireon Holdings serves as the eleventh director. The Aireon Holdings LLC Agreement also provides the minority-interest holders with several protective provisions.

Constellation De-Orbiting Obligations

We have certain de-orbit obligations under our FCC licenses. Specifically, pursuant to an orbital debris mitigation plan incorporated into our FCC satellite constellation license in 2002, we are required to lower each of our first-generation satellites to an orbit with a perigee of approximately 250 kilometers as it reaches the end of its useful life and to coordinate these orbit-lowering maneuvers with the U.S. Combined Space Operations Center. In August 2014, we received a license modification from the FCC permitting us to operate up to ten of our first-generation satellites pursuant to the less stringent 25 year de-orbit standards for non-geostationary satellites that the FCC acknowledged in 2004 would serve the public interest and has been utilized for other satellite constellations since that time. All of our Iridium NEXT satellites are subject to the less stringent 25 year de-orbit standard.

Our FCC license requires us to de-orbit a first-generation satellite following its replacement with an Iridium NEXT constellation satellite and to notify the FCC within 30 days following removal of a first-generation satellite from its operational orbit for purposes of de-orbit. We began de-orbiting individual satellites as they were replaced with Iridium NEXT satellites. We expect to complete the required de-orbit initiation process for our first-generation satellites during 2019.

Competition

The mobile satellite services industry is highly competitive but has significant barriers to entry, including the cost and difficulty associated with obtaining spectrum licenses and successfully building and launching a satellite network. In addition to cost, there is a significant amount of lead time associated with obtaining the required licenses, building and launching the satellite constellation, and deploying the ground network technology. We currently face substantial competition from other service providers that offer a range of mobile and fixed communications options. Currently, our principal mobile satellite services competitors are Inmarsat, Globalstar, Thuraya Telecommunications Co., or Thuraya, and ORBCOMM. We compete primarily on the basis of coverage, quality, mobility and pricing of services and products.

Inmarsat owns and operates a fleet of GEO satellites. Unlike LEO satellites, GEO satellites orbit the earth at approximately 22,300 miles above the equator. GEO operators require substantially larger and more expensive antennas, and typically have higher transmission delays than LEO operators. Due to its GEO system, Inmarsat's coverage area extends and covers most bodies of water except for a majority of the polar regions. Inmarsat is the leading provider of satellite communications services to the maritime sector. Inmarsat also offers land-based and aviation communications services.

Globalstar owns and operates a fleet of LEO satellites. Globalstar's service is available only on a multi-regional basis as a result of its "bent pipe" architecture, which requires that voice and data transmissions be routed from satellites immediately to nearby ground stations. This design requires the use of multiple ground stations, which are impractical in extreme latitudes or over oceans. Unlike Inmarsat and us, Globalstar sells a higher percentage of its products and services directly to end users.

ORBCOMM also provides commercial services using a fleet of LEO satellites. Like Globalstar, ORBCOMM's network also has a "bent pipe" architecture, which limits its real-time coverage area. ORBCOMM's principal focus is low-cost data and IoT services, where it directly competes with our IoT offerings. Because a ground station may not be within view of a satellite, ORBCOMM's services may have a significant amount of latency, which may limit their use in some mission-critical applications. It does not offer voice service or high-speed data services.

We also compete with regional mobile satellite communications services in several geographic markets. In these cases, the majority of our competitors' customers require regional, not global, mobile voice and data services, so our competitors may present a viable alternative to our services. All of these regional competitors operate or plan to operate GEO satellites. Our regional mobile satellite services competitors currently include Thuraya, principally in Europe, the Middle East, Africa, Australia and several countries in Asia.

While we view our services as largely complementary to terrestrial wireline and wireless communications networks, we also compete with them indirectly. We provide service in areas that are inadequately covered by these ground systems. To the extent that terrestrial communications companies invest in underdeveloped areas, we will face increased competition in those areas. We believe that local telephone companies currently are reluctant to invest in new switches, landlines and cellular towers to expand their networks in rural and remote areas due to high costs and limited usage. Many of the underdeveloped areas are sparsely populated, making it difficult to generate the necessary returns on the capital expenditures required to build terrestrial wireless networks in those areas. We believe that our solutions offer a cost-effective and reliable alternative to terrestrial-based wireline and wireless systems in these remote regions.

Research and Development

Our research and development efforts have focused on the development, design and testing of the Iridium NEXT constellation and new products and services, such as Iridium Certus, Iridium Edge, Iridium PTT, Iridium Burst, Iridium Pilot Land Station, Iridium GO!, and chipsets. We also develop product and service enhancements and new applications for our existing products and services. Our research and development expenses were $22.4 million, $15.2 million and $16.1 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Employees

As of December 31, 2018, we had 469 full-time employees and 6 part-time employees, none of whom are subject to any collective bargaining agreement. We consider our employee relations to be good.

Intellectual Property

At December 31, 2018, we held 21 U.S. patents and one foreign patent. These patents cover several aspects of our satellite system, our global network, our communication services, and our devices.

In addition to our owned intellectual property, we also license critical intellectual property from Motorola Solutions to operate and maintain our network and related ground infrastructure and services as well as to design and manufacture our devices. This intellectual property is essential to our ability to continue to operate our constellation and sell our

services and devices. We maintain our licenses with Motorola Solutions pursuant to several agreements, which can be terminated by Motorola Solutions upon the commencement by or against us of any bankruptcy proceeding or other specified liquidation proceedings or upon our material failure to perform or comply with any provision of the agreements. If Motorola Solutions were to terminate any such agreement, it may be difficult or, under certain circumstances, impossible to obtain the technology from alternative vendors. Motorola Solutions has assigned to a third party a portion of the patents that are covered by some of these licenses.

We license additional intellectual property and technology from other third parties and expect to do so in the future in connection with our network and related ground infrastructure and services as well as our devices. If any such third party were to terminate its agreement with us or cease to support and service such intellectual property or technology, or if we are unable to renew such licenses on commercially reasonable terms or at all, it may be difficult, more expensive or impossible to obtain substitute intellectual property or technology from alternative vendors. Any substitute intellectual property or technology may also have lower quality or performance standards, which would adversely affect the quality of our devices and services. For

more information, see “Risk Factors—We are dependent on intellectual property licensed from third parties to operate our constellation and sell our devices and for the enhancement of our existing devices and services.”

Available Information

Copies of our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments, if any, to those reports filed pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge through our website at www.iridium.com and on the website of the Securities and Exchange Commission, or SEC, at www.sec.gov. A request for any of these reports may also be submitted to us by writing: Investor Relations, Iridium Communications Inc., 1750 Tysons Boulevard, Suite 1400, McLean, VA 22102, or by calling our Investor Relations line at 703-287-7570.

Item 1A. Risk Factors

Our business plan depends on increased demand for mobile satellite services, among other factors.

Our business plan is predicated on growth in demand for mobile satellite services. Demand for mobile satellite services may not grow, or may even contract, either generally or in particular geographic markets, for particular types of services or during particular time periods. A lack of demand could impair our ability to sell products and services, develop and successfully market new products and services and could exert downward pressure on prices. Any decline in prices would decrease our revenue and profitability and negatively affect our ability to generate cash for capital expenditures, investments and other working capital needs.

Our ability to successfully implement our business plan will also depend on a number of other factors, including:

- our ability to maintain the health, capacity and control of our satellite constellation;
- the level of market acceptance and demand for our products and services;
- our ability to introduce innovative new products and services that satisfy market demand, including new product and service offerings on Iridium NEXT;
- our ability to expand our business using our existing spectrum resources both in the United States and internationally;
- our ability to sell our products and services in additional countries;
- our ability to maintain our relationship with U.S. government customers, particularly the DoD;
- the ability of our distributors to market and distribute our products, services and applications effectively and their continued development of innovative and improved solutions and applications for our products and services;
- the effectiveness of our competitors in developing and offering similar services and products;
- our ability to continue to de-orbit our first-generation satellites; and
- our ability to maintain competitive prices for our products and services and to control our costs.

We have a considerable amount of debt which may limit our ability to fulfill our obligations and/or to obtain additional financing.

As of December 31, 2018, we had $2,044.9 million of consolidated gross indebtedness on an actual basis, consisting of $1,684.9 million of indebtedness outstanding under the Credit Facility and $360.0 million of indebtedness outstanding under our senior unsecured notes, or the Notes.

Our capital structure can have several important consequences, including, but not limited to, the following:

- If future cash flows are insufficient, we may not be able to make principal or interest payments on our debt obligations, which could result in the occurrence of an event of default under one or more of those debt instruments.
- Our leverage level could increase our vulnerability to adverse economic and industry conditions.

- Our indebtedness could require us to dedicate a substantial portion of our cash flow from operations to payments on our debt (including scheduled principal repayments on the outstanding borrowings under the Credit Facility), thereby reducing the availability of our cash flow for operations and other purposes.

- Our leverage level could make it more difficult for us to satisfy our obligations to our lenders, resulting in possible defaults on and acceleration of such indebtedness.

- Our leverage level could place us at a competitive disadvantage compared to any competitors that have less debt or comparable debt at more favorable interest rates and that, as a result, may be better positioned to withstand economic downturns.

- Our consolidated indebtedness has the general effect of reducing our flexibility to react to changing business and economic conditions insofar as they affect our financial condition. The interest rates at which we might secure additional financings may be higher than our currently outstanding debt instruments or higher than forecasted at any point in time, which could adversely affect our business, financial condition, results of operations and cash flows.

- Market conditions could affect our access to capital markets, restrict our ability to secure financing to make the capital expenditures and investments and pay other expenses planned by us, which could adversely affect our business, financial condition, cash flows and results of operations.

Further, despite our substantial levels of indebtedness, we and our subsidiaries may have the ability to incur substantially more indebtedness, which could further intensify the risks described above.

We will need to refinance the Notes or our Credit Facility prior to October 15, 2022.

If any of the Notes remain outstanding on October 15, 2022, which is six months prior to the scheduled maturity of the Notes, the maturity of all amounts remaining outstanding under the Credit Facility would be accelerated from September 30, 2024 to October 15, 2022. Accordingly, prior to that date we will need to either refinance the Notes with debt that matures after the Credit Facility, or we will need to refinance the Credit Facility, or both. We may not be able to refinance either the Notes or the Credit Facility on favorable terms or at all. Our ability to refinance will depend on a range of factors, including our business performance, general economic conditions and the state of the capital markets.

If we do not generate sufficient cash flows, we may be unable to service all of our indebtedness.

To service our indebtedness, we will require a significant amount of cash. Our ability to generate cash, make scheduled payments or to refinance our debt obligations depends on our successful financial and operating performance, which may be affected by a range of economic, competitive and business factors, many of which are outside of our control and some of which are described elsewhere in the “Risk Factors” section of this Form 10-K.

If our cash flow and capital resources are insufficient to fund our debt service obligations, or to repay the Credit Facility when it matures, or the Notes when they mature, we may have to undertake alternative financing plans, such as refinancing or restructuring our debt, selling assets or operations, reducing or delaying capital investments, or seeking to raise additional capital. We may not be able to refinance our debt, or any refinancing of our debt could be at higher interest rates and may require us to comply with more restrictive covenants that could further restrict our business operations. Our ability to implement successfully any such alternative financing plans will depend on a range of factors, including general economic conditions, the level of activity in capital markets generally, and the terms of our various debt instruments then in effect.

The indenture governing the Notes and the Credit Facility contain cross-default or cross-acceleration provisions that may cause all of the debt issued under those instruments to become immediately due and payable because of a default under an unrelated debt instrument.

Our failure to comply with the obligations contained in the indenture governing the Notes, the Credit Facility or other instruments governing our indebtedness could result in an event of default under the applicable instrument, which could result in the related debt and the debt issued under other instruments (together with accrued and unpaid interest and other fees) becoming immediately due and payable. In such event, we would need to raise funds from alternative sources, which funds may not be available to us on favorable terms, on a timely basis, or at all. Alternatively, such a default could require us to sell our assets and otherwise curtail our operations in order to pay our creditors. These alternative measures could have a material adverse effect on our business, financial position, results of operations

and/or cash flows, which could cause us to become bankrupt or insolvent or otherwise impair our ability to make payments in respect of our indebtedness.

Adverse changes in our credit ratings or withdrawal of the ratings assigned to our debt securities by rating agencies may negatively affect us.

Our ability to access capital markets is important to our ability to operate our business. Increased scrutiny of the satellite industry and the impact of regulation, as well as changes in our financial performance and unfavorable conditions in the capital markets could result in credit agencies reexamining our credit ratings. A downgrade in our credit ratings could restrict or discontinue our ability to access capital markets at attractive rates and increase our borrowing costs. Furthermore, any rating assigned could be lowered or withdrawn entirely by a rating agency if, in that rating agency's judgment, future circumstances relating to the basis of the rating, such as adverse changes, so warrant. Any future lowering of our ratings likely would make it more difficult or more expensive for us to obtain additional debt financing.

If we default under the Credit Facility, the lenders may require immediate repayment in full of amounts borrowed or foreclose on our assets.

The Credit Facility contains events of default, including:

- non-compliance with the covenants under the Credit Facility, including financial covenants and covenants relating to hosted payloads;
- cross-default with other indebtedness;
- insolvency of any obligor under the Credit Facility;
- revocation of the insurance policy with Bpifrance Assurance Export S.A.A., or BPIAE, that insures the substantial majority of our obligations; and
- a determination by the lenders that we have experienced a material adverse change in our business.

Some of these events of default are outside of our control or otherwise difficult to satisfy. If we experience an event of default, the lenders may require repayment in full of all principal and interest outstanding under the Credit Facility. It is unlikely we would have adequate funds to repay such amounts prior to the scheduled maturity of the Credit Facility. If we fail to repay such amounts, the lenders may foreclose on the assets we have pledged under the Credit Facility, which includes substantially all of our assets and those of our domestic subsidiaries.

Certain provisions in the Credit Facility and in the indenture governing the Notes limit our financial and operating flexibility.

The Credit Facility and the indenture governing the Notes contain numerous financial and operating covenants that place significant restrictions on, among other things, our ability to:

- make capital expenditures;
- carry out mergers and acquisitions;
- dispose of, or grant liens on, our assets;
- enter into transactions with our affiliates;

- pay dividends or make distributions to our stockholders;
- incur indebtedness;
- prepay indebtedness; and
- make loans, guarantees or indemnities.

Our Credit Facility also requires us to meet certain financial ratios, such as maintaining a debt-to-equity ratio and debt service coverage ratio, and specifies minimum available cash balances, maximum levels of annual capital expenditures, and maximum leverage levels. Our ability to comply with these and other requirements and restrictions may be affected by changes in economic or business conditions, results of operations or other events beyond our control. A failure to comply with the obligations contained in any of the instruments governing our consolidated indebtedness could impair our ability to make payments owed and result in acceleration of related debt and the acceleration of debt under other instruments evidencing indebtedness that may contain cross acceleration or cross default provisions.

The Credit Facility also prohibits us from paying dividends to holders of our Series B Preferred Stock for a period of five quarters, and at any point beyond that if we are unable to certify that we anticipate being able to comply with the financial covenants of the Credit Facility for the next twelve months each time we declare a dividend. If we are unable to make that certification, we will not be able to pay the dividends on our outstanding preferred stock. As required by our amended Credit Facility, we announced a five-quarter deferral of dividends on the Series B Preferred Stock beginning with the dividends due June 15, 2018. If we do not pay dividends on our preferred stock for six quarterly periods (whether or not consecutive), the holders of the Series B Preferred Stock will have the power to elect two members of our board of directors. The interests of the holders of our preferred stock may differ from those of our other stockholders. In addition, any dividend we fail to pay will accrue, and the holders of our Series B Preferred Stock will be entitled to a preferential distribution of the original purchase price per share plus all accrued and unpaid dividends before any distribution may be made to holders of our common stock in connection with any liquidation event. Complying with these restrictions may make it more difficult for us to successfully execute our business plan and compete against companies who are not subject to such restrictions.

The LIBOR calculation method may change, and LIBOR is expected to be phased out after 2021.

A portion of our Credit Facility bears interest at a rate based on the London Interbank Offered Rate, or LIBOR. On July 27, 2017, the U.K. Financial Conduct Authority, or the FCA, announced that it will no longer require banks to submit rates for the calculation of LIBOR after 2021. In the meantime, actions by the FCA, other regulators, or law enforcement agencies may result in changes to the method by which LIBOR is calculated. If changes to LIBOR result in an increase in rates, our interest expense under the Credit Facility would increase. Further, if LIBOR is no longer available, we and our Credit Facility lenders may be required to determine a substitute rate, and if such substitute rate is higher than LIBOR, our interest expense under the Credit Facility would increase.

Our in-orbit satellite insurance only covers the first twelve months of operations of our Iridium NEXT satellites, as a result of which we may be subject to increased costs.

The insurance we have on our in-orbit Iridium NEXT satellites only covers in-orbit failures of our satellites for a period of twelve months from the date of launch. As a result, a failure of one or more of our satellites, or the occurrence of equipment failures and other related problems, could constitute an uninsured loss and could harm our financial condition. Furthermore, this insurance does not cover lost revenue.

Our Iridium NEXT satellites have a limited life and may fail prematurely, which would cause our network to be compromised and materially and adversely affect our business, prospects and profitability.

We may experience in-orbit malfunctions of Iridium NEXT satellites, which could adversely affect the reliability of their service or result in total failure of the satellite. In-orbit failure of a satellite may result from various causes, including component failure, loss of power or fuel, inability to control positioning of the satellite, solar or other astronomical events, including solar radiation and flares, and space debris. Other factors that could affect the useful lives of our satellites include the quality of construction, gradual degradation of solar panels and the durability of

components. Radiation-induced failure of satellite components may result in damage to or loss of a satellite before the end of its expected life. Although we do not incur any direct cash costs related to the failure of a satellite, if a satellite fails, we record an impairment charge in our statement of operations to reduce the remaining net book value of that satellite to zero, and any such impairment charges could depress our net income for the period in which the failure occurs.

From time to time, we are advised by our customers and end users of temporary intermittent losses of signal cutting off calls in progress, preventing completions of calls when made or disrupting the transmission of data. If the magnitude or frequency of such problems increase and we are no longer able to provide a commercially acceptable level of service, our business and financial results and our reputation would be hurt and our ability to pursue our business plan would be compromised.

We may be required in the future to make further changes to our constellation to maintain or improve its performance. Any such changes may require prior FCC approval, and the FCC may subject the approval to other conditions that could be unfavorable to our business. In addition, from time to time we may reposition our satellites within the constellation in order to optimize our service, which could result in degraded service during the repositioning period. Although we have some ability to remedy some types of problems affecting the performance of our satellites remotely from the ground, the physical repair of our satellites in space is not feasible.

We will have to de-orbit all of our remaining first-generation satellites, and we may not be able to obtain or maintain adequate de-orbit insurance.

Our FCC license requires us to de-orbit a first-generation satellite following its replacement with an Iridium NEXT constellation satellite and to notify the FCC within 30 days following removal of a first-generation satellite from its operational orbit for purposes of de-orbit, subject to the license modification that we have been granted with respect to up to 18 first-generation satellites we may keep as spares.

Our current insurance policy covers amounts that we and other specified parties may become liable to pay for bodily injury and property damages to third parties related to a de-orbit of our first-generation satellites. Our current policy has a one-year term, which expires on December 8, 2019, and covers all remaining first-generation satellites. The price, terms and availability of insurance have fluctuated significantly since we began offering commercial satellite services. The cost of obtaining insurance can vary as a result of either satellite failures or general conditions in the insurance industry. Higher premiums on insurance policies would increase our cost. De-orbit liability insurance policies on satellites may not continue to be available on commercially reasonable terms or at all or in sufficient amount to cover the planned de-orbit, over time, of all satellites in our first-generation constellation. In addition to higher premiums, insurance policies may provide for higher deductibles, shorter coverage periods and additional policy exclusions. For example, our current de-orbit insurance covers only twelve months from attachment and therefore would not cover losses arising outside that timeframe. In addition, even if we continue to maintain a de-orbit liability insurance policy, the coverage may not protect us against all third-party losses, which could be material.

Our agreements with U.S. government customers, particularly the DoD, which represent a significant portion of our revenue, expire in 2019 and are also subject to termination.

The U.S. government, through a dedicated gateway owned and operated by the DoD, has been and continues to be, directly and indirectly, our largest customer, representing 20% and 24% of our revenue for the years ended December 31, 2018 and 2017, respectively. We provide the majority of our services to the U.S. government pursuant to our GMSS and EMSS contracts. We entered into these contracts in September 2013 and October 2013, respectively. The GMSS contract provided for a one-year base term and four additional one-year options exercisable at the election of the U.S. government, all of which were exercised, and the EMSS contract provided for a five-year term. The government has extended each of these contracts through early 2019 pursuant to federal acquisition regulations. We are currently negotiating renewals of these contracts, but we can provide no assurance that we will be able to do so on favorable terms, or at all. Further, the U.S. government may terminate these agreements, in whole or in part, at any time for its convenience. Our relationship with the U.S. government is also subject to the overall U.S. government budget and appropriation decisions and processes. U.S. government budget decisions, including with respect to defense spending, are based on changing government priorities and objectives, which are driven by numerous factors, including geopolitical events and macroeconomic conditions, and are beyond our control. If the U.S. government terminates or fails to renew either of the agreements, we would lose a significant portion of our revenue.

We are dependent on intellectual property licensed from third parties to operate our constellation and sell our devices and for the enhancement of our existing devices and services.

We license critical intellectual property and technology to operate and maintain our network and related ground infrastructure and services as well as to design, manufacture, and sell our devices. This intellectual property and technology is essential to our ability to continue to operate our constellation and sell our services and devices. In addition, we are dependent on third parties to develop enhancements to our current services and services even in circumstances where we own the intellectual property. If any third-party owner of such intellectual property or technology were to terminate any license agreement with us or cease to support and service such intellectual property or technology or perform development on our behalf, or if we are unable to renew such licenses on commercially reasonable terms or at all, it may be difficult, more expensive or impossible to obtain such intellectual, technology, or services from alternative vendors. Any substitute intellectual property or technology may also be costly to develop and integrate, or could have lower quality or performance standards, which would adversely affect the quality of our devices and services. In connection with the development of new devices and services, we may be required to obtain additional intellectual property rights from third parties. We can offer no assurance that we will be able to obtain such

intellectual property rights on commercially reasonable terms or at all. If we are unable to obtain such intellectual property rights on commercially reasonable terms, we may not be able to develop new devices and services.

Our products could fail to perform or could perform at reduced levels of service because of technological malfunctions or deficiencies or events outside of our control, which would seriously harm our business and reputation.

Our products and services are subject to the risks inherent in a large-scale, complex telecommunications system employing advanced technology. Any disruption to our satellites, services, information systems or telecommunications infrastructure could result in the inability of our customers to receive our services for an indeterminate period of time. These customers include government agencies conducting mission-critical work throughout the world, as well as consumers and businesses located in remote areas of the world and operating under harsh environmental conditions where traditional telecommunications services may not be readily available. Any disruption to our services or extended periods of reduced levels of service could cause us to lose customers or revenue, result in delays or cancellations of future implementations of our products and services, result in failure to attract customers, or result in litigation, customer service or repair work that would involve substantial costs and distract management from operating our business. The failure of any of the diverse elements of our system, including our satellites, our commercial gateway, our satellite teleport network facilities or our satellite network operations center, to function as required could render our system unable to perform at the quality and capacity levels required for success. Any system failures, repeated product failures or shortened product life, or extended reduced levels of service could reduce our sales, increase costs, or result in warranty or liability claims or litigation, cause us to extend our warranty period, and seriously harm our business.

Our failure to effectively manage the expansion of our portfolio of products and services could impede our ability to execute our business plan, and we may experience increased costs or disruption in our operations.

In order to achieve the substantial future revenue growth we have projected, we must develop and market new products and services, such as Iridium Certus. We currently face a variety of challenges, including maintaining the infrastructure and systems necessary for us to manage the growth of our business. As our product and service portfolio continues to expand, the responsibilities of our management team and other company resources also grow. Consequently, we may further strain our management and other company resources with the increased complexities and administrative burdens associated with a larger, more complex portfolio of products and services. For example, we have in the past experienced quality issues and incorrect market assessments in connection with the introduction of new products and services, and we may experience such issues in the future. Our failure to meet these challenges as a result of insufficient management or other resources could significantly impede our ability to execute our business plan, which relies in part on our ability to leverage our largely fixed-cost infrastructure. To properly manage our growth, we may need to hire and retain additional personnel, upgrade our existing operational management and financial and reporting systems, and improve our business processes and controls. Failure to effectively manage the expansion of our portfolio of products and services in a cost-effective manner could result in declines in product and service quality and customer satisfaction, disruption of our operations, or increased costs, any of which would reduce our ability to increase our profitability.

As we and our distributors expand our offerings to include more consumer-oriented devices, we are more likely to be subject to product liability claims, recalls or litigation, which could adversely affect our business and financial performance.

Through our distributors, we offer several devices and services aimed at individual consumers, and we and our distributors continue to introduce additional devices and services. These devices and services, such as satellite handsets, personal locator devices and location-based services, can contain design and manufacturing defects. Defects may also occur in components and devices that we purchase from third parties. There can be no assurance we will be

able to detect and fix all defects in the hardware, software and services that we sell. Further, these devices and services may be used in isolated and dangerous locations, including emergency response situations, and users who suffer property damage, personal injury or death while using the device or service may seek to assert claims or bring lawsuits against us. Further, it is possible that our devices could become the subject of consumer protection investigations, enforcement actions, or litigation, including class actions. We seek to limit our exposure to all of these claims by maintaining a consumer protection compliance program, and through appropriate notices, disclosures, indemnification provisions and disclaimers, but these steps may not be effective. We also maintain product liability insurance, but this insurance may not cover any particular claim or litigation, or the amount of insurance may be inadequate to cover the claims brought against us. Product liability insurance could become more expensive and difficult to maintain and might not be available on acceptable terms or at all. In addition, it is possible that our devices could become the subject of a product recall as a result of a device defect. We do not maintain recall insurance, so any recall could have a significant effect on our financial results. In addition to the direct expenses of product liability claims, investigations, recalls and litigation, a claim, investigation, recall or litigation might cause us adverse publicity, which could harm our reputation and compromise our ability to sell our devices in the future.

The collection, storage, transmission, use and disclosure of user data and personal information could give rise to liabilities or additional costs as a result of laws, governmental regulations, and evolving views of personal privacy rights and information security standards.

We transmit, process, and in some cases store in the normal course of our business, end user data, including personal information. Many jurisdictions around the world have adopted laws and regulations regarding the collection, storage, transmission, use and disclosure of personal information. The legal standards for processing, storing and using this personal information continue to evolve, impose additional obligations and risk on our business, and have the potential to make some of our business processes more costly or less feasible. For example, the European Commission has enacted the General Data Protection Regulation, or GDPR, which became effective in May 2018. The GDPR superseded prior EU data protection legislation, imposes more stringent EU data protection requirements, and provides for greater penalties for noncompliance.

In addition, the interpretation of privacy and data protection laws and regulations regarding the collection, storage, transmission, use and disclosure of such information in some jurisdictions remains unclear. These laws may be interpreted, applied and enforced in conflicting ways from country to country and in a manner that is not consistent with our current business practices. Complying with these varying privacy and data security legal requirements could cause us to incur additional costs and change our business practices. Further, our services are accessible in many foreign jurisdictions, and some of these jurisdictions may claim that we are required to comply with their laws, even where we have no operating entity, employees or infrastructure located in that jurisdiction. We could face direct expenses related to a variety of enforcement actions, government investigations, or litigation, and an interruption to our business and adverse publicity because of such enforcement actions, government investigations, or litigation. Such enforcement actions, government investigations, or litigation could also cause us to incur significant expenses if we were required to modify our products, our services, our infrastructure, or our existing security and privacy procedures in order to comply with new or expanded privacy and security regulations.

In addition, if end users allege that their personal information is not collected, stored, transmitted, used or disclosed by us or our business partners appropriately or in accordance with our policies or applicable laws, or that our failure to adequately secure their personal information compromised its security, we could have liability to them or to consumer protection agencies, including claims, investigations and litigation related to such allegations. Any failure on our part to protect end users' personal information could result in a loss of user confidence, hurt our reputation, result in the loss of users, and cause us to incur significant expenses.

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

In February 2009, we lost an operational satellite as a result of a collision with a non-operational Russian satellite. Although we have some ability to actively maneuver our satellites to avoid potential collisions with space debris or other spacecraft, this ability is limited by, among other factors, uncertainties and inaccuracies in the projected orbit location of and predicted conjunctions with debris objects tracked and cataloged by the U.S. government. Additionally, some space debris is too small to be tracked and therefore its orbital location is completely unknown; nevertheless, this debris is still large enough to potentially cause severe damage or a failure of our satellites should a collision occur. If our constellation experiences additional satellite collisions with space debris or other spacecraft, our service could be impaired.

The space debris created by the February 2009 satellite collision may cause damage to other spacecraft positioned in a similar orbital altitude.

The 2009 collision of one of our satellites with a non-operational Russian satellite created a space debris field concentrated in the orbital altitude where the collision occurred, and thus increased the risk of space debris damaging or interfering with the operation of our satellites, which travel in this orbital altitude, as well as satellites owned by third parties, such as U.S. or foreign governments or agencies and other satellite operators. Although there are tools used by us and providers of tracking services, such as the U.S. Combined Space Operations Center, to detect, track and identify space debris, we or third parties may not be able to maneuver the satellites away from such debris in a timely manner. Any such collision could potentially expose us to significant losses and liability if we were found to be at fault.

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

Our commercial satellite network traffic is supported by gateways in Tempe, Arizona, and Izhevsk, Russia, for traffic within Russian boundaries, and we operate our satellite constellation from our satellite network operations center in Leesburg, Virginia. Currently, we do not have a backup facility for our primary gateway in Arizona, and our facilities are subject to the risk of significant malfunctions or catastrophic loss due to unanticipated events and would be difficult to replace or repair and could require substantial lead-time to do so. Material changes in the operation of these facilities may be subject to prior FCC approval, and the FCC might not give such approval or may subject the approval to other conditions that could be unfavorable to our business. Our gateways and operations center may also experience service shutdowns or periods of reduced service in the future as a result of equipment failures, delays in deliveries or regulatory issues. Any such failure would impede our ability to provide service to our customers.

We could lose market share and revenue as a result of increasing competition from companies in the wireless communications industry, including cellular and other satellite operators, and from the extension of land-based communications services.

We face intense competition in all of our markets, which could result in a loss of customers and lower revenue and make it more difficult for us to enter new markets. We compete primarily on the basis of coverage, quality, portability, and pricing of services and products.

The provision of satellite-based services and products is subject to downward price pressure when capacity exceeds demand or as a result of aggressive discounting by some operators under financial pressure to expand their respective market share. In addition, we may face competition from new competitors, new technologies or new equipment, including proposed new LEO constellations. For example, we may face competition for our land-based services in the United States from incipient ancillary terrestrial component, or ATC, service providers who are designing a satellite operating business and a terrestrial component around their spectrum holdings. In addition, some of our competitors have announced plans for the launch of additional satellites. As a result of competition, we may not be able to successfully retain our existing customers and attract new customers.

In addition to our satellite-based competitors, terrestrial voice and data service providers, both wireline and wireless, could further expand into rural and remote areas and provide the same general types of services and products that we provide through our satellite-based system. Although satellite communications services and terrestrial communications services are not perfect substitutes, the two compete in some markets and for some services. Consumers generally perceive terrestrial wireless voice communication products and services as cheaper and more convenient than those that are satellite-based. Many of our terrestrial competitors have greater resources, wider name recognition and newer technologies than we do. In addition, industry consolidation could hurt us by increasing the scale or scope of our competitors, thereby making it more difficult for us to compete.

Our customized hardware and software may be difficult and expensive to service, upgrade or replace.

Some of the hardware and software we use in operating our gateways is significantly customized and tailored to meet our requirements and specifications and could be difficult and expensive to service, upgrade or replace. Although we maintain inventories of some spare parts, it nonetheless may be difficult, expensive or impossible to obtain replacement parts for the hardware due to a limited number of those parts being manufactured to our requirements and specifications. In addition, our business plan contemplates updating or replacing some of the hardware and software in our network as technology advances, but the complexity of our requirements and specifications may present us with technical and operational challenges that complicate or otherwise make it expensive or infeasible to carry out such upgrades and replacements. If we are not able to suitably service, upgrade or replace our equipment, our ability to

provide our services and therefore to generate revenue could be harmed.

Rapid and significant technological changes in the satellite communications industry may impair our competitive position and require us to make significant additional capital expenditures.

The satellite communications industry is subject to rapid advances and innovations in technology. We may face competition in the future from companies using new technologies and new satellite systems. New technology could render our system obsolete or less competitive by satisfying customer demand in more attractive ways or through the introduction of incompatible standards. Particular technological developments that could adversely affect us include the deployment by our competitors of new satellites with greater power, flexibility, efficiency or capabilities than ours, as well as continuing improvements in

terrestrial wireless technologies. For us to keep up with technological changes and remain competitive, we may need to make significant capital expenditures, including capital to design and launch new products and services. Customer acceptance of the products and services that we offer will continually be affected by technology-based differences in our product and service offerings compared to those of our competitors. New technologies may also be protected by patents or other intellectual property laws and therefore may not be available to us. Any failure on our part to implement new technology within our system may compromise our ability to compete.

Use by our competitors of L-band spectrum for terrestrial services could interfere with our services.

In February 2003, the FCC adopted ATC rules that permit satellite service providers to establish terrestrial wireless networks in previously satellite-only bands, subject to certain requirements intended to ensure that terrestrial services remain ancillary to primary satellite operations. In 2011, Lightsquared (now known as Ligado Networks) was granted a waiver at the FCC to convert Ligado Network's L-band satellite spectrum to terrestrial use including a 10 MHz band close to the spectrum that we use for all of our services. That waiver was subsequently suspended in 2012 due to concerns about potential interference to GPS operations. Ligado Networks sought another waiver in 2015 to modify the ATC of its L-band mobile satellite service network with a new proposal to address GPS industry concerns. We oppose this waiver out of concern for the interference that Ligado Network's proposed operations would cause to our operations in the L-band.

The implementation of ATC services by satellite service providers in the United States or other countries may result in terrestrial use of L-band spectrum in the 1.6 GHz band, which we use to provide our services, and such implementation may make it difficult for us to utilize the spectrum resources we require for our existing and future services. In addition, the FCC's decision to permit ATC services was based on assumptions relating to the level of interference that the provision of ATC services would likely cause to other satellite service providers that use the L-band spectrum. If the FCC's assumptions prove inaccurate, or the level of ATC services provided exceeds those estimated by the FCC, such as the proposed use by Ligado Networks, ATC services could substantially interfere with our satellites and devices, which would adversely affect our services. Outside the United States, other countries have implemented, or are considering implementing, regulations to facilitate ATC-like services.

Our networks and those of our third-party service providers may be vulnerable to security risks.

We expect the secure transmission of confidential information over public networks to continue to be a critical element of our ability to compete for business, manage our risks, and protect our customers and our reputation. Our network and those of our third-party service providers and our customers may be vulnerable to unauthorized access, computer attacks, viruses and other security problems. Persons who circumvent security measures could wrongfully access and obtain or use information on our network or cause service interruptions, delays or malfunctions in our devices, services or operations, any of which could harm our reputation, cause demand for our products and services to fall, and compromise our ability to pursue our business plans. Recently, there have been reported a number of significant, widespread security attacks and breaches that have compromised network integrity for many companies and governmental agencies, in some cases reportedly originating from outside the United States. In addition, there are reportedly private products available in the market today which may attempt to unlawfully intercept communications made using our network. We may be required to expend significant resources to respond to, contain, remediate, and protect against these attacks and threats, including compliance with applicable data breach and security laws and regulations, and to alleviate problems, including reputational harm and litigation, caused by these security incidents. In addition, in the event of such a security incident, our customer contracts may not adequately protect us against liability to third parties with whom our customers conduct business. Although we have implemented and intend to continue to implement security measures, these measures may prove to be inadequate. These security incidents could have a significant effect on our systems, devices and services, including system failures and delays that could limit network availability, which could harm our business and our reputation and result in substantial liability.

We are dependent on third parties to market and sell our products and services.

We select third-party distributors and rely on them to market and sell our products and services to end users and to determine the prices end users pay, in some cases on an exclusive basis. We also depend on our distributors to develop innovative and improved solutions and applications integrating our product and service offerings. As a result of these arrangements, we are dependent on the performance of our distributors to generate most of our revenue. Our distributors operate independently of us, and we have limited control over their operations, which exposes us to significant risks. Distributors may not commit the necessary resources to market and sell our products and services and may also market and sell competitive products and services. In addition, our distributors may not comply with the laws and regulatory requirements in their local jurisdictions, which could limit their ability to market or sell our products and services. If our distributors develop faulty or poorly performing products using our technology or services, we may be subject to claims, and our reputation could be harmed. If

current or future distributors do not perform adequately, or if we are unable to locate competent distributors in particular countries and secure their services on favorable terms, we may be unable to increase or maintain our revenue in these markets or enter new markets, we may not realize our expected growth, and our brand image and reputation could be hurt.

In addition, we may lose distributors due to competition, consolidation, regulatory developments, business developments affecting our distributors or their customers, or for other reasons. In 2009, one of our largest competitors, Inmarsat, acquired our then largest distributor, Stratos Global Wireless, Inc., and in January 2014, Inmarsat acquired Globe Wireless, one of our service providers. Following each acquisition, Inmarsat essentially stopped promoting sales of our products and services, and they may further reduce their efforts in the future. Any future consolidation of our distributors would further increase our reliance on a few key distributors of our services and the amount of volume discounts that we may have to give those distributors. Our two largest distributors, Applied Satellite Technology LTD and Marlink Group, represented a total of 11% of our revenue for the year ended December 31, 2018, and our ten largest distributors represented, in the aggregate, 36% of our revenue for the year ended December 31, 2018. The loss of any of these distributors, or a decrease in the level of effort expended by any of them to promote our products and services, could reduce the distribution of our products and services as well as the development of new products and applications.

We rely on a limited number of key vendors for supply of equipment and services.

We currently rely on two manufacturers of our current devices, including our mobile handsets, L-Band transceivers, SBD devices and Iridium Pilot terminals. We also utilize sole source suppliers for some of the component parts of our devices. If any of our suppliers were to terminate its relationship with us, we may not be able to find a replacement supplier in a timely manner, at an acceptable price or at all.

Our manufacturer and suppliers may become capacity-constrained as a result of a surge in demand, a natural disaster or other event, or one or more component suppliers may decide to cease production of various components of our products, resulting in a shortage or interruption in supplies or an inability to meet increased demand. Although we may be able to replace sole source suppliers, there could be a substantial period of time in which our products would not be available; any new relationship may involve higher costs and delays in development and delivery, and we may encounter technical challenges in successfully replicating the manufacturing processes. If our manufacturers or suppliers terminate their relationships with us, fail to provide equipment or services to us on a timely basis, or fail to meet our performance expectations, we may be unable to provide products or services to our customers in a competitive manner, which could in turn negatively affect our financial results and our reputation.

In November 2016, we entered into a development services contract with Boeing, which will dedicate key Boeing personnel to continue the design and growth required for bringing new services and capabilities to our network. Technological competence is critical to our business and depends, to a significant degree, on the work of technically skilled personnel, such as these Boeing contractors. If Boeing’s performance falls below expected levels or if Boeing has difficulties retaining the personnel servicing our network development, the development of new products and services could be compromised. In addition, if Boeing terminates its agreement with us, we may not be able to find a replacement provider on favorable terms or at all, which could impair our operations and performance.

We have been and may in the future become subject to claims that our devices or services violate the patent or intellectual property rights of others, which could be costly and disruptive to us.

We operate in an industry that is susceptible to significant intellectual property litigation. As a result, we or our devices or services may become subject to intellectual property infringement claims or litigation. The defense of intellectual property suits is both costly and time-consuming, even if ultimately successful, and may divert

management's attention from other business concerns. An adverse determination in litigation to which we may become a party could, among other things:

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

Conducting and expanding our operations outside the United States creates numerous risks, which may harm our operations and compromise our ability to expand our international operations.

We have significant operations outside the United States. We estimate that commercial data traffic originating outside the United States, excluding our Iridium OpenPort broadband data service traffic, accounted for 72% and 75% of total commercial data traffic for the years ended December 31, 2018 and 2017, respectively, while commercial voice traffic originating outside the United States, excluding Iridium OpenPort traffic, accounted for 90% and 88% of total commercial voice traffic for the years ended December 31, 2018 and 2017, respectively. We cannot provide the precise geographical distribution of revenue from end users because we do not contract directly with them. Instead, we determine the country in which we earn our revenue based on where we invoice our distributors. These distributors sell services directly or indirectly to end users, who may be located or use our products and services elsewhere. We and our distributors are also seeking authorization to sell our services in additional countries.

Conducting operations outside the United States involves numerous risks and, while expanding our international operations would advance our growth, it would also increase our exposure to these risks. For example, in 2013 we commenced the provision of satellite communications services in Russia through a local subsidiary and its authorized Russian service providers and subsequently constructed a dedicated gateway in Russia. The U.S. government has imposed economic and diplomatic sanctions on certain Russian corporations, banks, and citizens and might impose additional sanctions in the future. If such sanctions, or any Russian response to such sanctions, affects our operations in Russia, it could limit our growth in Russia or prevent us from continuing to operate there at all, which would reduce our revenues.

Other risks associated with the proposed expansion of our international operations include:

- difficulties in penetrating new markets due to established and entrenched competitors;
- difficulties in developing products and services that are tailored to the needs of local customers;
- lack of local acceptance or knowledge of our products and services;
- lack of recognition of our products and services;
- unavailability of, or difficulties in establishing, relationships with distributors;
- significant investments, including the development and deployment of dedicated gateways, as some countries require physical gateways within their jurisdiction to connect the traffic coming to and from their territory;
- instability of international economies and governments;
- changes in laws and policies affecting trade and investment in other jurisdictions, including the United Kingdom’s proposed exit from the European Union;
- exposure to varying legal standards, including data privacy, security and intellectual property protection in other jurisdictions;
- difficulties in obtaining required regulatory authorizations;
- difficulties in enforcing legal rights in other jurisdictions;

- local domestic ownership requirements;
- requirements that operational activities be performed in-country;
- changing and conflicting national and local regulatory requirements;
- foreign currency exchange rates and exchange controls; and
- ongoing compliance with the U.S. Foreign Corrupt Practices Act, U.S. export controls, anti-money laundering and trade sanction laws, and similar anti-corruption and international trade laws in other countries.

If any of these risks were to materialize, it could affect our ability to successfully compete and expand internationally. Government organizations, foreign military and intelligence agencies, natural disaster aid associations, and event-driven response agencies use our commercial voice and data satellite communications services. Accordingly, we may experience reductions in usage due to changing global circumstances.

The prices for our products and services are typically denominated in U.S. dollars. Any appreciation of the U.S. dollar against other currencies will increase the cost of our products and services to our international customers and, as a result, may reduce the competitiveness of our international offerings and make it more difficult for us to grow internationally. Conversely, in some locations, primarily Russia, we conduct business in the local currency, and a depreciation of the local currency against the U.S. dollar will reduce the U.S. dollar value of our revenues from those countries. In recent years, Russia has experienced significant currency depreciation against the U.S. dollar.

We may be unable to offer one or more services in important regions of the world due to regulatory requirements, which could limit our growth.

While our constellation is capable of providing service globally, our ability to sell one or more types of service in some regions may be limited by local regulations. Some countries have specific regulatory requirements such as local domestic ownership requirements or requirements for physical gateways within their jurisdiction to connect traffic coming to and from their territory. In some countries, we may not be able to find an acceptable local partner or reach an agreement to develop additional gateways, or the cost of developing and deploying such gateways may be prohibitive, which could impair our ability to expand our product and service offerings in such areas and undermine our value for potential users who require service in these areas. Also, other countries where we already provide service may impose similar requirements in the future, which could restrict our ability to continue to sell service in those countries. The inability to offer to sell our products and services in all major international markets could impair our international growth. In addition, the construction of such gateways in foreign countries may trigger and require us to comply with various U.S. regulatory requirements that could conflict with or contravene the laws or regulations of the local jurisdiction. Any of these developments could limit, delay or otherwise interfere with our ability to construct gateways or other infrastructure or network solutions around the world.

We may be unable to obtain and maintain contractually required liability insurance, and the insurance we obtain may not cover all liabilities to which we may become subject.

Under our agreements with Motorola Solutions and the U.S. Government, we are required to maintain an in-orbit liability insurance policy with a de-orbiting endorsement. The current policy, together with the de-orbiting endorsement, covers amounts that we and other specified parties may become liable to pay for bodily injury and property damages to third parties related to processing, maintaining and operating our first-generation satellites and, in the case of the de-orbiting endorsement, a mass de-orbit of our first-generation satellites. Our current policy has a one-year term, which expires on December 8, 2019, and excludes coverage for all third-party damages relating to the 2009 collision of our satellite with a non-operational Russian satellite. The price, terms and availability of insurance have fluctuated significantly since we began offering commercial satellite services. The cost of obtaining insurance can vary as a result of either satellite failures or general conditions in the insurance industry. Higher premiums on insurance policies would increase our cost. In-orbit liability insurance policies on satellites may not continue to be available on commercially reasonable terms or at all. In addition to higher premiums, insurance policies may provide for higher deductibles, shorter coverage periods and additional policy exclusions. For example, our current de-orbit insurance covers only twelve months from attachment and therefore would not cover losses arising outside that timeframe. In addition, even if we continue to maintain an in-orbit liability insurance policy, the coverage may not protect us against all third-party losses, which could be material.

Our current in-orbit liability insurance policy contains, and we expect any future policies would likewise contain, specified exclusions and material change limitations customary in the industry. These exclusions may relate to, among other things, losses resulting from in-orbit collisions such as the one we experienced in 2009, acts of war, insurrection, terrorism or military action, government confiscation, strikes, riots, civil commotions, labor disturbances, sabotage, unauthorized use of the satellites, and nuclear or radioactive contamination, as well as claims directly or indirectly occasioned as a result of noise, pollution, electrical and electromagnetic interference, and interference with the use of property.

In addition to our in-orbit liability insurance policy, we are required to purchase product liability insurance to cover the potential liability of Motorola Solutions, as the successor to the manufacturer of our first-generation satellites. We may not in the future be able to renew this product liability coverage on reasonable terms and conditions, or at all. Our failure to maintain this insurance could increase our exposure to third-party damages that may be caused by any of our satellites.

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

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

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

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

Our ownership and operation of a satellite communications system and the sale of products that operate on that system are subject to significant regulation in the United States, including by the FCC, the U.S. Department of Commerce and others, and in foreign jurisdictions by similar local authorities. The rules and regulations of these U.S. and foreign authorities may change, and such authorities may adopt regulations that limit or restrict our operations as presently conducted or currently contemplated. Such authorities may also make changes in the licenses of our competitors that affect our spectrum. Such changes may significantly affect our business. Further, because regulations in each country are different, we may not be aware if some of our distribution partners or persons with whom we or they do business do not hold the requisite licenses and approvals. Our failure to provide services in accordance with the terms of our licenses or our failure to operate our satellites or ground stations as required by our licenses and applicable laws and government regulations could result in the imposition of government sanctions on us, including the suspension or cancellation of our licenses. Our failure or delay in obtaining the approvals required to operate in other countries would limit or delay our ability to expand our operations into those countries. Our failure to obtain industry-standard or government-required certifications for our products could compromise our ability to generate revenue and conduct our business in other countries. Any imposition of sanctions, loss of license or failure to obtain the authorizations necessary to use our assigned radio frequency spectrum and to distribute our products in the United States or foreign jurisdictions could cause us to lose sales, hurt our reputation and impair our ability to pursue our business plan.

In addition, one of our subsidiaries, Iridium Carrier Services LLC, holds a common carrier radio license and is thus subject to regulation as a common carrier, including limitations and prior approval requirements with respect to direct or indirect foreign ownership. A change in the manner in which we provide service, or a failure to comply with any common carrier regulations that apply to us or to pay required fees, could result in sanctions including fines, loss of authorizations, or the denial of applications for new authorizations or the renewal of existing authorizations.

Security and emergency services regulations in the U.S. and other countries may affect our ability to operate our system and to expand into new markets.

Our operations are subject to regulations of the U.S. Department of Commerce's Bureau of Industry and Security relating to the export of satellites and related technical data as well as our subscriber equipment, the U.S. Treasury Department's Office of Foreign Assets Control relating to transactions involving entities sanctioned by the United States, and the U.S. State Department's Office of Defense Trade Controls relating to satellite launch. We are also required to provide U.S. and some foreign government law enforcement and security agencies with call interception services and related government assistance, in respect of which we face legal obligations and restrictions in various jurisdictions. Given our global operations and unique network architecture, these requirements and restrictions are not always easy to comply with or harmonize. In addition, some countries require providers of telecommunications services to connect specified emergency numbers to local emergency services. We have discussed and continue to discuss with authorities in various countries the procedures used to satisfy our obligations, and have had to, and may in the future need to, obtain amendments or waivers to licenses or obligations in various countries. Countries are not obligated to grant requested amendments or waivers, and there can be no assurance that relevant

authorities will not suspend or revoke our licenses or take other legal actions to attempt to enforce the requirements of their respective jurisdictions.

These U.S. and foreign obligations and regulations may limit or delay our ability to offer products and services in a particular country. As new laws and regulations are issued, we may be required to modify our business plans or operations. In addition, changing and conflicting national and local regulatory requirements may cause us to be in compliance with local requirements in one country, while not being in compliance with the laws and regulations of another. If we fail to comply with regulations in the United States or any other country, we could be subject to substantial fines or sanctions that could make it difficult or impossible for us to operate in the United States or such other country, or we may need to make substantial additional expenditures to bring our systems, products and services into compliance with the requirements.

If the FCC revokes, modifies or fails to renew our licenses, or fails to grant a new license or modification, our ability to operate will be harmed or eliminated.

We hold FCC licenses, specifically a license for our first-generation satellite constellation, a license for the Iridium NEXT constellation, licenses for our U.S. gateway and other ground facilities, and blanket earth station licenses for U.S. government customers and commercial subscribers, that are subject to revocation if we fail to satisfy specified conditions. The FCC licenses are also subject to modification by the FCC. Our first-generation satellite constellation license from the FCC has been extended until July 31, 2019. Our Iridium NEXT license expires on February 23, 2032. Our U.S. gateway earth station and the U.S. government customer and commercial subscriber earth station licenses expire between October 2021 and 2026. There can be no assurance that the FCC will renew the FCC licenses we hold or grant new ones or modifications. If the FCC revokes, modifies or fails to renew the FCC licenses we hold, or fails to grant a new license or modification, or if we fail to satisfy any of the conditions of our respective FCC licenses, we may not be able to continue to provide mobile satellite communications services.

Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations.

Our ability to utilize U.S. net operating loss carryforwards and other tax attributes may be limited if we experience an "ownership change" under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, which generally occurs if one or more stockholders or groups of stockholders who own at least 5% of our common stock increase their ownership in the aggregate by more than 50% over their lowest ownership percentage within a rolling period that begins on the later of three years prior to the testing date and the date of the last ownership change. Similar rules may apply under state tax laws. If an "ownership change" were to occur, Section 382 of the Code would impose an annual limit on the amount of pre-ownership change net operating loss carryforwards and other tax attributes we could use to reduce our taxable income. It is possible that such an ownership change could materially reduce our ability to use our net operating loss carryforwards or other tax attributes to offset taxable income, which could impact our profitability.

We could be subject to adverse determinations by taxing authorities or changes to tax laws.

We are subject to regular review and audit by both domestic and foreign tax authorities. As a result, we have received, and may in the future receive, assessments in multiple jurisdictions on various tax-related assertions, including transfer pricing adjustments or permanent establishment. Any adverse outcome of such a review or audit could have a negative effect on our operating results and financial condition. In addition, the determination of our provision for income taxes and other tax liabilities requires significant judgment, including transactions and calculations where the ultimate tax determination is uncertain. Although we believe our estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded in our financial statements and may materially affect our financial results in the period or periods for which such determination is made. Furthermore, tax policies, laws or rates in various

jurisdictions may be subject to significant change, which could materially and adversely affect our financial position and results of operations.

Changes in tax laws could increase our worldwide tax rate and materially affect our financial position and results of operations.

The Tax Cuts and Jobs Act, or the Tax Act, enacted in December 2017, resulted in significant changes to the Internal Revenue Code, including, among other things, significantly reducing the statutory corporate U.S. federal income tax rate, imposing limitations on the ability to deduct interest expense and net operating losses and making changes to the way a U.S. multinational company's foreign operations are taxed, including a one-time mandatory tax on deferred foreign earnings and the imposition of the "base erosion anti-abuse tax." The Securities and Exchange Commission issued Staff Accounting Bulletin No. 118, or SAB 118, to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. SAB 118 was effective for reporting periods that include December 22, 2017. Due to

the timing of the enactment and the complexity involved in applying the provisions of the Tax Act, we made reasonable estimates of the anticipated effects of the Tax Act and recorded provisional amounts in our December 31, 2017 financial statements. In the fourth quarter of 2018, we completed our accounting for the income tax effects of the Tax Act. No material adjustments were required to the provisional amounts initially recorded. If any additional guidance is issued by the IRS or other standard-setting bodies with respect to the Tax Act, we may need to make adjustments to our prior estimates, which could materially affect our financial statements in the period in which the adjustments are made.

In addition, many U.S. states and foreign countries have adopted or proposed changes to current tax laws. Further, organizations such as the Organization for Economic Cooperation and Development have published action plans that, if adopted by countries where we do business, could increase our tax obligations in these countries. Due to our U.S. and international business activities, certain of these enacted and proposed changes to the taxation of our activities could increase our worldwide effective tax rate, which in turn could harm our financial position and results of operations.

Pursuing strategic transactions may cause us to incur additional risks.

We may pursue acquisitions, joint ventures or other strategic transactions from time to time, such as the Boeing insourcing transaction. We may face costs and risks arising from any such transactions, including integrating a new business into our business or managing a joint venture. These risks may include adverse legal, organizational and financial consequences, loss of key customers and distributors and diversion of management’s time.

In addition, any major business combination or similar strategic transaction would require approval under the Credit Facility and may require significant additional financing. Depending on market conditions, investor perceptions of our company and other factors, we might not be able to obtain approvals under the Credit Facility or financing on acceptable terms, in acceptable amounts or at appropriate times to implement any such transaction. Any such financing, if obtained, may further dilute existing stockholders.

Spectrum values historically have been volatile, which could cause the value of our business to fluctuate.

Our business plan is evolving, and it may in the future include forming strategic partnerships to maximize value for our spectrum, network assets and combined service offerings in the United States and internationally. Values that we may be able to realize from such partnerships will depend in part on the value placed on our spectrum authorizations. Valuations of spectrum in other frequency bands historically have been volatile, and we cannot predict at what amount a future partner may be willing to value our spectrum and other assets. In addition, to the extent that the FCC takes action that makes additional spectrum available or promotes the more flexible use or greater availability of existing satellite or terrestrial spectrum allocations, for example by means of spectrum leasing or new spectrum sales, the availability of such additional spectrum could reduce the value of our spectrum authorizations and, as a result, the value of our business.

We may be negatively affected by global economic conditions.

Our operations and performance depend significantly on worldwide economic conditions. Uncertainty about global economic conditions poses a risk as individual consumers, businesses and governments may postpone spending in response to tighter credit, negative financial news, declines in income or asset values, or budgetary constraints. Reduced demand would cause a decline in our revenue and make it more difficult for us to operate profitably, potentially compromising our ability to pursue our business plan. While we expect the number of our subscribers and revenue to continue to grow, we expect the future growth rate will be slower than our historical growth and may not continue in every quarter of every year. We expect our future growth rate will be affected by the condition of the

global economy, increased competition, maturation of the satellite communications industry, and the difficulty in sustaining high growth rates as we increase in size. Any substantial appreciation of the U.S. dollar may also negatively affect our growth by increasing the cost of our products and services in foreign countries.

If we fail to maintain proper and effective internal controls, our ability to produce accurate financial statements on a timely basis could be impaired.

We are subject to the reporting requirements of the Securities Exchange Act of 1934, the Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, and the rules and regulations of the SEC and The Nasdaq Global Select Market. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal controls over financial reporting. We perform system and process evaluation and testing of our internal controls over financial reporting to allow management to report on the effectiveness of our internal controls over financial reporting in our Annual Reports on Form 10-K, as required by Section 404 of the Sarbanes-Oxley Act. If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, or if we are unable to

maintain proper and effective internal controls, we may not be able to produce timely and accurate financial statements, and we may conclude that our internal controls over financial reporting are not effective. If that were to happen, the market price of our stock could decline, and we could be subject to sanctions or investigations by the Nasdaq Global Select Market, the SEC or other regulatory authorities.

Maintaining effective internal controls over financial reporting is necessary for us to produce reliable financial statements. If we fail to maintain such controls, it could result in a material misstatement of our financial statements that would not be prevented or detected on a timely basis and which could cause investors and other users to lose confidence in our financial statements.

Our ability to operate our company effectively could be impaired if we lose members of our senior management team or key technical personnel.

We depend on the continued service of key managerial and technical personnel and personnel with security clearances, as well as our ability to continue to attract and retain highly qualified personnel. We compete for such personnel with other companies, government entities, academic institutions and other organizations. The unexpected loss or interruption of the services of such personnel could compromise our ability to effectively manage our operations, execute our business plan and meet our strategic objectives.

The market price of our common stock may be volatile.

The trading price of our common stock may be subject to substantial fluctuations. Factors affecting the trading price of our common stock may include:

- failure in the performance of our satellites;
- failure of Aireon to successfully market its service;
- failure to comply with the terms of the Credit Facility or the indenture for the Notes;
- actual or anticipated variations in our operating results, including termination or expiration of one or more of our key contracts, or a change in sales levels under one or more of our key contracts;
- sales of a large number of shares of our common stock or the perception that such sales may occur;
- the dilutive effect of outstanding stock options and other equity awards;
- changes in financial estimates by industry analysts, or our failure to meet or exceed any such estimates, or changes in the recommendations of any industry analysts that elect to follow our common stock or the common stock of our competitors;
- impairment of intangible assets;
- actual or anticipated changes in economic, political or market conditions, such as recessions or international currency fluctuations;
- actual or anticipated changes in the regulatory environment affecting our industry;
- changes in the market valuations of our competitors;

- low trading volume; and
- announcements by our competitors regarding significant new products or services or significant acquisitions, strategic partnerships, divestitures, joint ventures or other strategic initiatives.

The trading price of our common stock might also decline in reaction to events that affect other companies in our industry even if these events do not directly affect us. If our stock, the market for other stocks in our industry, or the stock market in general experiences a loss of investor confidence, the trading price of our common stock could decline for reasons unrelated to our business, financial condition or results of operations.

We do not expect to pay dividends on our common stock in the foreseeable future.

We do not currently pay cash dividends on our common stock and, because we currently intend to retain all cash we generate to fund the growth of our business and the Credit Facility restricts the payment of dividends, we do not expect to pay dividends on our common stock in the foreseeable future.

Our common stock ranks junior to our Series B Preferred Stock with respect to dividends and amounts payable in the event of our liquidation.

Our common stock ranks junior to our Series B Preferred Stock with respect to the payment of dividends and amounts payable in the event of our liquidation, dissolution or winding-up. This means that, unless accumulated dividends have been paid or set aside for payment on all outstanding shares of Series B Preferred Stock for all past completed dividend periods, no dividends may be declared or paid on our common stock. Likewise, in the event of our voluntary or involuntary liquidation, dissolution or winding-up, no distribution of our assets may be made to holders of our common stock until we have paid to holders of the Series B Preferred Stock the applicable liquidation preference plus accrued and unpaid dividends, and we have currently suspended the payment of dividends on our Series B Preferred Stock in accordance with the terms of our amended and restated Credit Facility. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources" for additional details. As a result, the value of your investment in our common stock may suffer in the event that sufficient funds are not available to first satisfy our obligations to the holders of our preferred stock in the event of our liquidation.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We own or lease the facilities described in the following table:

Location	Country	Approximate Square Feet	Facilities	Owned/Leased
McLean, Virginia	USA	30,600	Corporate Headquarters	Leased
Chandler, Arizona	USA	197,000	Technical Support Center, Distribution Center, Warehouse and Satellite Teleport Network Facility	Leased
Leesburg, Virginia	USA	40,000	Satellite Network Operations Center	Owned
Lansdowne, Virginia	USA	1,884	Satellite Network Operations Center - Annex	Leased
Tempe, Arizona	USA	31,000	System Gateway and Satellite Teleport Network Facility	Owned Building on Leased Land
Tempe, Arizona	USA	25,000	Operations and Finance Office Space	Leased
Fairbanks, Alaska	USA	4,000	Satellite Teleport Network Facility	Owned
Svalbard	Norway	1,800	Satellite Teleport Network Facility	Owned Building on Leased Land
Yellowknife, Northwest Territories	Canada	1,800	Satellite Teleport Network Facility	Owned Building on Leased Land
Iqaluit, Nunavut	Canada	1,800	Satellite Teleport Network Facility	Owned Building on Leased Land
Izhevsk, Udmurtia	Russia	8,785	System Gateway and Satellite Teleport Network Facility	Leased
Moscow	Russia	2,158	Sales and Administration Offices	Leased
Punta Arenas	Chile	3,200	Satellite Teleport Network Facility	Owned Building on Leased Land

Item 3. Legal Proceedings

Neither we nor any of our subsidiaries are currently subject to any material legal proceeding, nor, to our knowledge, is any material legal proceeding threatened against us or any of our subsidiaries.

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

Our common stock is currently listed on the NASDAQ Global Select Market under the symbol “IRDM.” As of February 22, 2019 there were 108 holders of record of our common stock.

Dividend Policy

We have not paid any dividends on our common stock to date. The Credit Facility currently prohibits us from declaring, making or paying dividends on our common stock.

Stock Price Performance Graph

The graph below compares the cumulative total return of our common stock from December 31, 2013 through December 31, 2018 with the comparable cumulative return of three indices, the S&P 500 Index, the Dow Jones Industrial Average Index and the NASDAQ Telecommunications Index. The graph plots the growth in value of an initial investment of $100 in each of our common stock, the S&P 500 Index, the Dow Jones Industrial Average Index and the NASDAQ Telecommunications Index over the indicated time periods. The stock price performance shown on the graph is not necessarily indicative of future price performance. The following stock price performance graph shall not be deemed to be "filed" for purposes of Section 18 of the Exchange Act, nor shall this information be incorporated by reference into any future filing under the Securities Act or the Exchange Act or any other document, except to the extent that we specifically incorporate it by reference into such filing or document.

Item 6. Selected Financial Data

Iridium Communications Inc.

The following selected historical financial data as of and for the years ended December 31, 2018, 2017, 2016, 2015 and 2014 was derived from our audited financial statements. The selected financial data below should be read in conjunction with our financial statements and related notes, and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this Form 10-K. The selected financial data is historical data and is not necessarily indicative of our future results of operations.

	For the Year Ended December 31,				
Statement of Operations Data	2018	2017	2016	2015	2014
	(In thousands, except per share amounts)				
Revenue:					
Services	$406,757	$349,735	$334,822	$317,022	$309,424
Subscriber equipment	97,848	77,119	74,211	73,615	78,152
Engineering and support services	18,403	21,192	24,607	20,741	20,981
Total revenue	$523,008	$448,046	$433,640	$411,378	$408,557
Total operating expenses [1]	$481,355	$346,759	$257,269	$337,575	$285,646
Operating income [2]	$41,653	$115,476	$176,371	$73,803	$122,911
Net income (loss) [3]	$(13,384)	$233,856	$111,032	$7,123	$74,989
Comprehensive income	$(18,385)	$235,506	$114,649	$980	$72,758
Weighted average shares outstanding - basic	108,975	97,934	95,967	95,097	88,080
Weighted average shares outstanding - diluted	108,975	128,130	124,875	95,097	109,400
Net income (loss) per share - basic	$(0.22)	$2.23	$1.00	$(0.09)	$0.71
Net income (loss) per share - diluted	$(0.22)	$1.82	$0.89	$(0.09)	$0.69

	As of December 31,				
Balance Sheet Data	2018	2017	2016	2015	2014
	(In thousands)				
Total current assets	$390,384	$411,072	$516,770	$481,718	$573,113
Total assets [1][3]	$4,014,271	$3,782,051	$3,499,625	$3,071,174	$2,773,237
Total long-term liabilities [3]	$2,149,975	$1,971,356	$2,072,673	$1,740,839	$1,439,023
Total stockholders' equity	$1,601,577	$1,596,469	$1,343,758	$1,228,721	$1,231,864

[1] Includes accelerated depreciation of $36.8 million in the fourth quarter of 2017 associated with the write-off of amounts previously paid to Kosmotras and a goodwill impairment charge of $87.0 million in the fourth quarter of 2015, both of which decreased operating income and total assets by those amounts.

[2] Includes the impact of $14.2 million related to the gain on the transaction with Boeing, effective January 3, 2017.

[3] Includes the impact of the Tax Act enacted in December 2017 on our deferred tax assets and liabilities.

	For the Year Ended December 31,				
Other Cash Flow Data	2018	2017	2016	2015	2014
	(In thousands)				
Cash provided by (used in):					
Operating activities	$263,709	$259,621	$225,199	$217,479	$214,872
Investing activities	$(378,912)	$(372,680)	$(242,360)	$(439,374)	$(626,254)
Financing activities	$193,503	$16,866	$224,178	$202,075	$443,724

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

Background

We were initially formed in 2007 as GHL Acquisition Corp., a special purpose acquisition company. In 2009, we acquired all the outstanding equity in Iridium Holdings LLC and changed our name to Iridium Communications Inc.

Overview of Our Business

We are engaged primarily in providing mobile voice and data communications services using a constellation of orbiting satellites. We are the only commercial provider of communications services offering true global coverage, connecting people, organizations and assets to and from anywhere, in real time. Our unique L-band satellite network provides reliable communications services to regions of the world where terrestrial wireless or wireline networks do not exist or are limited, including remote land areas, open ocean, airways, the polar regions and regions where the telecommunications infrastructure has been affected by political conflicts or natural disasters.

We provide voice and data communications services to businesses, the U.S. and foreign governments, non-governmental organizations and consumers via our recently completed Iridium NEXT satellite network, which has an architecture of 66 operational satellites with in-orbit and ground spares and related ground infrastructure. We utilize an interlinked mesh architecture to route traffic across the satellite constellation using radio frequency crosslinks between satellites. This unique architecture minimizes the need for ground facilities to support the constellation, which facilitates the global reach of our services and allows us to offer services in countries and regions where we have no physical presence. Iridium NEXT is compatible with all of our end-user equipment and supports more bandwidth and higher data speeds for our new products, including our recently introduced Iridium Certus broadband product.

We sell our products and services to commercial end users through a wholesale distribution network, encompassing approximately 130 service providers, 230 value-added resellers, or VARs, and 90 value-added manufacturers, or VAMs, who either sell directly to the end user or indirectly through other service providers, VARs or dealers. These distributors often integrate our products and services with other complementary hardware and software and have developed a broad suite of applications for our products and services targeting specific lines of business.

At December 31, 2018, we had approximately 1,121,000 billable subscribers worldwide, an increase of 152,000, or 16%, from approximately 969,000 billable subscribers at December 31, 2017. We have a diverse customer base, including end users in land-mobile, Internet of Things, or IoT, maritime, aviation and government.

We recognize revenue from both the provision of services and the sale of equipment. Service revenue represented 78% of total revenue for each of the years ended December 31, 2018 and 2017. Voice and data and IoT data service revenues have historically generated higher margins than subscriber equipment revenue and we expect this trend to continue. We also recognize revenue from our hosted payloads, principally Aireon, including fees for hosting the payloads and fees for transmitting data from the payloads over our network, as well as revenue from other services, such as satellite time and location services.

Iridium NEXT Services Agreements

We recently completed the full replacement of our first-generation satellites with our Iridium NEXT constellation at a cost of approximately $3 billion. While our Iridium NEXT constellation is fully operational, some of the payments associated with the construction and launch of the satellites will extend into the second quarter of 2019, including the cost of the final ground spares.

In June 2010, we executed a primarily fixed price full scale development contract, or FSD, with Thales Alenia Space for the design and manufacture of satellites for Iridium NEXT. The total price under the FSD is approximately $2.3 billion, and we expect our payment obligations under the FSD to extend into 2019. As of December 31, 2018, we had made total payments of $2.2 billion to Thales Alenia Space, which are classified within property and equipment, net, in our consolidated balance sheet included in this report, of which $1.5 billion were from borrowings under the Credit Facility. We expect to pay the remaining invoices received from Thales Alenia Space from cash and cash equivalents on hand, as well as internally generated cash flows.

In March 2010, we entered into an agreement with Space Exploration Technologies Corp., or SpaceX, as the primary launch services provider for Iridium NEXT. The contract price under the SpaceX agreement is $448.9 million. In November 2016, we entered into an additional agreement with SpaceX for an eighth Falcon 9 launch for a contract price of $61.9 million. Although

we are the customer of record with SpaceX, we contracted separately with GFZ for $29.8 million to share the launch. As of December 31, 2018, we had made aggregate payments of $498.9 million to SpaceX, and we had received the full $29.8 million from GFZ. We expect to pay the remaining invoices received from SpaceX in the first quarter of 2019 from cash and cash equivalents on hand, as well as internally generated cash flows.

Credit Facility

In October 2010, we entered into a credit facility with a syndicate of bank lenders, which we amended and restated on March 9, 2018. We refer to this amended and restated credit facility, as further amended to date, as the Credit Facility. Ninety-five percent of our obligations under the Credit Facility are insured by BPIAE. The Credit Facility consists of two tranches, with draws and repayments applied pro rata in respect of each tranche:

- Tranche A – $1,537,500,000 at a fixed rate of 4.96%; and

- Tranche B – $262,500,000 at a floating rate equal to LIBOR, plus 1.95%.

The amendment and restatement of the Credit Facility in 2018 (i) allowed us to issue $360.0 million in senior unsecured notes, or the Notes, (ii) delayed a portion of the principal repayments scheduled under the Credit Facility for 2018, 2019 and 2020 into 2023 and 2024 pursuant to an amended repayment installment schedule, (iii) allows us to access up to $87.0 million from the debt service reserve account, or DSRA, in the future if our projected cash level falls below $75.0 million, and (iv) adjusted our financial covenants, including eliminating covenants that required us to receive cash flows from hosted payloads and adding a covenant that requires us to receive $200.0 million in hosting fees from Aireon LLC, our primary hosted payload customer, by December 2023. In the event that (a) our cash balance exceeds $140.0 million after September 30, 2019 (subject to specified exceptions) or (b) we receive hosting fees from Aireon, we would be required pursuant to the Credit Facility to use 50% of such excess cash and up to $200.0 million of hosting fees to prepay the Credit Facility. In addition, if any of the Notes remain outstanding on October 15, 2022, which is six months prior to the scheduled maturity thereof, the maturity of all amounts remaining outstanding under the Credit Facility would be accelerated from September 30, 2024 to October 15, 2022. Lender fees incurred related to the amended and restated Credit Facility were $10.3 million, which were capitalized as deferred financing costs and are being amortized over the remaining term of the Credit Facility.

For the year ended December 31, 2018, using hosting fees received from Aireon, we extinguished principal under the Credit Facility of $43.1 million, which resulted in a $3.3 million loss on extinguishment of debt recorded within interest expense, representing premiums paid for early prepayment and the write-off of unamortized debt issuance costs. There were no prepayments or related interest expense during the year ended December 31, 2017.

We began making scheduled semi-annual principal repayments in 2018, with such payments scheduled to be paid each March 30 and September 30. The Credit Facility will mature September 30, 2024. During the repayment period, we will pay interest in cash on the same date as the principal repayments. Prior to 2018, we made interest-only payments on a semi-annual basis in April and October.

We may prepay the borrowings subject to the payment of interest makeup costs. We may not subsequently borrow any amounts that we repay. We must repay the loans in full upon a delisting of our common stock, a change in control of our company or our ceasing to own 100% of any of the other obligors, or the sale of all or substantially all of our assets. We must apply all or a portion of specified capital raise proceeds, insurance proceeds, condemnation proceeds, proceeds from the disposal of any interests in Aireon and 100% of any hosting fees received from Aireon to the prepayment of the loans. The Credit Facility includes customary representations and events of default.

Under the terms of the Credit Facility, we are required to maintain a DSRA, and the minimum amount required to be in the DSRA was $189.0 million as of December 31, 2018, which is classified as restricted cash and cash equivalents on our consolidated balance sheet.

In addition to the minimum debt service reserve levels, financial covenants under the Credit Facility include:

- an available cash balance of at least $25 million;
- a debt-to-equity ratio, which is calculated as the ratio of total net debt to the aggregate of total net debt and total stockholders' equity, of no more than 0.7 to 1, measured each June 30 and December 31;
- specified maximum levels of annual capital expenditures (excluding expenditures on the construction of Iridium NEXT satellites) through the year ending December 31, 2024;
- a debt service coverage ratio of not less than 1.5 to 1, measured each June 30 and December 31 through the year ending December 31, 2020, not less than 1.25 to 1 for June 30 and December 31, 2021, and not less than 1.5 to 1, for each June 30 and December 31 thereafter through 2024;
- specified maximum leverage levels that decline from a ratio of 8.24 to 1 for the year ended December 31, 2018 to a ratio of 2.00 to 1 for the year ending December 31, 2024; and
- a requirement that we receive at least $200.0 million in hosting fees from Aireon by December 31, 2023.

Our available cash balance, as defined by the Credit Facility, was $273.4 million as of December 31, 2018. Our debt-to-equity ratio was 0.53 to 1 as of December 31, 2018. Our debt service coverage ratio was 3.4 to 1 as of December 31, 2018, and our leverage was 5.9 to 1 for the year ended December 31, 2018. We were also in compliance with the annual capital expenditures covenant as of December 31, 2018.

The covenant regarding capital expenditures is calculated in connection with a measurement, which we refer to as available cure amount, that is derived using a complex calculation based on overall cash flows, as adjusted by numerous measures specified in the Credit Facility. In a period in which our capital expenditures exceed the amount specified in the respective covenant, we would be permitted to allocate available cure amount, if any, to prevent a breach of the applicable covenant. As of December 31, 2018, we had an available cure amount of $62.5 million, although it was not necessary for us to apply any available cure amount to maintain compliance with the covenants. The available cure amount has fluctuated significantly from one measurement period to the next, and we expect that it will continue to do so.

The covenants also place limitations on our ability and that of our subsidiaries to carry out mergers and acquisitions, dispose of assets, grant security interests, declare, make or pay dividends, enter into transactions with affiliates, incur additional indebtedness, or make loans, guarantees or indemnities. If we are not in compliance with the financial covenants under the Credit Facility, after any opportunity to cure such non-compliance, or we otherwise experience an event of default under the Credit Facility, the lenders may require repayment in full of all principal and interest outstanding under the Credit Facility. It is unlikely we would have adequate funds to repay such amounts prior to the scheduled maturity of the Credit Facility. If we fail to repay such amounts, the lenders may foreclose on the assets we have pledged under the Credit Facility, which include substantially all of our assets and those of our domestic subsidiaries.

Senior Unsecured Notes

On March 21, 2018, we issued $360.0 million in aggregate principal under the Notes, before $9.0 million of deferred financing costs, for a net principal balance of $351.0 million in borrowings from the Notes. The Notes bear interest at 10.25% per annum and mature on April 15, 2023. We began paying interest in 2018, with such interest payments scheduled semi-annually on April 15 and October 15. Any outstanding principal amounts will be due in full upon

maturity. If any of the Notes remain outstanding on October 15, 2022, which is six months prior to their scheduled maturity, the maturity of all amounts remaining outstanding under the Credit Facility would also be accelerated from September 30, 2024 to October 15, 2022. As such, we expect that we will make full principal repayment of the Notes on or before October 15, 2022.

The proceeds of the Notes were used to prepay the outstanding Thales Alenia Space bills of exchange, including premiums paid, of approximately $59.9 million issued pursuant to the Thales Alenia Space FSD, replenish the DSRA under the Credit Facility to $189.0 million and to pay approximately $44.4 million in Thales Alenia Space milestones previously expected to be satisfied by the issuance of bills of exchange. The proceeds of the Notes also provide us with cash that we expect to use to make principal and interest payments under our Credit Facility and to pay interest on the Notes. The Notes contain covenant requirements that apply to certain permitted financing actions by us, but the covenants under the Notes are no more restrictive than the covenants included in the Credit Facility and described above. We were in compliance with all covenants under the Notes as of December 31, 2018.

Interest Incurred on Debt

Total interest incurred during the years ended December 31, 2018, 2017 and 2016 was $142.7 million, $114.4 million and $106.4 million, respectively. Interest incurred includes amortization of deferred financing fees of $26.5 million, $27.3 million and $28.7 million, for the years ended December 31, 2018, 2017 and 2016, respectively. Interest capitalized during the year ended December 31, 2018 was $76.7 million. During 2017 and 2016, all interest was capitalized. Also during 2016, paid-in-kind interest was $44.4 million, with the remainder payable in cash on the scheduled semi-annual payment dates. Interest accrued for the years ended December 31, 2018 and 2017 was $29.4 million and $15.0 million, respectively.

Material Trends and Uncertainties

Our industry and customer base has historically grown as a result of:

- demand for remote and reliable mobile communications services;
- a growing number of new products and services and related applications;
- a broad wholesale distribution network with access to diverse and geographically dispersed niche markets;
- increased demand for communications services by disaster and relief agencies, and emergency first responders;
- improved data transmission speeds for mobile satellite service offerings;
- regulatory mandates requiring the use of mobile satellite services;
- a general reduction in prices of mobile satellite services and subscriber equipment; and
- geographic market expansion through the ability to offer our services in additional countries.

Nonetheless, we face a number of challenges and uncertainties in operating our business, including:

- our ability to maintain the health, capacity, control and level of service of our satellites;
- our ability to develop and launch new and innovative products and services;
- our ability to generate sufficient internal cash flows to support our ongoing business and to satisfy our debt service obligations;
- changes in general economic, business and industry conditions, including the effects of currency exchange rates;
- our reliance on a single primary commercial gateway and a primary satellite network operations center;
- competition from other mobile satellite service providers and, to a lesser extent, from the expansion of terrestrial-based cellular phone systems and related pricing pressures;
- market acceptance of our products;

- regulatory requirements in existing and new geographic markets;

- rapid and significant technological changes in the telecommunications industry;

- reliance on our wholesale distribution network to market and sell our products, services and applications effectively;

- reliance on single-source suppliers for the manufacture of most of our subscriber equipment and for some of the components required in the manufacture of our end-user subscriber equipment and our ability to purchase parts that are periodically subject to shortages resulting from surges in demand, natural disasters or other events; and

- reliance on a few significant customers, particularly agencies of the U.S. government, for a substantial portion of our revenue, as a result of which the loss or decline in business with any of these customers may negatively impact our revenue and collectability of related accounts receivable.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States, or U.S. GAAP. The preparation of these financial statements requires the use of estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, income taxes, useful lives of property and equipment, loss contingencies, and other estimates. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions.

The accounting policies we believe to be most critical to understanding our financial results and condition and that require complex and subjective management judgments are discussed below. Our accounting policies are more fully described in Note 2 in Item 8 “Financial Statements and Supplementary Data” included in this report. Please see the notes to our consolidated financial statements for a full discussion of these significant accounting policies.

Revenue Recognition

We sell services and equipment through contracts with our customers. We evaluate whether a contract exists as it relates to collectibility of the contract. Once a contract is deemed to exist, we evaluate the transaction price including both fixed and variable consideration. The variable consideration contained within our contracts with customers may include discounts, credits and other similar items. When a contract includes variable consideration, we evaluate the estimate of the variable consideration to determine whether the estimate needs to be constrained. Therefore, we include constrained consideration in the transaction price only to the extent that it is probable that a significant reversal of the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration or collectibility is subsequently resolved. Variable consideration estimates are updated at the end of each quarter and collectibility assessments are evaluated with new customers, or on an ongoing basis if initially deemed not probable, and updated as facts and circumstances change.

We sell prepaid services in the form of e-vouchers and prepaid cards. A liability is established equal to the cash paid upon purchase for the e-voucher or prepaid card. We recognize revenue from the prepaid services upon the use of the e-voucher or prepaid card by the customer. On January 1, 2018, upon the adoption of Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers, we began estimating the expected revenue that will expire unused on an ongoing basis and we recognize this revenue in a manner consistent with the usage period. While the terms of prepaid e-vouchers can be extended by the purchase of additional e-vouchers, prepaid e-vouchers may not be extended beyond three or four years, dependent on the initial expiry period when purchased. We do not offer refunds for unused prepaid services.

Revenue associated with some of our fixed-price engineering services arrangements is recognized over time using costs incurred to date relative to total estimated costs at completion to measure progress toward satisfying our performance obligation. We recognize revenue on cost-plus-fixed-fee arrangements to the extent of estimated costs incurred plus the applicable fees earned. If actual results are not consistent with our estimates or assumptions, we may be exposed to changes to earned and unearned revenue that could be material to our results of operations.

Income Taxes

We account for income taxes using the asset and liability approach. This approach requires that we recognize deferred tax assets and liabilities based on differences between the financial statement bases and tax bases of our assets and liabilities. Deferred tax assets and liabilities are recorded based upon enacted tax rates for the period in which the deferred tax items are expected to reverse. Changes in tax laws or tax rates in various jurisdictions are reflected in the period of change. Significant judgment is required in the calculation of our tax provision and the resulting tax liabilities as well as our ability to realize our deferred tax assets. Our estimates of future taxable income and any changes to such estimates can significantly affect our tax provision in a given period. Significant judgment is required in determining our ability to realize our deferred tax assets related to federal, state and foreign tax attributes within their carryforward periods including estimating the amount and timing of the future reversal of deferred tax items in our projections of future taxable income. A valuation allowance is established to reduce deferred tax assets to the amounts we expect to realize in the future. We also recognize tax benefits related to uncertain tax positions only when we estimate that it is “more likely than not” that the position will be sustainable based on its technical

merits. If actual results are not consistent with our estimates and assumptions, this may result in material changes to our income tax provision.

The Tax Act, enacted in December 2017, introduced significant changes to U.S. income tax law that have a meaningful impact on our provision for income taxes. Due to the timing of the enactment and the complexity involved in applying the provisions of the Tax Act, we made reasonable estimates of the effects and recorded these estimates in our financial statements for the years ended December 31, 2017 and 2018. Accounting for the income tax effects of the Tax Act requires significant judgments and estimates in the interpretation and calculations of the various provisions. During 2018, the U.S. Treasury Department, as well as the Internal Revenue Service, or IRS, and other standard-setting bodies have issued some guidance related to certain provisions in the Tax Act. These same standard-setting bodies may issue additional guidance on how the provisions of the Tax Act will be applied or otherwise administered that is different from our interpretation. As we collect and prepare necessary data, interpret the Tax Act and analyze any additional guidance issued by the IRS or other standard-setting bodies, we may need to make adjustments to prior estimates, which could materially affect our financial statements in the period in which the adjustments are made.

Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation and amortization. Property and equipment are depreciated or amortized over their estimated useful lives. We apply judgment in determining the useful lives based on factors such as engineering data, our long-term strategy for using the assets, contractual terms related to the assets, laws and regulations that could impact the useful lives of the assets and other economic factors. In evaluating the useful lives of our satellites, we assess the current estimated operational life of the satellites, including the potential impact of environmental factors on the satellites, ongoing operational enhancements and software upgrades. Additionally, we review engineering data relating to the operation and performance of our satellite network.

We depreciate our satellites over the shorter of their potential operational life or the period of their expected use. The appropriateness of the useful lives is evaluated on a quarterly basis or as events occur that require additional assessment. The Iridium NEXT satellites that have been placed into service are depreciated using the straight-line method over their respective estimated useful lives. If the estimated useful lives of Iridium NEXT satellites change, it could have a material impact on the timing of the recognition of depreciation expense.

During the construction period for Iridium NEXT, assets under construction primarily consisted of costs incurred associated with the design, development and launch of the Iridium NEXT satellites, upgrades to our current infrastructure and ground systems and internal software development costs. We capitalized interest on the Credit Facility during the construction period of Iridium NEXT. Capitalized interest is added to the cost of the Iridium NEXT satellites. Once these assets are placed in service, they are depreciated using the straight-line method over their respective estimated useful lives. During each year end, we evaluate the useful lives of all assets under construction. In 2017, we determined that the Kosmotras launch services would no longer be used or further developed. As such, we wrote-off the full amount previously paid to Kosmotras, by recording accelerated depreciation of $36.8 million in the fourth quarter of 2017. No such charges were recorded for the years ended December 31, 2018 or 2016.

Comparison of Our Results of Operations for the Year Ended December 31, 2018 and the Year Ended December 31, 2017

	Year Ended December 31,								
($ In thousands)	2018	% of Total Revenue		2017	% of Total Revenue		Change Dollars	Percent	
Revenue:									
Service revenue									
Commercial	$318,757	61	%	$261,735	58	%	$57,022	22	%
Government	88,000	17	%	88,000	20	%	—	0	%
Total service revenue	406,757	78	%	349,735	78	%	57,022	16	%
Subscriber equipment	97,848	19	%	77,119	17	%	20,729	27	%
Engineering and support services	18,403	3	%	21,192	5	%	(2,789)	(13)	%
Total revenue	523,008	100	%	448,046	100	%	74,962	17	%
Operating expenses:									
Cost of services (exclusive of depreciation and amortization)	86,016	16	%	80,396	18	%	5,620	7	%
Cost of subscriber equipment	56,857	11	%	44,445	10	%	12,412	28	%
Research and development	22,429	4	%	15,247	3	%	7,182	47	%
Selling, general and administrative	97,846	19	%	84,405	19	%	13,441	16	%
Depreciation and amortization	218,207	42	%	122,266	27	%	95,941	78	%
Total operating expenses	481,355	92	%	346,759	77	%	134,596	39	%
Gain on Boeing transaction	—	—		14,189	3	%	(14,189)	100	%
Operating income	41,653	8	%	115,476	26	%	(73,823)	(64)	%
Other income (expense):									
Interest income (expense), net	(62,441)	(12)	%	4,328	1	%	(66,769)	(1,543)	%
Other income (expense), net	139	0	%	(232)	0	%	371	(160)	%
Total other income (expense)	(62,302)	(12)	%	4,096	1	%	(66,398)	(1,621)	%
Income (loss) before income taxes	(20,649)	(4)	%	119,572	27	%	(140,221)	(117)	%
Income tax benefit	7,265	1	%	114,284	25	%	(107,019)	(94)	%
Net income (loss)	$(13,384)	(3)	%	$233,856	52	%	$(247,240)	(106)	%

Commercial Service Revenue

	Year Ended December 31,								
	2018			2017			Change		
	Revenue	Billable Subscribers [1]	ARPU [2]	Revenue	Billable Subscribers [1]	ARPU [2]	Revenue	Billable Subscribers	ARPU
	(Revenue in millions and subscribers in thousands)								
Commercial voice and data	$193.2	361	$ 45						