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

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE FISCAL YEAR ENDED DECEMBER 31, 2022.**

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: 333-179121

HUGHES
An EchoStar Company

Hughes Satellite Systems Corporation

(Exact name of registrant as specified in its charter)

Colorado (State or other jurisdiction of incorporation or organization)	**45-0897865** (I.R.S. Employer Identification No.)
100 Inverness Terrace East, Englewood, Colorado (Address of principal executive offices)	**80112-5308** (Zip Code)
(303) 706-4000 (Registrant's telephone number, including area code)	**Not Applicable** (Former name, former address and former fiscal year, if changed since last report)

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

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

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

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

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

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

Large accelerated filer	☐	Accelerated filer	☐	Emerging growth company	☐
Non-accelerated filer	☒	Smaller reporting 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 ☒

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. Yes ☐ No ☒

The aggregate market value of the registrant's voting interests held by non-affiliates on June 30, 2022 was $0.

As of February 6, 2023, the registrant's outstanding common stock consisted of 1,078 shares of common stock, $0.01 par value per share.

The Registrant meets the conditions set forth in General Instructions (I)(1)(a) and (b) of Form 10-K and is therefore filing this Annual Report on Form 10-K with the reduced disclosure format.

* The Registrant currently is not subject to the filing requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934 and is filing this Annual Report on Form 10-K on a voluntary basis. The Registrant 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 as if it were subject to such filing requirements during such period.

DOCUMENTS INCORPORATED BY REFERENCE None

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*** This item has been omitted pursuant to the reduced disclosure format as set forth in General Instructions (I) (2) (a) and (c) of Form 10-K.**

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K ("Form 10-K") contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, including but not limited to statements about our estimates, expectations, future developments, plans, objectives, strategies, financial condition, expected impact of regulatory developments and legal proceedings, opportunities in our industries and businesses and other trends and projections for the next fiscal quarter and beyond. All statements, other than statements of historical facts, may be forward-looking statements. Forward-looking statements may also be identified by words such as "anticipate," "intend," "plan," "goal," "seek," "believe," "estimate," "expect," "predict," "project," "continue," "future," "will," "would," "could," "can," "may" and similar terms. These forward-looking statements are based on information available to us as of the date of this Form 10-K and represent management's current views and assumptions based on past experience and trends, current economic and industry conditions, expected future developments and other relevant factors. Forward-looking statements are not guarantees of future performance, events or results and involve potential known and unknown risks, uncertainties, including the impact of the coronavirus pandemic (COVID-19), and other factors, many of which may be beyond our control and may pose a risk to our operating and financial condition both the near- and long-term. Accordingly, actual performance, events or results could differ materially from those expressed or implied in the forward-looking statements due to a number of factors including, but not limited to:

- significant risks related to our ability to operate and control our satellites, operational and environmental risks related to our owned and leased satellites, and risks related to our satellites under construction;
- our ability and the ability of third parties with whom we engage to operate our business as a result of the COVID-19 pandemic, including regulatory and competitive considerations;
- our ability to implement and/or realize benefits of our investments and other strategic initiatives;
- legal proceedings relating to the BSS Transaction or other matters that could result in substantial costs and material adverse effects to our business;
- risks related to our foreign operations and other uncertainties associated with doing business internationally;
- risks related to our dependency upon third-party providers, including supply chain disruptions and inflation;
- risks related to cybersecurity incidents; and
- risks related to our human capital resources.

Other factors that could cause or contribute to such differences include, but are not limited to, those discussed in Part I, Item 1A. Risk Factors and Item 7. Management's Narrative Analysis of Results of Operations of this Form 10-K and those discussed in other documents we file with the Securities and Exchange Commission ("SEC").

All cautionary statements made herein should be read as being applicable to all forward-looking statements wherever they appear. Investors should consider the risks and uncertainties described herein and should not place undue reliance on any forward-looking statements. We do not undertake, and specifically disclaim, any obligation to publicly release the results of any revisions that may be made to any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Although we believe that the expectations reflected in any forward-looking statements are reasonable, we cannot guarantee future results, events, levels of activity, performance or achievements. We do not assume responsibility for the accuracy and completeness of any forward-looking statements. We assume no responsibility for updating forward-looking information contained or incorporated by reference herein or in any documents we file with the SEC, except as required by law.

Should one or more of the risks or uncertainties described herein or in any documents we file with the SEC occur, or should underlying assumptions prove incorrect, our actual results and plans could differ materially from those expressed in any forward-looking statements.

PART I

ITEM 1. BUSINESS

OVERVIEW

Hughes Satellite Systems Corporation (which, together with its subsidiaries, is referred to as “HSSC,” the “Company,” “we,” “us” and “our”) is a holding company and a subsidiary of EchoStar Corporation (“EchoStar” and “parent”). We were formed as a Colorado corporation in March 2011 to facilitate the acquisition by EchoStar (the “Hughes Acquisition”) of Hughes Communications, Inc. and its subsidiaries and related financing transactions. In connection with our formation, EchoStar contributed the assets and liabilities of its satellite services business to us, including the principal operating subsidiary of its satellite services business, EchoStar Satellite Services L.L.C. A substantial majority of the voting power of the shares of EchoStar is owned beneficially by Charles W. Ergen, our Chairman, and by certain entities established for the benefit of his family. During 2022, Hamid Akhavan joined the Company as its Chief Executive Officer and President.

We are an industry leader in both networking technologies and services, innovating to deliver the global solutions that power a connected future for people, enterprises and things everywhere. We provide internet services to consumer customers, which include home and small to medium-sized businesses, and satellite and multi-transport technologies and managed network services to enterprise customers, telecommunications providers, aeronautical service providers and government entities, including the U.S. Department of Defense.

Our industry continues to evolve with the increasing worldwide demand for broadband internet access for information, entertainment and commerce. In addition to fiber and wireless systems, technologies such as geostationary high throughput satellites, low-earth orbit (“LEO”) networks, medium-earth orbit (“MEO”) systems and multi-transport networks using combinations of technologies are expected to continue to play significant roles in enabling global connectivity, networks and services. We intend to use our expertise, technologies, capital, investments, global presence, relationships and other capabilities to continue to provide broadband internet systems, equipment, networks and managed services for information, the internet-of-things, entertainment, education, remote-connectivity and commerce across industries and communities globally for consumer and enterprise customers. We are closely tracking the developments in next-generation satellite businesses, and we are seeking to utilize our services, technologies, licenses and expertise to find new commercial opportunities for our business.

All amounts presented in this Form 10-K are expressed in thousands of U.S. dollars, except share and per share amounts and unless otherwise noted.

BUSINESS SEGMENTS

We currently operate in two business segments: our Hughes segment and our EchoStar Satellite Services segment (“ESS segment”). These business segments are consistent with the way we make decisions regarding the allocation of resources, as well as how operating results are reviewed by our chief operating decision maker (“CODM”), who is the Company’s Chief Executive Officer.

Our operations also include various corporate functions (primarily Executive, Treasury, Strategic Development, Human Resources, Information Technology, Finance, Accounting, Real Estate and Legal) and other activities, such as costs incurred in certain satellite development programs and other business development activities, and gains or losses from certain of our investments, that have not been assigned to our business segments. These activities, costs and income, as well as eliminations of intersegment transactions, are accounted for in our Corporate and Other segment in our segment reporting.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended, and accordingly file an annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements and other information with the SEC. Our public filings are maintained on the SEC's internet site at http://www.sec.gov, which contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC.

WEBSITE ACCESS

Our Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, may also be accessed free of charge at http://www.echostar.com, the website of our parent company EchoStar, as soon as reasonably practicable after we have electronically filed such material with, or furnished it to, the SEC.

EchoStar has adopted a written code of ethics that applies to all of our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer and controller, in accordance with the Sarbanes-Oxley Act of 2002 and the rules of the SEC promulgated thereunder. This code of ethics is available on EchoStar's corporate website at http://www.echostar.com. In the event that EchoStar makes changes in, or provides waivers of, the provisions of this code of ethics that the SEC requires EchoStar to disclose, it intends to disclose these events on its website.

ITEM 1A. RISK FACTORS

The risks and uncertainties described below are not the only ones facing us. If any of the following events occur or evolve in a way different than expected, our business, financial condition, results of operation, prospects or ability to fund a debt repurchase program, invest capital in or otherwise run our business or execute on our strategic plans could be materially and adversely affected.

RISKS RELATED TO OUR BUSINESS OPERATIONS

We may pursue acquisitions, dispositions, capital expenditures, the development, acquisition and launch of new satellites and other strategic initiatives to complement or expand our business, which may not be successful and we may lose a portion or all of our investment.

Our success may depend on the existence of, and our ability to capitalize on, opportunities to acquire or develop other businesses or technologies or partner with other companies that could complement, enhance or expand our current business, services or products or that may otherwise offer us growth opportunities. We may pursue a number of strategic initiatives to complement or expand our business. Any such strategic initiatives may involve a high degree of risk, including, but not limited to, the following:

- the risks associated with developing and constructing new satellites;
- the diversion of our management's attention away from our existing business onto a strategic initiative;
- possible adverse effects on our and our targets' and partners' business, financial condition or operating results during the integration process;
- exposure to significant financial losses if the strategic initiatives are not successful;
- the inability to obtain regulatory approvals in the anticipated time frame, or at all;
- the risks associated with complying with regulations applicable to the acquired or developed business or technologies which may cause us to incur substantial expenses;
- the disruption of relationships with employees, vendors or customers; and
- the risks associated with foreign and international operations and/or investments or dispositions.

New strategic initiatives may require the commitment of significant capital that would otherwise have been directed to investments in our existing businesses.

We are facing increasing competition which could impact demand for, and result in increasing pricing pressures with respect to, our products and services.

Our business operates in an intensely competitive, consumer- and enterprise-driven and rapidly changing environment and competes with a growing number of companies that provide similar products and services to consumer and enterprise customers. There can be no assurance that we will be able to effectively compete against our competitors due to their significant resources and operating history. Material competitive risks to our business include, but are not limited to, the following:

- Competition from new or different technology compared to our offerings;
- Competition from existing or new competitors entering the same markets we serve;
- Government funding for competing products and services, reducing demand for our products and services; and
- Competitive pressures to provide enhanced functionality for the same or lower price with each new generation of technology.

Our business will be negatively impacted if we fail to adequately anticipate our satellite capacity needs or are unable to obtain satellite capacity.

We have made substantial contractual commitments for satellite capacity based on our existing customer contracts and backlog. If our existing customer contracts were to be terminated prior to their respective expiration dates, we may have insufficient revenue to cover our satellite capacity costs. On the other hand, we may not have sufficient satellite capacity available to meet increases in demand and we may not be able to quickly or easily adjust our capacity to such changes in demand. At present, until the launch and operation of additional satellites that our systems can utilize, there is limited additional capacity in North America and in certain areas of Latin America, including within our own fleet of satellites, which could materially and adversely affect our ability to provide services to customers and grow our revenue and business. Our business could be adversely affected if we are not able to renew our capacity leases at economically viable rates, or if sufficient capacity is not available to us.

We are dependent upon third-party providers for components, manufacturing, installation services and customer support services, and our results of operations may be materially adversely affected if any of these third-party providers fail to appropriately deliver the contracted goods or services.

Our dependence upon third-party providers causes certain risks to our business, including the following:

- ***Components***. A limited number of suppliers manufacture, and in some cases a single supplier manufactures, some of the key components required to build our products. We do not generally maintain long-term agreements with our suppliers or subcontractors for our products. If we change or lose suppliers, we could experience a delay in manufacturing our products. In addition, if either our current suppliers or any new suppliers increase prices beyond what we currently pay, we may be unable to produce our products at competitive prices and we may be unable to satisfy demand from our customers.
- ***Commodity Price Risk***. Fluctuations in pricing of raw materials can affect our product costs and we may not be able to pass on the increased costs to our customers. Additionally, we are seeing increasing inflationary price pressure and where we have fixed-price customer contracts, we may have to absorb the increased costs.
- ***Manufacturing***. While we develop and manufacture prototypes for certain of our products, we use contract manufacturers to produce a portion of our hardware. If these contract manufacturers fail to provide products that meet our specifications in a timely manner or at all, our business could be adversely impacted.
- ***Installation, customer support, and other services***. Some of our products and services utilize a network of third-party service providers. The costs incurred for these services may increase due to a shortage of experienced workers and higher salaries required to recruit and retain a skilled third-party workforce. A decline in levels of service or attention to the needs of our customers could adversely affect our reputation, renewal rates and ability to win and retain customers. In addition, if the agreements for the provision of these services are terminated or not renewed, we could face difficulties replacing these service providers.

Our foreign operations and investments expose us to risks and restrictions not present in our domestic operations.

Our sales outside the U.S. accounted for 24.5%, 22.3% and 20.5% of our revenue for the years ended December 31, 2022, 2021 and 2020, respectively. We expect our foreign operations to represent a significant and growing portion of our business. Our foreign operations involve varying degrees of risk and uncertainties inherent in doing business abroad. Such risks include:

- ***Complications in complying with restrictions on foreign ownership and investment and limitations on repatriation of earnings.*** We may not be permitted to be the sole owner of our operations in some countries and may have to enter into partnership or joint venture relationships. Many foreign legal regimes and/or our contractual arrangements restrict our repatriation of earnings to the U.S. from our subsidiaries and joint venture entities. Applicable law in such foreign countries may also limit our ability to distribute or access our assets or offer our products and services in certain circumstances. In such event, we will not have unrestricted access to the cash flow and assets of our subsidiaries and joint ventures.
- ***Regulatory restrictions***. Satellite market access, landing rights and terrestrial wireless rights are dependent on the national regulations established by foreign governments and international non-

governmental bodies. Non-compliance with these requirements may result in the loss of the authorizations and licenses to conduct business in these countries, as well as fines, penalties, or other sanctions.

- ***Financial and legal constraints and obligations***. Operating pursuant to foreign licenses subjects us to certain financial constraints and obligations, including, but not limited to: (a) tax liabilities that may or may not be dependent on revenue; (b) the regulatory requirements associated with maintaining such licenses, which may be subject to interpretation by foreign courts and regulatory bodies; (c) the burden of creating and maintaining additional entities, branches, facilities and/or staffing in foreign jurisdictions; and (d) regulations requiring that we make certain satellite capacity available for “free” or available at reduced rates.
- ***Compliance with applicable export control laws and regulations in the U.S. and other countries***. We must comply with all applicable export control and trade sanctions laws and regulations of the U.S. and other countries. A violation any export or trade-related regulations could materially adversely affect our business.
- ***Changes in exchange rates between foreign currencies and the U.S. dollar***. Fluctuations in currency exchange rates, recessions and currency devaluations have affected, and may in the future affect, revenue, profits and cash earned from our international businesses.
- ***Regulations may favor state-owned enterprises or local service providers***. Many of the countries in which we conduct business have traditionally had state-owned or state-granted monopolies on telecommunications services that favor an incumbent service provider. We face competition from these favored and entrenched companies in countries that have not liberalized.

We may not be able to generate cash to meet our debt service needs or fund our operations.

As of December 31, 2022, our total indebtedness was $1.5 billion. Our ability to make payments on or to refinance our indebtedness and to fund our operations will depend on our ability to generate cash in the future. If we are unable to generate sufficient cash, we may be forced to take actions such as revising or delaying our strategic plans, reducing or delaying capital expenditures and/or the development, design, acquisition and construction of new satellites, selling assets, restructuring or refinancing our debt or seeking additional equity capital. We may not be able to implement any of these actions on satisfactory terms, or at all.

Covenants in our indentures restrict our business in many ways.

The indentures governing our 5.250% Senior Secured Notes due August 1, 2026 and 6.625% Senior Unsecured Notes due August 1, 2026 contain various covenants, subject to certain exceptions, that limit our ability and/or certain of our subsidiaries’ ability to, among other things:

- incur additional debt;
- pay dividends or make distributions on our capital stock or repurchase our capital stock;
- allow to exist certain restrictions on such subsidiaries’ ability to pay dividends, make distributions, make other payments, or transfer assets;
- make certain investments;
- create liens or enter into sale and leaseback transactions;
- enter into transactions with affiliates;
- merge or consolidate with another company; and
- transfer and sell assets.

Failure to comply with these and certain other financial covenants, if not cured or waived, may result in an event of default under the indentures, which could have a material adverse effect on our business, financial condition, results of operations or prospects. If certain events of default occur and are continuing under the respective indenture, the trustee under that indenture or the requisite holders of the notes under that indenture may declare all such notes to be immediately due and payable and, in the case of the indenture governing our secured notes, could proceed against the collateral that secures the secured notes. If certain other events of default occur, the indentures will become immediately due and payable. We and certain of our subsidiaries have pledged a significant portion of our assets as collateral to secure the 5.250% Senior Secured Notes due August 1, 2026.

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

Natural disasters could damage or destroy our ground infrastructure and/or our other or our vendors' infrastructure, equipment and facilities, resulting in a disruption of service to our customers, which may adversely affect our business.

RISKS RELATED TO OUR HUMAN CAPITAL

We rely on key personnel and the loss of their services may negatively affect our businesses.

We believe that our future success depends to a significant extent upon the performance of Mr. Charles W. Ergen, our Chairman, and certain other key executives. The loss of Mr. Ergen or certain other key executives, the ability to effectively provide for the succession of our senior management, or the ability of Mr. Ergen or such other key executives to devote sufficient time and effort to our business could have a material adverse effect on our business, financial condition and results of operations. Although some of our key executives may have agreements relating to their equity compensation that limit their ability to work for or consult with competitors, we generally do not have employment agreements with them. To the extent Mr. Ergen is performing services for both DISH Network Corporation ("DISH") and its subsidiaries (together with DISH, "DISH Network") and us, his attention may be diverted away from our business and therefore adversely affect our business.

Our business growth and customer retention strategies rely in part on the work of technically skilled employees.

Our response to technological developments depends, to a significant degree, on the work of technically skilled employees. In addition, we have made and will continue to make significant investments in research, development, and marketing for new products, services, satellites and related technologies, as well as entry into new business areas. Investments in new technologies, satellites and business areas are inherently dependent on these technically skilled employees as well. Competition for the services of such employees has become more intense as demand for these types of employees grows. We compete with other companies for these employees and although we strive to attract and retain these employees, we may not succeed in these respects. Additionally, if we were to lose certain key technically skilled employees, the loss of knowledge and intellectual capital might have an adverse impact on our business.

Restrictions on immigration or increased enforcement of immigration laws could limit our access to qualified and skilled professionals, increase our cost of doing business or otherwise disrupt our operations.

The success of our business is dependent on our ability to recruit engineers and other professionals, including those who are citizens of other countries. Immigration laws in the U.S. and other countries in which we operate are subject to legislative and regulatory changes, as well as variations in the standards of application and enforcement due to political forces and economic conditions. It is difficult to predict the political and economic events that could affect immigration laws, or the restrictive impact they could have on obtaining or renewing work visas for our professionals. If immigration laws are changed or if new and more restrictive government regulations are enacted or increased, our access to qualified and skilled professionals may be limited.

RISKS RELATED TO OUR SATELLITES

Our ability to operate and control our satellites is subject to risks related to DISH Network's operation and third-parties' operation of satellite operations centers.

In September 2019, we transferred our satellite operation centers, which are used to monitor and control our satellites, to DISH Network in connection with our 2019 transfer to DISH of our broadband satellite services and certain related businesses and assets (the “BSS Transaction”). Therefore, we now are subject to the inherent risks of having a related party operate, maintain and manage these satellite operations centers. In addition, certain of our satellites are operated, maintained and managed by third parties.

Our owned and leased satellites in orbit are subject to significant operational and environmental risks that could limit our ability to utilize these satellites.

Satellites are subject to significant operational risks while in orbit. These risks include malfunctions, commonly referred to as anomalies, which have occurred and may occur in the future in our satellites and the satellites of other operators. Any single anomaly could materially and adversely affect our ability to utilize the satellite. Anomalies may also reduce the expected capacity, commercial operation and/or useful life of a satellite, thereby reducing the revenue that could be generated by that satellite, or create additional expenses due to the need to provide replacement or back-up satellites or satellite capacity earlier than planned and could have a material adverse effect on our business. We may not be able to prevent or mitigate the impacts of anomalies in the future.

Meteoroid events, decommissioned satellites, and increased solar activity also pose a potential threat to all in-orbit satellites. We may be required to perform maneuvers to avoid collisions and these maneuvers may prove unsuccessful or could reduce the useful life of the satellite through the expenditure of fuel to perform these maneuvers.

Generally, the minimum design life of each of our satellites is 15 years. We can provide no assurance, however, as to the actual operational lives of our satellites, which may be shorter or longer than their design lives. Our ability to earn revenue depends on the continued operation of our satellites, each of which has a limited useful life.

We generally do not carry in-orbit insurance on our satellites or payloads because we have assessed that the cost of insurance is not economical relative to the risk of failures. If one or more of our in-orbit uninsured satellites or payloads fail, we could be required to record significant impairment charges for the satellite or payload.

Our satellites under construction, including the EchoStar XXIV satellite, are subject to risks related to construction, technology, regulations and launch that could limit our ability to utilize these satellites, increase costs and adversely affect our business.

Satellite construction and launch are subject to significant risks, including manufacturing and delivery delays, anomalies, launch failure and incorrect orbital placement. The technologies in our satellite designs are very complex and difficulties in constructing our designs could result in delays in the deployment of our satellites or increased or unanticipated costs. For example, we have seen delays in the delivery calendar for EchoStar XXIV. There can be no assurance that the technologies in our existing satellites or in new satellites that we design, acquire and build will work as we expect, will not become obsolete, that we will realize any or all of the anticipated benefits of our satellite designs or our new satellites, and/or that we will obtain all regulatory approvals required to operate our new or acquired satellites. Launch anomalies and failures can result in significant delays in the deployment of satellites because of the need both to construct replacement satellites, which can take significant amounts of time, and to obtain other launch opportunities. Such significant delays have and could in the future materially affect our business, our ability to meet regulatory or contractual required milestones, the availability and our use of other or replacement satellite resources and our ability to provide services to customers. In addition, significant delays in a satellite program could give customers who have purchased or reserved capacity on that satellite a right to terminate their service contracts relating to the satellite. We may not be able to accommodate affected customers on other satellites until a replacement satellite is available. In addition, we may not be able to obtain launch or in-orbit insurance on reasonable economic terms or at all. If we do obtain launch or in-orbit insurance, it may not cover the full cost of constructing and launching or replacing a satellite nor fully cover our losses in the event of a launch failure or significant degradation.

Our use of certain satellites is often dependent on satellite coordination agreements, which may be difficult to obtain.

Satellite operators are required to enter into international spectrum coordination agreements with other affected satellite operators and must be approved by the relevant governments. If a required agreement cannot be concluded, we may have to operate the applicable satellite(s) in a manner that does not cause harmful radio frequency interference with the affected satellite. If we cannot do so, we may have to cease operating such satellite(s) at the affected orbital locations.

We may face interference from other services sharing satellite spectrum.

The Federal Communications Commission ("FCC") and other regulators have adopted rules or may adopt rules in the future that require us to share spectrum on a basis with other radio services. There can be no assurance that these operations would not interfere with our operations and adversely affect our business.

RISKS RELATED TO OUR PRODUCTS AND TECHNOLOGY

Our future growth depends on growing demand for our services.

Future demand and effective delivery for our products and services will depend significantly on the growing demand for our services, such as broadband internet connectivity. If the deployment of, or demand for, our services is not as widespread or as rapid as we or our customers expect, our revenue growth will be negatively impacted.

Our business depends on certain intellectual property rights and on not infringing the intellectual property rights of others.

We rely on our patents, copyrights, trademarks, trade secrets, licenses and other agreements to conduct our business. Legal challenges to our intellectual property rights and claims of intellectual property infringement could result in significant monetary liability and require us to change our business practices or limit our ability to compete effectively or could otherwise have a material adverse effect on our business. Even if any such challenges or claims prove to be without merit, they can be time-consuming and costly to defend and may divert management's attention and resources away from our business.

Moreover, we rely in part on technologies developed or licensed by third parties. If we are unable to obtain or retain licenses or other required intellectual property rights from these third parties on reasonable terms, our business could be adversely affected. In addition, we work with suppliers for the development and manufacture of components that are integrated into our products and our products may contain technologies provided to us by these suppliers. We may have little or no ability to determine in advance whether any such technology infringes the intellectual property rights of others, or whether such suppliers have obtained or continue to obtain the appropriate licenses or other intellectual property rights to use such technology. Our suppliers may not be required to indemnify us in the event that a claim of infringement is asserted against us, or they may be required to indemnify us only up to a maximum amount. Legal challenges to these intellectual property rights may impair our ability to use the products and technologies that we need in order to operate our business and may have a material adverse effect on our business. See further discussion under Item 1. Business — Patents and Trademarks and Item 3. Legal Proceedings of this Form 10-K.

Litigation or governmental proceedings could result in material adverse consequences.

We are involved in lawsuits, regulatory inquiries, audits, consumer claims and governmental and other legal proceedings. Some of these proceedings may raise difficult and complicated factual and legal issues and can be subject to uncertainties and complexities. The timing of the final resolutions is typically uncertain. Additionally, the possible outcomes of, or resolutions to, these proceedings could include adverse judgments, settlements, injunctions or liabilities, any of which could require substantial payments or have other adverse impacts on our business.

If our products contain defects, we could be subject to significant costs to correct such defects and our product and network service contracts could be delayed or cancelled, which could adversely affect our revenue.

The products and the networks we deploy are highly complex, and some may contain defects when first introduced or when new versions or enhancements are released, despite testing and our quality control procedures. Defects may also occur in components and products that we purchase from third parties. In addition, many of our products and network services are designed to interface with our customers' existing networks, each of which has different specifications and utilizes multiple protocol standards. Our products and services must interoperate with the other products and services within our customers' networks, as well as with future products and services that might be added to these networks, to meet our customers' requirements. There can be no assurance that we will be able to detect and fix all defects in the products and networks we sell. The occurrence of, and failure to remedy, any defects, errors or failures in our products or network services could materially affect our business.

RISKS RELATED TO CYBERSECURITY

The confidentiality, integrity, and availability of our services and products depends on the continuing operation of our information technology and other enabling systems.

Our systems are vulnerable to damage, intrusion, or disruption from criminal and/or terrorist attacks, telecommunications failures, computer viruses, ransomware attacks, digital denial of service attacks, phishing, or other attempts to injure or maliciously access our systems. Some of our systems are not fully redundant, and disaster recovery planning cannot account for all possibilities. In addition, our products and services are highly technical and complex and may contain errors or vulnerabilities, which could result in interruptions in or failure of our services or systems.

Our international businesses expose us to additional risks that could harm our business.

Our international operations continue to grow. In addition to risks described elsewhere in this segment, the different regions and countries in which we operate our businesses outside of the U.S. expose us to increased risks due to different privacy and cyber-related laws in each of these locations. The same cyber-related issue could have different consequences depending on the region or country of occurrence, the laws applicable in each case and the different levels of enforcement by regulatory and governmental authorities in each jurisdiction. These risks include but are not limited to the following:

a. Data privacy and security concerns relating to our technology and our practices could damage our reputation, cause us to incur significant liability, and deter current and potential users or customers from using our products and services.
b. Software bugs or defects, security breaches, and attacks on our systems could result in the improper disclosure of our user data which could harm our business reputation.
c. Concerns about our practices about the collection, use, disclosure, or security of personal information or other data-privacy-related matters, even if unsubstantiated, could harm our reputation and financial condition. Our policies and practices may change over time as expectations regarding privacy and data change.

We experience cyber-attacks and other attempts to gain unauthorized access to our systems on a consistent basis.

We have experienced and may experience in the future security issues, whether due to insider error or malfeasance or system errors or vulnerabilities in our or our 3rd parties' systems, which could result in substantial legal and financial exposure, government inquiries and enforcement actions, litigation, and unfavorable media coverage. We may be unable to anticipate or detect attacks or vulnerabilities or implement adequate preventative measures. Attacks and security issues could also compromise trade secrets and other sensitive information.

Our ongoing investments in security will likely continue to identify new vulnerabilities within our services and products.

In addition to our efforts to mitigate cyber-attacks, we are making significant investments to assure that our products are resistant to compromise. As a result of these efforts, we could discover new vulnerabilities within our products and systems that would be undesirable for our users and customers. We may not discover all such vulnerabilities due to the scale of activities on our platforms, or due to other factors, including but not limited to issues outside of our control such as natural disasters/climate change such as sea level rise, drought, flooding, wildfires, increased storm severity, pandemics like COVID-19 and power loss, and we may be notified of such vulnerabilities via third parties. Any of the foregoing developments may negatively affect user and customer trust, harm our reputation and brands, and adversely affect our business and financial results. Any such developments may also subject us to litigation and regulatory inquiries, which could result in monetary penalties and damages, distract management's time and attention, and lead to enhanced regulatory oversight.

Compliance with data privacy laws may be costly, and non-compliance with such laws may result in significant liability.

The personal information and data we process and store is increasingly subject to data security and data privacy laws of many jurisdictions. These laws impose a significant compliance burden and complying with them has required us to change our business practices or the functionality of our products and services. Privacy laws and regulations are becoming more complex and onerous, and a data privacy breach could have a material adverse effect on our business.

RISKS RELATED TO THE REGULATION OF OUR BUSINESS

The risk of non-compliance with laws and regulations, including the risk of changes to laws and regulations, could adversely affect our business.
Our business is regulated by numerous governmental agencies and other regulatory bodies, both domestically and internationally. Also, our international operations are subject to the laws and regulations of many different jurisdictions that may differ significantly from U.S. laws and regulations. Violations of these laws and regulations could result in fines or penalties or other sanctions which could have a material adverse impact on our business. Additionally, our ability to operate and grow our business depends on laws and regulations that govern the frequency bands and/or orbital locations we operate in or may operate in in the future.

These laws and regulations are subject to the administrative and political process and do change from time to time. Our business could suffer a material adverse impact if laws and regulations change and we are not able to adapt to these changes efficiently.

Our business depends on regulatory authorizations issued by the FCC and state and foreign regulators that can expire, be revoked or modified, and applications for licenses and other authorizations that may not be granted.

Generally, all licenses granted by the FCC and most other countries are subject to expiration unless renewed by the regulatory agency. Our satellite licenses are currently set to expire at various times. In addition, we occasionally receive special temporary authorizations that are granted for limited periods of time (e.g., 180 days or less) and subject to possible renewal. Generally, our licenses and special temporary authorizations have been renewed on a routine basis, but there can be no assurance that this will continue.

RISKS RELATED TO THE BSS TRANSACTION

If the BSS Transaction does not qualify as a tax-free distribution and merger under the Internal Revenue Code of 1986, as amended (the "Code"), then we and/or EchoStar stockholders may be required to pay substantial U.S. federal income taxes and under certain circumstances we may have indemnification obligations to DISH Network.
The parties to the BSS Transaction received a tax opinion from their respective counsels as to the tax-free nature of the transaction. They did not obtain a private letter ruling from the IRS in this respect and instead are relying solely on their respective tax opinions for comfort that the transaction qualifies for tax-free treatment for U.S. federal

income tax purposes under the Code. The failure of any factual representation or assumption to be true, correct and complete, or any undertaking to be fully complied with, could affect the validity of the tax opinions.

RISKS RELATED TO OUR OWNERSHIP

Our parent, EchoStar, is controlled by one principal stockholder who is our Chairman.

Charles W. Ergen, our Chairman, beneficially owns approximately 60% of EchoStar's total equity securities (assuming conversion of only the EchoStar Class B common stock beneficially owned by Mr. Ergen into EchoStar Class A common stock and giving effect to the exercise of options held by Mr. Ergen that are either currently exercisable as of, or may become exercisable within 60 days after, February 6, 2023) and beneficially owns approximately 93% of the total voting power of all classes of shares of EchoStar (assuming no conversion of any EchoStar Class B common stock and giving effect to the exercise of options held by Mr. Ergen that are either currently exercisable as of, or may become exercisable within 60 days after, February 6, 2023). Through his beneficial ownership of EchoStar's equity securities, Mr. Ergen has the ability to elect a majority of EchoStar's directors and to control all other matters requiring the approval of EchoStar's stockholders. As a result of Mr. Ergen's voting power, EchoStar is a "controlled company" as defined in the NASDAQ listing rules and, therefore, are not subject to NASDAQ requirements that would otherwise require us to have (i) a majority of independent directors; (ii) a nominating committee composed solely of independent directors; (iii) compensation of our or EchoStar's executive officers determined by a majority of the independent directors or a compensation committee composed solely of independent directors; (iv) a compensation committee charter which provides the compensation committee with the authority and funding to retain compensation consultants and other advisors; and/or (v) director nominees selected, or recommended for the EchoStar board's selection, either by a majority of the independent directors or a nominating committee composed solely of independent directors.

We have potential conflicts of interest with DISH Network due to EchoStar and DISH Network's common ownership.

A substantial majority of the voting power of the shares of each of EchoStar and DISH is owned beneficially by Charles W. Ergen, our Chairman, and by certain entities established for the benefit of his family. Questions relating to conflicts of interest may arise between DISH Network and us in a number of areas relating to our past and ongoing relationships. Areas in which conflicts of interest between DISH Network and us could arise include, but are not limited to, the following:

- ***Cross directorships and stock ownership***. Charles W. Ergen serves as the Chairman of our, EchoStar's and DISH's boards of directors, is employed by both EchoStar and DISH and has fiduciary duties to EchoStar's and DISH's shareholders. Mr. Ergen may have actual or apparent conflicts of interest with respect to matters involving or affecting each company. For example, there is potential for a conflict of interest when we or DISH Network look at acquisitions and other corporate opportunities that may be suitable for both companies. In addition, our Chairman and certain other EchoStar directors and certain of our officers own DISH stock and options to purchase DISH stock, certain of which they acquired or were granted prior to our spin-off from DISH in 2008 (the "Spin-off"). These ownership interests could create actual, apparent or potential conflicts of interest when these individuals are faced with decisions that could have different implications for our company and DISH Network.
- ***Intercompany agreements with DISH Network***. We and EchoStar and its other subsidiaries have entered into various agreements with DISH Network. Pursuant to certain agreements, we and EchoStar and its other subsidiaries obtain certain products, services and rights from DISH Network; DISH Network obtains certain products, services and rights from us and EchoStar and its other subsidiaries; and we and EchoStar, its other subsidiaries and DISH Network, as applicable, indemnify each other against certain liabilities arising from our respective businesses. Generally, the amounts paid for products and services provided under the agreements are based on cost plus a fixed margin, which varies depending on the nature of the products and services provided. Certain other intercompany agreements cover matters such as tax sharing and our and EchoStar's responsibility for certain liabilities previously undertaken by DISH Network for certain of our and EchoStar's businesses. We and EchoStar and its other subsidiaries have also entered into certain commercial agreements with DISH Network. The terms of certain of these agreements were established while EchoStar was a wholly-owned subsidiary of DISH and were not the result of arm's length

negotiations. The allocation of assets, liabilities, rights, indemnifications and other obligations between DISH Network, EchoStar and its other subsidiaries and/or us under certain agreements we and/or EchoStar and its other subsidiaries have with DISH Network may not necessarily reflect what two unaffiliated parties might have agreed to. Had these agreements been negotiated with unaffiliated third parties, their terms may have been more or less favorable to us or EchoStar and its other subsidiaries. In addition, DISH Network or its affiliates will likely continue to enter into transactions, including joint ventures, acquisitions, dispositions and other strategic initiatives and transactions, with EchoStar or its subsidiaries, us or other affiliates. Although the terms of any such transactions will be established based upon negotiations between us and DISH Network and, when appropriate, subject to approval by committees of our and EchoStar's non-interlocking directors or in certain instances non-interlocking management, there can be no assurance that the terms of any such transactions will be as favorable to EchoStar or its subsidiaries, us or our subsidiaries or other affiliates as may otherwise be obtained in negotiations between unaffiliated third parties.

- ***Competition for business opportunities***. DISH Network may have interests in various companies that have subsidiaries or controlled affiliates that own or operate domestic or foreign services that may compete with services offered by our businesses. From time to time we and EchoStar and its other subsidiaries may pursue the same business opportunities as DISH Network, such as when we participate in auctions for spectrum or orbital slots for our satellites or other business opportunities. In certain auctions, we and DISH Network may be prohibited from participating separately, and cooperating with DISH Network may result in a less favorable outcome for us.

We may not be able to resolve any potential conflicts of interest with DISH Network and, even if we do so, the resolution may be less favorable to us than if we were dealing with an unaffiliated party.

We do not have any agreements not to compete with DISH Network. However, many of our potential customers who compete with DISH Network have historically perceived us as a competitor due to our affiliation with DISH Network. There can be no assurance that we will be successful in entering into any commercial relationships with potential customers who are competitors of DISH Network (particularly if we continue to be perceived as affiliated with DISH Network as a result of common ownership, certain shared management services and other arrangements with DISH Network).

It may be difficult for a third party to acquire us, even if doing so may be beneficial to EchoStar's shareholders, because of our and EchoStar's capital structure.

Certain provisions of EchoStar and our respective articles of incorporation and bylaws, such as a provision that authorizes the issuance of "blank check" preferred stock, which could be issued by our or EchoStar's board of directors to increase the number of outstanding shares and thwart a takeover attempt and EchoStar's capital structure with multiple classes of common stock some of which entitle the holders to multiple votes per share, may discourage delay or prevent a change in control of our company that may be considered favorable. Both we and EchoStar also have a significant amount of authorized and unissued stock under our respective articles of incorporation that would allow our respective boards of directors to issue shares to persons friendly to current management, thereby protecting the continuity of management, or which could be used to dilute the stock ownership of persons seeking to obtain control of us. In addition, Charles W. Ergen, our Chairman, has the power to elect all of EchoStar's directors and control shareholder decisions of EchoStar on matters on which all classes of EchoStar's common stock vote together, and as our parent, EchoStar in turn holds all of our issued and outstanding equity and has the power to elect all of our directors and control shareholder decision on all matters, all of which may make it impractical for any third party to obtain control of us.

RISKS RELATED TO THE COVID-19 PANDEMIC

Our operations, and those of our customers, suppliers, vendors, and other third parties with whom we conduct business, including regulatory agencies, have been, and may continue to be, adversely affected by the COVID-19 pandemic.

The effects of the COVID-19 pandemic have disrupted our and our customers', suppliers', vendors' and other business partners' and investees' businesses, and have delayed the manufacture and deployment of our satellites, specifically our EchoStar XXIV satellite. Additionally, some regulatory bodies may still have reduced activities which may materially delay the review and/or approval of licenses or authorizations we need to operate our business. We cannot currently estimate or determine the final magnitude of these impacts.

Additionally, many of our subscribers continue to work remotely or engage in distance learning. These activities have increased the usage on our HughesNet satellite internet service (“HughesNet service”) so that there is little or no capacity remaining for subscriber growth in our most popular geographic areas. This limitation on capacity has resulted in our subscribers experiencing slower speeds, which, in turn, has resulted in higher churn.

We may face other risks described from time to time in periodic and current reports we file with the SEC.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our principal executive offices are located at 100 Inverness Terrace East, Englewood, Colorado 80112-5308 and our telephone number is (303) 706-4000. We operate various facilities in the United States and abroad. We believe that our facilities are well maintained and are sufficient to meet our current and projected needs. The following table sets forth certain information concerning our principal properties related to our Hughes segment, our ESS segment, and our Corporate and Other segment as of December 31, 2022.

Location	Segment(s)	Function
Owned:		
Englewood, Colorado	ESS/Corporate and Other	Corporate headquarters and ESS operations
Germantown, Maryland	Hughes	Hughes corporate headquarters, engineering offices, network operations and shared hubs
Griesheim, Germany	Hughes/Corporate and Other	Shared hub, operations, administrative offices and warehouse
Leased:		
Gilbert, Arizona	Hughes	Gateways
San Diego, California	Hughes	Engineering and sales offices
Englewood, Colorado	Hughes	Gateways and equipment
Gaithersburg, Maryland	Hughes	Manufacturing and testing facilities and logistics offices
Gaithersburg, Maryland	Hughes	Engineering and administrative offices
Southfield, Michigan	Hughes	Shared hub and regional network management center
Las Vegas, Nevada	Hughes	Shared hub, antennae yards, gateway, backup network operation and control center for Hughes corporate headquarters
Cheyenne, Wyoming	Hughes/ESS	Gateways, equipment and ESS operations
Barueri, Brazil	Hughes	Shared hub
Sao Paulo, Brazil	Hughes	Hughes Brazil corporate headquarters, sales offices and warehouse
Bangalore, India	Hughes	Engineering office and office space
Gurgaon, India	Hughes	Administrative offices, shared hub, operations, warehouse, and development center
New Delhi, India	Hughes	Hughes India corporate headquarters
Milton Keynes, United Kingdom	Hughes	Hughes Europe corporate headquarters and operations

ITEM 3. LEGAL PROCEEDINGS

For a discussion of legal proceedings, see Note 19 in our Consolidated Financial Statements.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

Market Information. As of February 6, 2023, all of our 1,078 issued and outstanding shares of common stock were held by EchoStar. There is currently no established trading market for our common stock. Our Articles of Incorporation authorize the issuance of 1,000,000 shares of preferred stock and as of February 6, 2023, no shares of our preferred stock were issued and outstanding.

Dividends. On March 17, 2022, our Board of Directors declared and approved payment of a cash dividend on our outstanding common stock to our shareholder and parent, EchoStar, in the amount of $100.0 million. Payment of this dividend was made in the first quarter of 2022.

While we currently do not intend to declare additional dividends on our common stock, we may elect to do so from time to time. Payment of any future dividends will depend upon our earnings, capital requirements, contractual restrictions and other factors the Board of Directors considers appropriate. We currently intend to retain our earnings, if any, to support operations, future growth and expansion. Our ability to declare dividends is affected by the covenants in our indentures.

ITEM 6. [RESERVED]

Item 7. MANAGEMENT'S NARRATIVE ANALYSIS OF RESULTS OF OPERATIONS

The following Management's Narrative Analysis of Results of Operations ("Management's Narrative Analysis") should be read in conjunction with our Consolidated Financial Statements. This Management's Narrative Analysis is intended to help provide an understanding of our financial condition, changes in our financial condition and our results of operations. Many of the statements in this Management's Narrative Analysis are forward-looking statements that involve assumptions and are subject to risks and uncertainties that are often difficult to predict and beyond our control. Actual results could differ materially from those expressed or implied by such forward-looking statements. See Disclosure Regarding Forward-Looking Statements of this Form 10-K for further discussion. For a discussion of additional risks, uncertainties and other factors that could impact our results of operations or financial condition, see Item 1A. Risk Factors of this Form 10-K. Further, such forward-looking statements speak only as of the date of this Form 10-K and we undertake no obligation to update them.

EXECUTIVE SUMMARY

Overview

We currently operate in two business segments: our Hughes segment and our ESS segment. Our operations include various corporate functions that have not been assigned to our business segments. These activities, costs and income, as well as eliminations of intersegment transactions, are accounted for in our Corporate and Other segment in our segment reporting.

All amounts presented in this Management's Narrative Analysis are expressed in thousands of U.S. dollars, except share and per share amounts and unless otherwise noted.

Hughes Segment

Our Hughes segment is an industry leader in both networking technologies and services, innovating to deliver the global solutions that power a connected future for people, enterprises and things everywhere. We offer broadband satellite technologies and broadband internet products and services to consumer customers. We offer broadband network technologies, managed services, equipment, hardware, satellite services and communications solutions to government and enterprise customers.

Our Hughes segment continues to focus its efforts on optimizing financial returns of our existing satellites while planning for new satellite capacity to be launched, leased or acquired. Our consumer revenue growth depends on our success in adding new and retaining existing subscribers, as well as increasing our Average Revenue Per User/subscriber ("ARPU"). Service and acquisition costs related to ongoing support for our direct and indirect customers and partners are typically impacted most significantly by our growth. The growth of our enterprise and consumer businesses relies heavily on global economic conditions and the competitive landscape for pricing relative to competitors and alternative technologies. In most areas of the U.S. we are nearing or have reached capacity, which has resulted in our consumer subscriber base becoming increasingly limited. Our Latin America consumer subscriber base in certain areas has also become capacity constrained. These constraints are expected to be addressed by the launch of the EchoStar XXIV satellite.

To date, we have not experienced a material adverse impact from the Russia-Ukraine conflict and the associated sanctions.

In May 2019, we entered into an agreement with Bharti Airtel Limited ("BAL") and its subsidiary, Bharti Airtel Services Limited (together with BAL, "Bharti"), pursuant to which Bharti agreed to contribute its very small aperture terminal ("VSAT") telecommunications services and hardware business in India to Hughes Communications India Private Limited ("HCIPL") and its subsidiaries, our less than wholly owned Indian subsidiaries, that conduct our VSAT services and hardware business in India. On January 4, 2022, this joint venture was formed (the "India JV") and subsequent to the formation of the India JV, we hold a 67% ownership interest and Bharti holds a 33% ownership interest in HCIPL. The India JV combines the VSAT businesses of both companies to offer flexible and scalable enterprise networking solutions using satellite connectivity for primary transport, back-up and hybrid implementation in India.

In August 2017, a subsidiary of EchoStar entered into a long-term contract for the design and construction of the EchoStar XXIV satellite, a next-generation, high throughput geostationary satellite. In December 2020, we entered into an agreement with a launch provider for the launch of EchoStar XXIV. The EchoStar XXIV satellite is primarily intended to provide additional capacity for our HughesNet service in North, Central and South America as well as enterprise broadband services. Following delays of over two years, in November 2022 we negotiated an amendment to our contract with the manufacturer to provide for additional compensation for past delays and a realignment of remedies. The contract now provides relief to us on certain payments, including approximately $14.0 million in payments through orbit-raising, and $44.5 million, plus 6% interest on such amounts, in deferred in-orbit incentive payments. Additionally, the contract now requires the payment of additional liquidated damages to us in the event of further delay, and provides for our right to terminate beginning January 1, 2024 if the satellite has not yet been delivered. In addition, the Company and the manufacturer will enter into an agreement under which the Company will provide certain products and/or services during 2023. The EchoStar XXIV satellite is expected to be launched in the second quarter of 2023. Delay in the availability of the EchoStar XXIV satellite could have a material adverse impact on our business operations, future revenues, financial position and prospects, and our planned expansion of satellite broadband services throughout North, South and Central America. Capital expenditures associated with the construction and launch of the EchoStar XXIV satellite are included in our Corporate and Other segment in our segment reporting.

Our broadband subscribers include customers that subscribe to our HughesNet services in the U.S. and Latin America through retail, wholesale and small/medium enterprise service channels.

The following table presents our approximate number of broadband subscribers:

	As of December 31,		
	2022	**2021**	**2020**
United States	931,000	1,090,000	1,189,000
Latin America	297,000	372,000	375,000
Total broadband subscribers	1,228,000	1,462,000	1,564,000

The following table presents the approximate number of net subscriber additions for each quarter in 2022:

	For the three months ended			
	December 31	**September 30**	**June 30**	**March 31**
United States	(43,000)	(46,000)	(35,000)	(35,000)
Latin America	(14,000)	(15,000)	(25,000)	(21,000)
Total net subscriber additions	(57,000)	(61,000)	(60,000)	(56,000)

Our ability to gain new customers and retain existing customers in the U.S. is being impacted by our capacity limitations as well as competitive pressure from satellite-based competitors and other technologies. For the three months ended December 31, 2022, these factors resulted in lower total subscribers as compared to the three months ended September 30, 2022.

Our ability to gain new customers and retain existing customers in Latin America is also being impacted by adverse economic conditions. In addition, capacity constraints in certain areas limit our ability to add new subscribers. For the three months ended December 31, 2022, the decline in net subscribers was primarily due to more selective customer screening and improved churn as compared to the three months ended September 30, 2022.

We continued to execute our strategy of maximizing financial returns by utilizing capacity for higher economic value enterprise and government applications in Latin America. Continued success of this strategy will further reduce the available capacity for consumer subscribers.

As of December 31, 2022 and 2021, our Hughes segment had $1.5 billion and $1.4 billion of contracted revenue backlog, respectively, an increase of 7.1% during that period, primarily due to an increase in contracts from our domestic and international customers. Of the total Hughes segment contracted revenue backlog as of December

31, 2022, we expect to recognize $461.0 million of revenue in 2023. We define Hughes segment contracted revenue backlog as our expected future revenue under enterprise customer contracts that are non-cancelable, including lease revenue.

Goodwill Impairment Assessment

We test goodwill for impairment annually in our second fiscal quarter, or more frequently if indicators of impairment exist. Goodwill is assessed for impairment at the reporting unit level. Reporting units are identified based on how segment management evaluates the results of segment operations and makes resource allocation decisions to such reporting units. All of our goodwill is assigned to our Hughes segment. We conducted our annual impairment test of goodwill during our second fiscal quarter on a qualitative basis and determined that no adjustment to the carrying value of goodwill was then necessary because the fair value exceeded carrying value for our Hughes reporting unit.

During the quarter ended December 31, 2022, we conducted a quantitative interim test of goodwill for all of our reporting units due to the decline of our stock price since our interim test in the third quarter of 2022. As a result of this interim test, no goodwill impairment was identified. The fair value of the Hughes reporting unit exceeded the carrying value by more than 20%. We concluded that there were no other indicators of impairment for the quarter ended December 31, 2022. Given the decline in our stock price during the year ended December 31, 2022, we believe it is reasonably possible that a further sustained decline in our stock price and market capitalization would result in all or a significant portion of our goodwill becoming impaired. The impairment of goodwill has no effect on liquidity or capital resources. However, it would result in a material non-cash charge and would materially adversely affect our financial results in the period recognized.

When estimating the fair value of our Hughes reporting unit, we used a combination of the discounted cash flow and market multiple methodologies. We weighted 50% of the fair value using a discounted cash flow methodology and 50% using a market multiple approach. Although we concluded that recent transactions further supported our estimate of fair value, we gave them no such weight as the discounted cash flow and market multiple methodologies were considered more relevant and more reliable to be used in our fair value estimate.

In our discounted cash flow methodology, we developed and utilized a range of inputs that we believe to be reasonable and appropriately conservative. These inputs included, but were not limited to, revenue growth, EBITDA margins, capital expenditures, a terminal growth rate and a discount rate. In our market multiple approach, we also utilized what we believe to be a reasonable and appropriately conservative range of revenue and EBITDA multiples.

ESS Segment

Our ESS segment provides satellite services on a full-time and/or occasional-use basis to U.S. government service providers, internet service providers, broadcast news organizations, content providers and private enterprise customers. We operate our ESS business using primarily the EchoStar IX satellite and the EchoStar 105/SES-11 satellite and related infrastructure. Revenue in our ESS segment depends largely on our ability to continuously make use of our available satellite capacity with existing customers and our ability to enter into commercial relationships with new customers.

As of December 31, 2022 and 2021, our ESS segment had contracted revenue backlog of $22.3 million and $10.4 million, respectively, an increase of 114.4% during that period, primarily due to an increase in satellite service contracts with existing and new customers. Of the total ESS segment contracted revenue backlog as of December 31, 2022, we expect to recognize $16.5 million of revenue in 2023. We define contracted revenue backlog for our ESS segment as contracted future satellite lease revenue.

Corporate and Other Segment

Satellite Anomalies and Impairments

Our satellites may experience anomalies from time to time, some of which may have a significant adverse effect on their remaining useful lives, the commercial operation of the satellites or our operating results or financial position. We are not aware of any anomalies with respect to our owned or leased satellites that have had any such significant adverse effect during the year ended December 31, 2022. There can be no assurance, however, that anomalies will not have a significant adverse effect in the future. In addition, there can be no assurance that we can recover critical transmission capacity in the event one or more of our satellites were to fail.

Cybersecurity

We are not aware of any cyber-incidents with respect to our owned or leased satellites or other networks, equipment or systems that have had a material adverse effect on our business, costs, operations, prospects, results of operation or financial position during the year ended December 31, 2022 and through February 22, 2023. There can be no assurance, however, that any such incident can be detected or thwarted or will not have such a material adverse effect in the future.

EXPLANATION OF KEY METRICS AND OTHER ITEMS

Services and other revenue. Services and other revenue primarily includes the sales of consumer and enterprise broadband services, maintenance and other contracted services, revenue associated with satellite and transponder leases and services, satellite uplinking/downlinking, subscriber wholesale service fees for the HughesNet service, professional services and facilities rental revenue.

Equipment revenue. Equipment revenue primarily includes broadband equipment and networks sold to customers in our consumer and enterprise markets.

Cost of sales - services and other. Cost of sales - services and other primarily includes the cost of broadband services provided to our consumer and enterprise customers, maintenance and other contracted services, costs associated with satellite and transponder leases and services, professional services and facilities rental.

Cost of sales - equipment. Cost of sales - equipment consists primarily of the cost of broadband equipment and networks provided to customers in our consumer and enterprise markets. It also includes certain other costs associated with the deployment of equipment to our customers.

Selling, general and administrative expenses. Selling, general and administrative expenses primarily include selling and marketing costs and employee-related costs associated with administrative services (e.g., information systems, human resources and other services), including bad debt expense and stock-based compensation expense. It also includes professional fees (e.g. legal, information systems and accounting services) and other expenses associated with facilities and administrative services.

Research and development expenses. Research and development expenses primarily include costs associated with the design and development of products to support future growth and provide new technology and innovation to our customers.

Impairment of long-lived assets. Impairment of long-lived assets includes our impairment losses related to our property and equipment, goodwill, regulatory authorizations and other intangible assets.

Interest income, net. Interest income, net primarily includes interest earned on our cash, cash equivalents and marketable investment securities, and other investments including premium amortization and discount accretion on debt securities.

Interest expense, net of amounts capitalized. Interest expense, net of amounts capitalized primarily includes interest expense associated with our debt and finance lease obligations (net of capitalized interest), amortization of debt issuance costs and interest expense related to certain legal proceedings.

Gains (losses) on investments, net. Gains (losses) on investments, net primarily includes changes in fair value of our marketable equity securities and other investments for which we have elected the fair value option. It may also include realized gains and losses on the sale or exchange of our available-for-sale debt securities, other-than-temporary impairment losses on our available-for-sale securities, realized gains and losses on the sale or exchange of equity securities and debt securities without readily determinable fair value and adjustments to the carrying amount of investments in unconsolidated affiliates and marketable equity securities resulting from impairments and observable price changes.

Equity in earnings (losses) of unconsolidated affiliates, net. Equity in earnings (losses) of unconsolidated affiliates, net includes earnings or losses from our investments accounted for using the equity method.

Foreign currency transaction gains (losses), net. Foreign currency transaction gains (losses), net include gains and losses resulting from the re-measurement of transactions denominated in foreign currencies.

Other, net. Other, net primarily includes dividends received from our marketable investment securities and other non-operating income and expense items that are not appropriately classified elsewhere in the Consolidated Statements of Operations in our Consolidated Financial Statements.

Earnings before interest, taxes, depreciation and amortization ("EBITDA"). EBITDA is defined as Net income (loss) excluding Interest income and expense, net, Income tax benefit (provision), net, Depreciation and amortization, and Net income (loss) attributable to non-controlling interests. EBITDA is not a measure determined in accordance with U.S. generally accepted accounting principles ("GAAP"). This non-GAAP measure is reconciled to Net income (loss) in our discussion of Results of Operations section below. EBITDA should not be considered in isolation or as a substitute for operating income, net income or any other measure determined in accordance with GAAP. EBITDA is used by our management as a measure of operating efficiency and overall financial performance for benchmarking against our peers and competitors. Management believes EBITDA provides meaningful supplemental information regarding the underlying operating performance of our business and is appropriate to enhance an overall understanding of our financial performance. Management also believes that EBITDA is useful to investors because it is frequently used by securities analysts, investors and other interested parties to evaluate the performance of companies in our industry.

Subscribers. Subscribers include customers that subscribe to our HughesNet service, through retail, wholesale and small/medium enterprise service channels.

RESULTS OF OPERATIONS

Year Ended December 31, 2022 Compared to the Year Ended December 31, 2021

The following table presents our consolidated results of operations for the year ended December 31, 2022 compared to the year ended December 31, 2021:

	For the year ended December 31,		Variance	
Statements of Operations Data [1]	**2022**	**2021**	**Amount**	**%**
Revenue:				
Services and other revenue	$ 1,629,194	$ 1,724,299	$ (95,105)	(5.5)
Equipment revenue	374,149	270,427	103,722	38.4
Total revenue	2,003,343	1,994,726	8,617	0.4
Costs and expenses:				
Cost of sales - services and other	562,849	544,915	17,934	3.3
% of total services and other revenue	**34.5 %**	**31.6 %**		
Cost of sales - equipment	292,290	231,960	60,330	26.0
% of total equipment revenue	**78.1 %**	**85.8 %**		
Selling, general and administrative expenses	429,877	422,235	7,642	1.8
% of total revenue	**21.5 %**	**21.2 %**		
Research and development expenses	32,810	31,777	1,033	3.3
% of total revenue	**1.6 %**	**1.6 %**		
Depreciation and amortization	431,065	464,146	(33,081)	(7.1)
Impairment of long-lived assets	—	210	(210)	(100.0)
Total costs and expenses	1,748,891	1,695,243	53,648	3.2
Operating income (loss)	254,452	299,483	(45,031)	(15.0)
Other income (expense):				
Interest income, net	30,812	8,146	22,666	*
Interest expense, net of amounts capitalized	(92,386)	(126,499)	34,113	(27.0)
Gains (losses) on investments, net	245	2,103	(1,858)	(88.3)
Equity in earnings (losses) of unconsolidated affiliates, net	(5,703)	(5,347)	(356)	6.7
Foreign currency transaction gains (losses), net	6,016	(11,494)	17,510	(152.3)
Other, net	(85)	1,336	(1,421)	(106.4)
Total other income (expense), net	(61,101)	(131,755)	70,654	(53.6)
Income (loss) before income taxes	193,351	167,728	25,623	15.3
Income tax benefit (provision), net	(54,441)	(57,111)	2,670	(4.7)
Net income (loss)	138,910	110,617	28,293	25.6
Less: Net loss (income) attributable to non-controlling interests	10,503	10,154	349	3.4
Net income (loss) attributable to HSSC	$ 149,413	$ 120,771	$ 28,642	23.7
Other data:				
EBITDA [2]	$ 696,493	$ 760,381	$ (63,888)	(8.4)
Subscribers, end of period	1,228,000	1,462,000	(234,000)	(16.0)

* Percentage is not meaningful.

(1) An explanation of our key metrics is included in Explanation of Key Metrics and Other Items.

(2) A reconciliation of EBITDA to Net income (loss), the most directly comparable GAAP measure in our Consolidated Financial Statements, is included in Results of Operations. For further information on our use of EBITDA, see Explanation of Key Metrics and Other Items.

The following discussion relates to our results of operations for the year ended December 31, 2022 compared to the year ended December 31, 2021:

Services and other revenue. Services and other revenue totaled $1.6 billion for the year ended December 31, 2022, a decrease of $95.1 million, or 5.5%, as compared to 2021. The decrease was primarily attributable to our Hughes segment related to lower sales of broadband services to our consumer customers of $103.1 million, partially offset by higher sales of broadband services to our enterprise customers of $5.3 million and to our mobile satellite system and other customers of $4.5 million. Our ESS segment increased by $2.9 million. These variances reflect an estimated negative impact of exchange rate fluctuations of $5.9 million, primarily attributable to our enterprise customers.

Equipment revenue. Equipment revenue totaled $374.1 million for the year ended December 31, 2022, an increase of $103.7 million, or 38.4%, as compared to 2021. The increase was primarily attributable to: i) increases in hardware sales to our enterprise customers of $102.6 million mainly associated with a certain customer in North America and to international customers, and ii) increases on our hardware sales to our mobile satellite system customers of $6.6 million, partially offset by decreases in hardware sales of $5.5 million to our consumer customers.

Cost of sales - services and other. Cost of sales - services and other totaled $562.8 million for the year ended December 31, 2022, an increase of $17.9 million, or 3.3%, as compared to 2021. The increase was attributable to a non-recurring decrease in a certain international regulatory fee of $4.5 million in 2021 and increases in cost of services provided to our consumer and enterprise customers, mainly related to service delivery expenses, such as field services and customer care.

Cost of sales - equipment. Cost of sales - equipment totaled $292.3 million for the year ended December 31, 2022, an increase of $60.3 million, or 26.0%, as compared to 2021. The increase was primarily attributable to the corresponding increase in equipment revenue and change in product mix.

Selling, general and administrative expenses. Selling, general and administrative expenses totaled $429.9 million for the year ended December 31, 2022, an increase of $7.6 million, or 1.8%, as compared to 2021. The increase was primarily attributable to increases in: i) other general and administrative expenses of $18.3 million, ii) bad debt expense of $7.2 million primarily due to the recovery of bad debt reserves in 2021 and iii) legal expenses of $0.8 million, offset by increases in sales and marketing expenses of $18.7 million.

Depreciation and amortization. Depreciation and amortization expenses totaled $431.1 million for the year ended December 31, 2022, a decrease of $33.1 million, or 7.1%, as compared to 2021. The decrease was primarily attributable to: i) decreases in other property and equipment depreciation expense of $27.7 million, ii) decreases in our satellite depreciation of $8.9 million, mainly related to our SPACEWAY 3 satellite which was fully depreciated at the end of the first quarter of 2021, and iii) decreases in amortization of intangibles of $2.1 million. These decreases were partially offset by increases in amortization of our capitalized software of $5.7 million.

Interest income, net. Interest income, net totaled $30.8 million for the year ended December 31, 2022, an increase of $22.7 million, as compared to 2021, primarily attributable to increases in the yield on our marketable investment securities and an increase in our marketable investment securities average balance.

Interest expense, net of amounts capitalized. Interest expense, net of amounts capitalized, totaled $92.4 million for the year ended December 31, 2022, a decrease of $34.1 million, or 27.0%, as compared to 2021. The decrease was primarily attributable to a decrease of $30.8 million in interest expense and the amortization of deferred financing cost as a result of the repurchases and maturity of our 7 5/8% Senior Unsecured Notes due 2021 and an increase of $2.7 million in capitalized interest relating to the EchoStar XXIV satellite program.

Foreign currency transaction gains (losses), net. Foreign currency transaction gains (losses), net totaled $6.0 million in gains for the year ended December 31, 2022, as compared to $11.5 million in losses for the year ended December 31, 2021, a positive change of $17.5 million. The change was due to the net impact of foreign exchange rate fluctuations of certain foreign currencies during the period, primarily related to the Brazilian Real, Indian Rupee, and the European Euro.

Income tax benefit (provision), net. Income tax benefit (provision), net was $(54.4) million for the year ended December 31, 2022, as compared to $(57.1) million for the year ended December 31, 2021. Our effective income tax rate was 28.2% and 34.0% for the year ended December 31, 2022 and 2021, respectively. The variations in our effective tax rate from the U.S. federal statutory rate for the year ended December 31, 2022 were primarily due to excluded foreign losses where the Company carries a full valuation allowance, and the impact of state and local taxes. The variations in our current year effective tax rate from the U.S. federal statutory rate for the year ended December 31, 2021 were primarily due to excluded foreign losses where the Company carries a full valuation allowance and the impact of state and local taxes.

Net income (loss) attributable to HSSC. The following table reconciles the change in Net income (loss) attributable to HSSC:

		Amounts
Net income (loss) attributable to HSSC for the year ended December 31, 2021	$	120,771
Decrease (increase) in interest expense, net of amounts capitalized		34,113
Increase (decrease) in interest income, net		22,666
Increase (decrease) in foreign currency transaction gains (losses), net		17,510
Decrease (increase) in income tax benefit (provision), net		2,670
Decrease (increase) in net income (loss) attributable to non-controlling interests		349
Decrease (increase) in equity in earnings (losses) of unconsolidated affiliates, net		(356)
Increase (decrease) in other, net		(1,421)
Increase (decrease) in gains (losses) on investments, net		(1,858)
Increase (decrease) in operating income (loss), including depreciation and amortization		(45,031)
Net income (loss) attributable to HSSC for the year ended December 31, 2022	$	149,413

EBITDA. EBITDA is a non-GAAP financial measure and is described under Explanation of Key Metrics and Other Items section. The following table reconciles EBITDA to Net income (loss), the most directly comparable GAAP measure in our Consolidated Financial Statements:

	For the year ended December 31,				Variance		
		2022		2021		Amount	%
Net income (loss)	$	138,910	$	110,617	$	28,293	25.6
Interest income, net		(30,812)		(8,146)		(22,666)	*
Interest expense, net of amounts capitalized		92,386		126,499		(34,113)	(27.0)
Income tax provision (benefit), net		54,441		57,111		(2,670)	(4.7)
Depreciation and amortization		431,065		464,146		(33,081)	(7.1)
Net loss (income) attributable to non-controlling interests		10,503		10,154		349	3.4
EBITDA	$	696,493	$	760,381	$	(63,888)	(8.4)

* Percentage is not meaningful.

The following table reconciles the change in EBITDA:

		Amounts
EBITDA for the year ended December 31, 2021	$	760,381
Increase (decrease) in foreign currency transaction gains (losses), net		17,510
Decrease (increase) in net loss (income) attributable to non-controlling interests		349
Decrease (increase) in equity in earnings (losses) of unconsolidated affiliates, net		(356)
Increase (decrease) in other, net		(1,421)
Increase (decrease) in gains (losses) on investments, net		(1,858)
Increase (decrease) in operating income (loss), excluding depreciation and amortization		(78,112)
EBITDA for the year ended December 31, 2022	$	696,493

Segment Operating Results and Capital Expenditures

The following tables present our total revenue, capital expenditures and EBITDA by segment for the year ended December 31, 2022, as compared to the year ended December 31, 2021:

		Hughes		ESS		Corporate and Other		Consolidated Total
For the year ended December 31, 2022								
Total revenue	$	1,966,587	$	20,533	$	16,223	$	2,003,343
Capital expenditures		239,403		—		—		239,403
EBITDA		732,929		14,416		(50,852)		696,493
For the year ended December 31, 2021								
Total revenue	$	1,956,226	$	17,679	$	20,821	$	1,994,726
Capital expenditures		296,303		—		—		296,303
EBITDA		781,824		9,185		(30,628)		760,381

Hughes Segment

	For the years ended December 31,				Variance		
		2022		2021		Amount	%
Total revenue	$	1,966,587	$	1,956,226	$	10,361	0.5
Capital expenditures		239,403		296,303		(56,900)	(19.2)
EBITDA		732,929		781,824		(48,895)	(6.3)

Total revenue was $2.0 billion for the year ended December 31, 2022, an increase of $10.4 million, or 0.5%, as compared to 2021. Services and other revenue decreased primarily due to lower sales of broadband services to our consumer customers of $103.1 million, partially offset by higher sales of broadband services to our enterprise customers of $5.3 million and to our mobile satellite system and other customers of $4.5 million. Equipment revenue increased primarily due to: i) increases in hardware sales to our enterprise customers of $102.6 million mainly associated with a certain customer in North America and to international customers, and ii) increases on our hardware sales to our mobile satellite system customers of $6.6 million, partially offset by decreases in hardware sales of $5.5 million to our consumer customers. These variances reflect an estimated negative impact of exchange rate fluctuations of $6.7 million, primarily attributable to our enterprise customers.

Capital expenditures were $239.4 million for the year ended December 31, 2022, a decrease of $56.9 million, or 19.2%, as compared to 2021, primarily due to decreases in expenditures associated with our consumer business, and decreases in expenditures related to the construction of our satellite-related ground infrastructure.

The following table reconciles the change in the Hughes Segment EBITDA:

	Amounts
EBITDA for the year ended December 31, 2021	$ 781,824
Increase (decrease) in foreign currency transaction gains (losses), net	17,437
Decrease (increase) in net loss (income) attributable to non-controlling interests	349
Decrease (increase) in equity in earnings (losses) of unconsolidated affiliates, net	39
Increase (decrease) in gains (losses) on investments, net	(1,883)
Increase (decrease) in other, net	(3,341)
Increase (decrease) in operating income (loss), excluding depreciation and amortization	(61,496)
EBITDA for the year ended December 31, 2022	$ 732,929

ESS Segment

	For the years ended December 31,		Variance	
	2022	2021	Amount	%
Total revenue	$ 20,533	$ 17,679	$ 2,854	16.1
EBITDA	14,416	9,185	5,231	57.0

Total revenue was $20.5 million for the year ended December 31, 2022, an increase of $2.9 million, or 16.1%, compared to 2021, primarily due to an increase in transponder services provided to third parties.

EBITDA was $14.4 million for the year ended December 31, 2022, an increase of $5.2 million, or 57.0%, as compared to 2021, primarily due to the increase in overall ESS segment revenue and lower expenses.

Corporate and Other Segment

	For the years ended December 31,		Variance	
	2022	2021	Amount	%
Total revenue	$ 16,223	$ 20,821	$ (4,598)	(22.1)
EBITDA	(50,852)	(30,628)	(20,224)	66.0

The following table reconciles the change in the Corporate and Other Segment EBITDA:

	Amounts
EBITDA for the year ended December 31, 2021	$ (30,628)
Increase (decrease) in other, net	1,937
Increase (decrease) in foreign currency transaction gains (losses), net	74
Increase (decrease) in gains (losses) on investments, net	26
Decrease (increase) in equity in earnings (losses) of unconsolidated affiliates, net	(394)
Increase (decrease) in operating income (loss), excluding depreciation and amortization	(21,867)
EBITDA for the year ended December 31, 2022	$ (50,852)

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risks Associated with Financial Instruments and Foreign Currency

Our investments and debt are exposed to market risks, discussed below.

Cash, Cash Equivalents and Marketable Investment Securities

As of December 31, 2022, our cash, cash equivalents and marketable investment securities had a fair value of $1.5 billion. Of this amount, a total of $1.5 billion was invested in: (a) cash; (b) commercial paper and corporate notes with an overall average maturity of less than one year and rated in one of the four highest rating categories by at least two nationally recognized statistical rating organizations; (c) debt instruments of the U.S. government and its agencies; and/or (d) instruments with similar risk, duration and credit quality characteristics to the commercial paper and corporate obligations described above. The primary purpose of these investing activities has been to preserve principal until the cash is required to, among other things, fund operations, make strategic investments and expand the business. Consequently, the size of this portfolio fluctuates significantly as cash is received and used in our business. The value of this portfolio may be negatively impacted by credit losses; however, this risk is mitigated through diversification that limits our exposure to any one issuer.

Interest Rate Risk

A change in interest rates would not affect the fair value of our cash, or materially affect the fair value of our cash equivalents due to their maturities of less than 90 days. A change in interest rates would affect the fair value of our current marketable debt securities portfolio; however, we normally hold these investments to maturity. Based on our cash, cash equivalents and current marketable debt securities investment portfolio of $1.5 billion as of December 31, 2022, a hypothetical 10% change in average interest rates during 2022 would not have had a material impact on the fair value of our cash, cash equivalents and debt securities portfolio due to the limited duration of our investments.

Our cash, cash equivalents and current marketable debt securities had an average annual rate of return for the year ended December 31, 2022 of 2.15%. A change in interest rates would affect our future annual interest income from this portfolio, since funds would be re-invested at different rates as the instruments mature. A hypothetical 10% decrease in average interest rates during 2022 would have resulted in a decrease of $2.6 million in annual interest income.

Other Investments

Our ability to realize value from our strategic investments in companies that are privately held depends on the success of those companies' businesses and their ability to obtain sufficient capital to execute their business plans. Because private markets are not as liquid as public markets, there is also increased risk that we will not be able to sell these investments, or that when we sell them, we will not be able to recover our investment.

Foreign Currency Exchange Risk

Our international business is conducted in a variety of foreign currencies with our largest exposures being to the Brazilian real, the Indian rupee, European euro and the British pound. Transactions in foreign currencies are converted into U.S. dollars using exchange rates in effect on the dates of the transactions. This exposes us to fluctuations in foreign currency exchange rates.

Our objective in managing our exposure to foreign currency changes is to reduce earnings and cash flow volatility associated with foreign currency exchange rate fluctuations, primarily resulting from loans to foreign subsidiaries in U.S. dollars. Accordingly, we may enter into foreign currency forward contracts, or take other measures, to mitigate risks associated with foreign currency denominated assets, liabilities, commitments and anticipated foreign currency transactions.. As of December 31, 2022, we had foreign currency forward contracts with a notional amount of $8.3 million in place to partially mitigate foreign currency exchange risk. The estimated fair values of the foreign currency contracts were not material as of December 31, 2022. The impact of a hypothetical 10% adverse change in exchange rates on the carrying amount of the net assets and liabilities of our foreign subsidiaries during 2022 would have resulted in an estimated loss to the cumulative translation adjustment of $50.0 million as of December 31, 2022.

Derivative Financial Instruments

We generally do not use derivative financial instruments for speculative purposes and we generally do not apply hedge accounting treatment to our derivative financial instruments. We evaluate our derivative financial instruments from time to time but there can be no assurance that we will not enter into additional foreign currency forward contracts, or take other measures, in the future to mitigate our foreign currency exchange risk.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our Consolidated Financial Statements are included in Item 15 of this Form 10-K.

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

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this Form 10-K. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this Form 10-K such that the information required to be disclosed in our SEC reports is recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms, and is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

There has been no change in our internal control over financial reporting (as defined in Rule 15d-15(f) under the Securities Exchange Act of 1934, as amended) that occurred during the three months ended December 31, 2022 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. We continue to review our internal control over financial reporting and may from time to time make changes aimed at enhancing its effectiveness and to ensure that our systems evolve with our business.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

Our internal control over financial reporting includes those policies and procedures that:

(i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect our transactions and dispositions of our assets;

(ii) provide reasonable assurance that our transactions are recorded as necessary to permit preparation of our financial statements in accordance with GAAP, and that our receipts and expenditures are being made only in accordance with authorizations of our management and our directors; and

(iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on our financial statements.

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

Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management has concluded that our internal control over financial reporting was effective as of December 31, 2022.

ITEM 9B. OTHER INFORMATION

Financial Results

On February 22, 2023, EchoStar issued a press release (the "Press Release") announcing its financial results for the quarter and year ended December 31, 2022. A copy of the Press Release is furnished herewith as Exhibit 99.1. The foregoing information, including the exhibit related thereto, is furnished in response to Item 2.02 of Form 8-K and shall not be deemed "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise, and shall not be incorporated by reference into any registration statement or other document pursuant to the Securities Act of 1933, as amended, or into any filing or other document pursuant to the Securities Exchange Act of 1934, as amended, except as otherwise expressly stated in any such filing.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Appointment of Independent Registered Public Accounting Firm

KPMG LLP served as our independent registered public accounting firm for the fiscal year ended December 31, 2022. EchoStar's board of directors, in its discretion, may direct the appointment of a different independent registered public accounting firm at any time during the year if it determines that such a change would be in our best interests.

Fees Paid to KPMG LLP

The following table presents fees for professional services rendered by KPMG LLP on behalf of the Company for the years ended December 31, 2022 and 2021, in full dollar amounts:

	For the Years Ended December 31,	
	2022	2021
Audit fees (1)	$ 2,133,489	$ 2,050,883
Audit-related fees (2)	38,523	1,907
Total audit and audited related fees	2,172,012	2,052,790
Tax fees (3)	39,010	8,625
Total fees	$ 2,211,022	$ 2,061,415

(1) Consists of fees for the audit of our Consolidated Financial Statements included in our Annual Report on Form 10-K, review of our unaudited financial statements included in our Quarterly Reports on Form 10-Q and fees in connection with statutory and other audits of our foreign subsidiaries.
(2) Consists of fees for assurance and other services that are provided in connection with the issuance of consents, comfort letters, certifications, compliance with XBRL tagging, and professional consultations with respect to accounting issues or matters that are non-recurring in nature.
(3) Consists of fees for tax consultation and tax compliance services.

Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Registered Public Accounting Firm

EchoStar's Audit Committee is responsible for appointing, setting compensation, retaining, and overseeing the work of our independent registered public accounting firm. EchoStar's Audit Committee has established a process regarding pre-approval of all audit and permissible non-audit services provided by the independent registered public accounting firm.

Requests are submitted to EchoStar's Audit Committee in one of the following ways:

- Request for approval of services at a meeting of EchoStar's Audit Committee; or
- Request for approval of services by members of EchoStar's Audit Committee acting by written consent.

The request may be made with respect to either specific services or a type of service for predictable or recurring services. All of the fees paid by us to KPMG LLP for services for 2022 and 2021 were pre-approved by EchoStar's Audit Committee.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

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

(1) Consolidated Financial Statements

	Page
Index to Consolidated Financial Statements	F-1
Report of Independent Registered Public Accounting Firm	F-2
Consolidated Balance Sheets as of December 31, 2022 and 2021	F-4
Consolidated Statements of Operations for the years ended December 31, 2022, 2021 and 2020	F-6
Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2022, 2021 and 2020	F-7
Consolidated Statements of Changes in Shareholder's Equity for the years ended December 31, 2022, 2021 and 2020	F-8
Consolidated Statements of Cash Flows for the years ended December 31, 2022, 2021 and 2020	F-9
Notes to Consolidated Financial Statements	F-10

(2) Exhibits

Exhibit No.	Description
2.1*	Agreement and Plan of Merger between EchoStar Corporation, EchoStar Satellite Services L.L.C., Broadband Acquisition Corporation and Hughes Communications, Inc. dated as of February 13, 2011 (incorporated by reference to Exhibit 2.1 to Hughes Communications Inc.'s Current Report on Form 8-K, filed February 15, 2011, Commission File No. 1-33040).****
2.2*	Master Transaction Agreement by and among DISH Network Corporation, BSS Merger Sub Inc., EchoStar Corporation, and EchoStar BSS Corporation, dated as of May 19, 2019 (incorporated by reference to Exhibit 2.1 to Hughes Satellite Systems Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, filed August 8, 2019, Commission File No. 333-179121).****
3.1(a)*	Articles of Incorporation of EH Holding Corporation (currently known as Hughes Satellite Systems Corporation), dated as of March 16, 2011 (incorporated by reference to Exhibit 3.1(a) to the Company's Registration Statement on Form S-4, Registration No. 333-179121).
3.1(b)*	Articles of Amendment of EH Holding Corporation (currently known as Hughes Satellite Systems Corporation), dated as of October 26, 2011 (incorporated by reference to Exhibit 3.1(b) to the Company's Registration Statement on Form S-4, Registration No. 333-179121).
3.1(c)*	Articles of Amendment of Hughes Satellite Systems Corporation, dated as of December 30, 2013 (incorporated by reference to Exhibit 3.1(c) to Hughes Satellite Systems Corporation's Annual Report on Form 10-K for the year ended December 31, 2013, filed February 21, 2014, Commission File No. 333-179121.
3.1(d)*	Articles of Amendment of Hughes Satellite Systems Corporation, dated as of January 21, 2014 (incorporated by reference to Exhibit 3.1(d) to Hughes Satellite Systems Corporation's Annual Report on Form 10-K for the year ended December 31, 2013, filed February 21, 2014, Commission File No. 333-179121).

Exhibit No.	Description
3.1(e)*	Articles of Amendment of Hughes Satellite Systems Corporation, dated as of February 28, 2014 (incorporated by reference to Exhibit 3.1(a) to Hughes Satellite Systems Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2014, filed May 9, 2014, Commission File No. 333-179121).
3.1(f)*	Articles of Amendment to Articles of Incorporation of Hughes Satellite Systems Corporation, dated as of March 1, 2017 (incorporated by reference to Exhibit 32 to EchoStar Corporation's Current Report on Form 8-K filed March 6, 2017, Commission File No. 001-33807).
3.2*	Bylaws of EH Holding Corporation (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-4, Registration No. 333-179121).
4.1*	Security Agreement, dated as of June 8, 2011, among EH Holding Corporation (currently known as Hughes Satellite Systems Corporation), the guarantors listed on the signature pages thereto, and U.S. Bank National Association, as successor collateral agent (incorporated by reference to Exhibit 4.1 to EchoStar Corporation's Current Report on Form 8-K, filed June 9, 2011, Commission File No. 001-33807).
4.2*	Indenture, relating to the 5.250% Senior Secured Notes, dated as of July 27, 2016, among Hughes Satellite Systems Corporation, the guarantors party thereto, U.S. Bank National Association, as trustee and successor collateral agent (incorporated by reference to Exhibit 4.1 to EchoStar Corporation's Current Report on Form 8-K filed on July 27, 2016, Commission File No. 001-33807).
4.3*	Indenture, relating to the 6.625% Senior Unsecured Notes, dated as of July 27, 2016, among Hughes Satellite Systems Corporation, the guarantors party thereto and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.2 to EchoStar Corporation's Current Report on Form 8-K filed on July 27, 2016, Commission File No. 001-33807).
4.4*	Registration Rights Agreement, dated as of July 27, 2016, among Hughes Satellite Systems Corporation, the guarantors party thereto and Deutsche Bank Securities Inc. (incorporated by reference to Exhibit 4.3 to EchoStar Corporation's Current Report on Form 8-K filed on July 27, 2016, Commission File No. 001-33807).
4.5*	Additional Secured Party Joinder, dated as of July 27, 2016, among U.S. Bank National Association, as trustee and successor collateral agent, and Hughes Satellite Systems Corporation (incorporated by reference to Exhibit 4.4 to EchoStar Corporation's Current Report on Form 8-K filed on July 27, 2016, Commission File No. 001-33807).
4.6*	Form of 5.250% Senior Secured Note due 2026 (included as part of Exhibit 4.2).
4.7*	Form of 6.625% Senior Unsecured Note due 2026 (included as part of Exhibit 4.3).
4.8*	Supplemental Indenture relating to Hughes Satellite Systems Corporation's 5.250% Senior Secured Notes due 2026, dated March 23, 2017, by and among Hughes Satellite Systems Corporation, the guarantors and the supplemental guarantor listed on the signature pages thereto, U.S. Bank National Association, as trustee and successor collateral agent (incorporated by reference to Exhibit 4.19 to Hughes Satellite Systems Corporation's Registration Statement on Form S-4, filed April 6, 2017, Commission File No. 333-179121).
4.9*	Supplemental Indenture relating to Hughes Satellite Systems Corporation's 6.625% Senior Notes due 2026, dated as of March 23, 2017, by and among Hughes Satellite Systems Corporation, the guarantors and the supplemental guarantor listed on the signature pages thereto and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.20 to Hughes Satellite Systems Corporation's Registration Statement on Form S-4, filed April 6, 2017, Commission File No. 333-179121).

Exhibit No.	Description
4.10*	Joinder Agreement, dated as of August 10, 2017, to the Security Agreement dated as of June 8, 2011, by and between HNS Americas, L.L.C., HNS Americas II, L.L.C. and U.S. Bank National Association, as successor collateral agent (incorporated by reference to Exhibit 4.23 to Hughes Satellite Systems Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, filed February 22, 2018, Commission File No. 333-179121).
4.11*	Second Supplemental Indenture relating to Hughes Satellite Systems Corporation's 5.250% Senior Secured Notes due 2026, dated August 10, 2017, by and among Hughes Satellite Systems Corporation, the guarantors and the supplemental guarantor listed on the signature pages thereto, U.S. Bank National Association, as trustee and successor collateral agent (incorporated by reference to Exhibit 4.24 to Hughes Satellite Systems Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, filed February 22, 2018, Commission File No. 333-179121).
4.12*	Second Supplemental Indenture relating to Hughes Satellite Systems Corporation's 6.625% Senior Notes due 2026, dated as of August 10, 2017, by and among Hughes Satellite Systems Corporation, the guarantors and the supplemental guarantor listed on the signature pages thereto and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.25 to Hughes Satellite Systems Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, filed February 22, 2018, Commission File No. 333-179121).
4.13*	Joinder Agreement, dated as of June 12, 2019, to the Security Agreement dated as of June 8, 2011, by and between EchoStar BSS Corporation, EchoStar FSS L.L.C. and U.S. Bank National Association, as successor collateral agent (incorporated by reference to Exhibit 4.1 to Hughes Satellite System Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, filed August 8, 2019, Commission File No. 333-179121).
4.14*	Third Supplemental Indenture relating to Hughes Satellite Systems Corporation's 5.250% Senior Secured Notes due 2026, dated June 12, 2019, by and among Hughes Satellite Systems Corporation, the guarantors and the supplemental guarantors listed on the signature pages thereto, U.S. Bank National Association, as trustee and successor collateral agent (incorporated by reference to Exhibit 4.2 to Hughes Satellite System Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, filed August 8, 2019, Commission File No. 333-179121).
4.15*	Third Supplemental Indenture relating to Hughes Satellite Systems Corporation's 6.625% Senior Notes due 2026, dated as of June 12, 2019, by and among Hughes Satellite Systems Corporation, the guarantors and the supplemental guarantors listed on the signature pages thereto and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.3 to Hughes Satellite System Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, filed August 8, 2019, Commission File No. 333-179121).
10.1*	Form of Tax Sharing Agreement between EchoStar Corporation and DISH Network Corporation (incorporated by reference to Exhibit 10.2 to Amendment No. 1 of EchoStar Corporation's Form 10, filed December 12, 2007, Commission File No. 001-33807).
10.2*	Amended and Restated EchoStar Corporation 2008 Stock Incentive Plan (the "2008 Stock Incentive Plan") (incorporated by reference to EchoStar Corporation's Definitive Proxy Statement on Form 14, filed September 18, 2014, Commission File No. 001-33807).**
10.3*	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of Hughes Communications, Inc., filed June 22, 2006, (Commission File No. 000-51784)). **
10.4*	Form of Restricted Stock Unit Agreement for 2008 Stock Incentive Plan — Executive or Director (incorporated by reference to Exhibit 10.1 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015, filed November 6, 2015, Commission File No. 001-33807).**
10.5*	Form of Stock Option Agreement for 2008 Stock Incentive Plan (1999) (incorporated by reference to Exhibit 10.31 to Hughes Satellite System Corporation's Annual Report on Form 10-K for the year ended December 31, 2015, filed February 24, 2016, Commission File No. 333-179121). **

Exhibit No.	Description
10.6*	Form of Stock Option Agreement for 2008 Stock Incentive Plan — Employee (2008) (incorporated by reference to Exhibit 10.32 to Hughes Satellite System Corporation's Annual Report on Form 10-K for the year ended December 31, 2015, filed February 24, 2016, Commission File No. 333-179121). **
10.7*	Form of Stock Option Agreement for 2008 Stock Incentive Plan — Executive (2008) (incorporated by reference to Exhibit 10.33 to Hughes Satellite System Corporation's Annual Report on Form 10-K for the year ended December 31, 2015, filed February 24, 2016, Commission File No. 333-179121). **
10.8*	Form of Stock Option Agreement for 2008 Stock Incentive Plan — Employee (2014) (incorporated by reference to Exhibit 10.34 to Hughes Satellite System Corporation's Annual Report on Form 10-K for the year ended December 31, 2015, filed February 24, 2016, Commission File No. 333-179121). **
10.9*	Form of Stock Option Agreement for 2008 Stock Incentive Plan — Executive (2014) (incorporated by reference to Exhibit 10.35 to Hughes Satellite System Corporation's Annual Report on Form 10-K for the year ended December 31, 2015, filed February 24, 2016, Commission File No. 333-179121). **
10.10*	Form of Restricted Stock Unit Agreement for 2008 Stock Incentive Plan — Executive or Director (2011) (incorporated by reference to Exhibit 10.36 to Hughes Satellite System Corporation's Annual Report on Form 10-K for the year ended December 31, 2015, filed February 24, 2016, Commission File No. 333-179121).**
10.11*	EchoStar Corporation 2017 Stock Incentive Plan (incorporated by reference to EchoStar Corporation's Definitive Proxy Statement on Form 14, filed March 23, 2017, Commission File No. 001-33807).**
10.12*	Amended and Restated EchoStar Corporation 2017 Employee Stock Purchase Plan (incorporated by reference to EchoStar Corporation's Definitive Proxy Statement on Form 14, filed March 23, 2017, Commission File No. 001-33807).**
10.13*	Amendment No. 1 to EchoStar Corporation 2017 Amended and Restated Employee Stock Purchase Plan dated October 20, 2022 (incorporated by reference to Exhibit 10.5 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, filed November 3, 2022, Commission File No. 001-33807)**
10.14*	EchoStar Non-Qualified Plan -- Executive Plan and Adoption Agreement, as amended (incorporated by reference to Exhibit 10.1 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, filed August 9, 2017, Commission File No. 001-33807).**
10.15*	Form of Stock Option Agreement for the EchoStar Corporation 2017 Stock Incentive Plan - Employee (2017) (incorporated by reference to Exhibit 10.2 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, filed August 9, 2017, Commission File No. 001-33807).**
10.15*	Form of Stock Option Agreement for the EchoStar Corporation 2017 Stock Incentive Plan - Executive (2017) (incorporated by reference to Exhibit 10.3 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, filed August 9, 2017, Commission File No. 001-33807). **
10.17*	Form of Restricted Stock Unit Agreement for the EchoStar Corporation 2017 Stock Incentive Plan - Executive (2017) (incorporated by reference to Exhibit 10.5 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, filed August 9, 2017, Commission File No. 001-33807).**
10.18*	Form of Stock Option Agreement for the EchoStar Corporation 2017 Stock Incentive Plan — Employee (2022) (incorporated by reference to Exhibit 10.1 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, filed November 3, 2022, Commission File No. 001-33807)**
10.19*	Form of Stock Option Agreement for the EchoStar Corporation 2017 Stock Incentive Plan — Executive (2022) (incorporated by reference to Exhibit 10.2 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, filed November 3, 2022, Commission File No. 001-33807) **

Exhibit No.	Description
10.20*	Form of Non-Employee Director Stock Option Agreement for the EchoStar Corporation 2017 Non-Employee Director Stock Incentive Plan (2022) (incorporated by reference to Exhibit 10.3 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, filed November 3, 2022, Commission File No. 001-33807)**
10.21*	Form of Restricted Stock Unit Agreement for the EchoStar Corporation 2017 Stock Incentive Plan — Executive (2022) (incorporated by reference to Exhibit 10.4 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, filed November 3, 2022, Commission File No. 001-33807) **
10.22*	Offer Letter to Hamid Akhavan (incorporated by reference to Exhibit 10.1 to EchoStar Corporation's Current Report on Form 8-K filed February 22, 2022, Commission File No. 001-33807)**
10.23*	Form of Stock Option Agreement for Hamid Akhavan (incorporated by reference to Exhibit 10.2 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2022, filed May 5, 2022, Commission File No. 001-33807)**
10.24*	Form of Restricted Stock Unit Agreement for Hamid Akhavan (incorporated by reference to Exhibit 10.3 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2022, filed May 5, 2022, Commission File No. 001-33807)**
10.25*	Letter Agreement between EchoStar Corporation and DISH Network Corporation, dated August 3, 2018, amending that certain Form of Tax Sharing Agreement between EchoStar Corporation and DISH Network (incorporated by reference to Exhibit 10.1 to Hughes Satellite System Corporation's Quarterly Report on Form 10-Q for the quarter ended September 2018, filed November 8, 2018, Commission File No. 333-179121).
10.26*	Amendment to EchoStar Non-Qualified Plan-Executive Plan and Adoption Agreement, dated November 1, 2018 (incorporated by reference to Exhibit 10.30 to Hughes Satellite Systems Corporation's Annual Report on Form 10-K for the Year ended December 31, 2018, filed February 21, 2019, Commission File No. 333-179121).**
10.27*	Amended and Restated EchoStar Corporation Executive Officer Bonus Incentive Plan, dated as of April 30, 2019 (incorporated by reference to Exhibit 10.1 to Hughes Satellite Systems Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, filed August 8, 2019, Commission File No. 333-179121).**
10.28*	Amendment to EchoStar Non-Qualified Plan – Executive Plan and Adoption Agreement, dated October 21, 2019 (incorporated by reference to Exhibit 10.1 to EchoStar Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, filed November 5, 2020, Commission File No. 333-179121). **
10.29*	Amendment No. 1 to EchoStar Corporation 2017 Non-Employee Director Stock Incentive Plan (incorporated by reference to EchoStar Corporation's Definitive Proxy Statement on Schedule 14A, filed March 17, 2021, Commission File No. 001-33807). **
10.30*	Second Amended and Restated EchoStar Corporation Executive Officer Bonus Incentive Plan, dated as of November 2, 2021. **
31.1 (H)	Section 302 Certification of Chief Executive Officer and Principal Financial Officer
32.1 (H)	Section 906 Certification of Chief Executive Officer and Principal Financial Officer.
99.1 (I)	Press release dated February 22, 2023 issued by EchoStar Corporation regarding financial results for the quarter and full year ended December 31, 2022.
101.INS	XBRL Instance Document. The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	XBRL Taxonomy Extension Schema.

Exhibit No.	Description
101.CAL	XBRL Taxonomy Extension Calculation Linkbase.
101.DEF	XBRL Taxonomy Extension Definition Linkbase.
101.LAB	XBRL Taxonomy Extension Label Linkbase.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase.

(H) Filed herewith.
(I) Furnished herewith.
* Incorporated by reference.
** Constitutes a management contract or compensatory plan or arrangement.
*** Certain portions of the exhibit have been omitted in accordance with the Securities and Exchange Commission’s rules and regulations regarding confidential treatment.
**** Schedules and exhibits have been omitted pursuant to Item 601(a)(5) of Regulation S-K. We agree to furnish supplementally to the Securities and Exchange Commission a copy of any omitted schedule or exhibit upon request, subject to our right to request confidential treatment of any requested schedule or exhibit.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

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

HUGHES SATELLITE SYSTEMS CORPORATION

By: */s/ Hamid Akhavan*
Hamid Akhavan
Chief Executive Officer and President
(Principal Executive Officer and Principal Financial Officer)

Date: February 22, 2023

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

Signature	Title	Date
/s/ Hamid Akhavan Hamid Akhavan	Chief Executive Officer, President and Director *(Principal Executive Officer and Principal Financial Officer)*	February 22, 2023
/s/ Jeffrey S. Boggs Jeffrey S. Boggs	Interim Principal Accounting Officer	February 22, 2023
/s/ *Charles W. Ergen* Charles W. Ergen	Chairman	February 22, 2023
/s/ *Dean A. Manson* Dean A. Manson	Executive Vice President, General Counsel Secretary and Director	February 22, 2023

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Report of Independent Registered Public Accounting Firm

To the Shareholder and the Board of Directors
Hughes Satellite Systems Corporation:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Hughes Satellite Systems Corporation and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income (loss), changes in stockholder's equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

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

Sufficiency of audit evidence over certain Hughes segment revenue

As discussed in Note 2 and Note 3 to the consolidated financial statements, the Company reported $1,966,587,000 in total revenue for the Hughes segment for the year ended December 31, 2022, of which $1,592,438,000 and $374,149,000 was related to total services and other revenue and certain equipment related revenue, respectively. The Hughes segment provides broadband satellite technologies and broadband internet services to consumer customers, and broadband network technologies, managed services, equipment, hardware, satellite services, and communications solutions to consumer and enterprise customers.

We identified the evaluation of the sufficiency of audit evidence over certain Hughes segment revenue as a critical audit matter. Specifically, a high degree of auditor judgment was required to evaluate the nature and extent of audit evidence obtained related to the total services and other revenue and certain equipment related revenue of the Hughes segment. IT professionals with specialized skills and knowledge were required to assess the multiple information technology (IT) applications, data interfaces, and procedures used to initiate, process, and record transactions.

The following are the primary procedures we performed to address this critical audit matter. We applied auditor judgment to determine the nature and extent of procedures to be performed. We evaluated the design and tested the operating effectiveness of internal controls, including controls related to the multiple IT applications, data interfaces, and procedures used to initiate, process, and record transactions. We assessed the recorded amounts by sampling transactions and comparing the amounts recognized for consistency with underlying documentation, including contracts or payment and transaction support. We involved IT professionals with specialized skills and knowledge, who assisted in testing IT applications used by the Company in its revenue recognition process, and configuration and interface controls over the transfer of relevant data between systems used in the revenue recognition processes. We evaluated the sufficiency of audit evidence obtained by assessing the results of the procedures performed, including the appropriateness of the nature and extent of such evidence.

/s/ KPMG LLP

We have served as the Company’s auditor since 2011.

Denver, Colorado
February 22, 2023

HUGHES SATELLITE SYSTEMS CORPORATION
CONSOLIDATED BALANCE SHEETS
(Amounts in thousands, except share and per share amounts)

	As of December 31,	
	2022	2021
Assets		
Current assets:		
Cash and cash equivalents	$ 653,132	$ 429,168
Marketable investment securities	799,769	854,502
Trade accounts receivable and contract assets, net	236,336	182,063
Other current assets, net	275,202	276,844
Total current assets	1,964,439	1,742,577
Non-current assets:		
Property and equipment, net	1,376,004	1,523,447
Operating lease right-of-use assets	150,632	148,221
Goodwill	532,491	511,086
Regulatory authorizations, net	408,619	408,959
Other intangible assets, net	15,698	13,984
Other investments, net	83,523	91,226
Other non-current assets, net	285,877	302,840
Total non-current assets	2,852,844	2,999,763
Total assets	$ 4,817,283	$ 4,742,340
Liabilities and Shareholder's Equity		
Current liabilities:		
Trade accounts payable	$ 98,229	$ 105,477
Contract liabilities	121,739	141,343
Accrued expenses and other current liabilities	393,899	308,879
Total current liabilities	613,867	555,699
Non-current liabilities:		
Long-term debt, net	1,496,777	1,495,994
Deferred tax liabilities, net	289,757	334,406
Operating lease liabilities	135,122	134,001
Other non-current liabilities	133,897	153,251
Total non-current liabilities	2,055,553	2,117,652
Total liabilities	2,669,420	2,673,351
Commitments and contingencies		

The accompanying notes are an integral part of these Consolidated Financial Statements.

HUGHES SATELLITE SYSTEMS CORPORATION
CONSOLIDATED BALANCE SHEETS
(Amounts in thousands, except share and per share amounts)

Shareholder's equity:		
Preferred stock, $0.001 par value,1,000,000 shares authorized, none issued and outstanding at both December 31, 2022 and 2021	—	—
Common stock, $0.01 par value, 1,000,000 shares authorized, 1,078 shares issued and outstanding at both December 31, 2022 and 2021	—	—
Additional paid-in capital	1,479,857	1,489,776
Accumulated other comprehensive income (loss)	(170,184)	(173,381)
Accumulated earnings (losses)	741,754	692,341
Total Hughes Satellite Systems Corporation shareholder's equity	2,051,427	2,008,736
Non-controlling interests	96,436	60,253
Total shareholder's equity	2,147,863	2,068,989
Total liabilities and shareholder's equity	$ 4,817,283	$ 4,742,340

The accompanying notes are an integral part of these Consolidated Financial Statements.

HUGHES SATELLITE SYSTEMS CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
(Amounts in thousands)

	For the years ended December 31,		
	2022	2021	2020
Revenue:			
Services and other revenue	$ 1,629,194	$ 1,724,299	$ 1,691,757
Equipment revenue	374,149	270,427	205,601
Total revenue	2,003,343	1,994,726	1,897,358
Costs and expenses:			
Cost of sales - services and other (exclusive of depreciation and amortization)	562,849	544,915	572,637
Cost of sales - equipment (exclusive of depreciation and amortization)	292,290	231,960	166,429
Selling, general and administrative expenses	429,877	422,235	433,408
Research and development expenses	32,810	31,777	29,448
Depreciation and amortization	431,065	464,146	498,876
Impairment of long-lived assets	—	210	—
Total costs and expenses	1,748,891	1,695,243	1,700,798
Operating income (loss)	254,452	299,483	196,560
Other income (expense):			
Interest income, net	30,812	8,146	18,802
Interest expense, net of amounts capitalized	(92,386)	(126,499)	(172,466)
Gains (losses) on investments, net	245	2,103	(232)
Equity in earnings (losses) of unconsolidated affiliates, net	(5,703)	(5,347)	(6,116)
Foreign currency transaction gains (losses), net	6,016	(11,494)	3,427
Other, net	(85)	1,336	(286)
Total other income (expense), net	(61,101)	(131,755)	(156,871)
Income (loss) before income taxes	193,351	167,728	39,689
Income tax benefit (provision), net	(54,441)	(57,111)	(42,118)
Net income (loss)	138,910	110,617	(2,429)
Less: Net loss (income) attributable to non-controlling interests	10,503	10,154	11,754
Net income (loss) attributable to HSSC	$ 149,413	$ 120,771	$ 9,325

The accompanying notes are an integral part of these Consolidated Financial Statements.

HUGHES SATELLITE SYSTEMS CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Amounts in thousands)

	For the years ended December 31,		
	2022	2021	2020
Net income (loss)	$ 138,910	$ 110,617	$ (2,429)
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	5,475	(31,317)	(77,646)
Unrealized gains (losses) on available-for-sale securities	(553)	490	(192)
Other	—	(98)	(4)
Amounts reclassified to net income (loss):			
Realized losses (gains) on available-for-sale debt securities	(17)	(5)	(1)
Total other comprehensive income (loss), net of tax	4,905	(30,930)	(77,843)
Comprehensive income (loss)	143,815	79,687	(80,272)
Less: Comprehensive loss (income) attributable to non-controlling interests	8,795	14,543	27,392
Comprehensive income (loss) attributable to HSSC	$ 152,610	$ 94,230	$ (52,880)

The accompanying notes are an integral part of these Consolidated Financial Statements.

HUGHES SATELLITE SYSTEMS CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDER'S EQUITY
(Amounts in thousands)

	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Earnings (Losses)	Non-controlling Interests	Total
Balance, December 31, 2019	$ 1,478,636	$ (84,636)	$ 664,415	$ 75,748	$ 2,134,163
Cumulative effect of accounting changes	—	—	(2,169)	(240)	(2,409)
Balance, January 1, 2020	1,478,636	(84,636)	662,246	75,508	2,131,754
Stock-based compensation	3,883	—	—	—	3,883
Issuance of equity and contribution of assets pursuant to the Yahsat JV formation	4,338	—	—	(1,580)	2,758
Contribution by non-controlling interest holder	—	—	—	18,241	18,241
Other comprehensive income (loss)	—	(62,204)	—	(15,630)	(77,834)
Net income (loss)	—	—	9,325	(11,754)	(2,429)
Other, net	(127)	—	(1)	131	3
Balance, December 31, 2020	1,486,730	(146,840)	671,570	64,916	2,076,376
Stock-based compensation	3,046	—	—	—	3,046
Contribution by non-controlling interest holder	—	—	—	9,880	9,880
Dividend paid to EchoStar	—	—	(100,000)	—	(100,000)
Other comprehensive income (loss)	—	(26,541)	—	(4,389)	(30,930)
Net income (loss)	—	—	120,771	(10,154)	110,617
Balance, December 31, 2021	1,489,776	(173,381)	692,341	60,253	2,068,989
Stock-based compensation	4,318	—	—	—	4,318
Issuance of equity and contribution of assets pursuant to the India JV formation	(14,237)	—	—	44,540	30,303
Dividend paid to EchoStar	—	—	(100,000)	—	(100,000)
Other comprehensive income (loss)	—	3,197	—	1,708	4,905
Net income (loss)	—	—	149,413	(10,503)	138,910
Other, net	—	—	—	438	438
Balance, December 31, 2022	$ 1,479,857	$ (170,184)	$ 741,754	$ 96,436	$ 2,147,863

The accompanying notes are an integral part of these Consolidated Financial Statements.

HUGHES SATELLITE SYSTEMS CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in thousands)

	For the years ended December 31,		
	2022	2021	2020
Cash flows from operating activities:			
Net income (loss)	$ 138,910	$ 110,617	$ (2,429)
Adjustments to reconcile net income (loss) to cash flows provided by (used for) operating activities:			
Depreciation and amortization	431,065	464,146	498,876
Impairment of long-lived assets	—	210	—
Losses (gains) on investments, net	(245)	(2,103)	232
Equity in losses (earnings) of unconsolidated affiliates, net	5,703	5,347	6,116
Foreign currency transaction losses (gains), net	(6,016)	11,494	(3,427)
Deferred tax provision (benefit), net	(48,875)	(38,276)	(4,261)
Stock-based compensation	4,318	3,046	5,167
Amortization of debt issuance costs	783	2,381	4,324
Other, net	8,015	21,082	2,007
Changes in assets and liabilities, net:			
Trade accounts receivable and contract assets, net	(50,670)	(2,342)	(2,755)
Other current assets, net	3,513	9,446	6,040
Trade accounts payable	511	(13,659)	(7,071)
Contract liabilities	(19,604)	36,774	3,509
Accrued expenses and other current liabilities	89,961	(17,383)	73,746
Non-current assets and non-current liabilities, net	(18,517)	71,531	(51,734)
Net cash provided by (used for) operating activities	538,852	662,311	528,340
Cash flows from investing activities:			
Purchases of marketable investment securities	(986,736)	(1,517,849)	(2,035,712)
Sales and maturities of marketable investment securities	1,045,950	1,864,186	1,482,704
Expenditures for property and equipment	(239,403)	(296,303)	(355,238)
Expenditures for externally marketed software	(23,105)	(33,543)	(38,655)
Sales of other investments	—	9,451	—
India JV formation	(7,892)	—	—
Dividend received from unconsolidated affiliate	2,000	—	—
Net cash provided by (used for) investing activities	(209,186)	25,942	(946,901)

HUGHES SATELLITE SYSTEMS CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in thousands)

Cash flows from financing activities:			
Repurchase and maturity of the 2021 Senior Unsecured Notes	—	(901,818)	—
Payment of finance lease obligations	(120)	(670)	(811)
Payment of in-orbit incentive obligations	(2,988)	(2,214)	(1,554)
Contribution by non-controlling interest holder	—	9,880	18,241
Dividend paid to EchoStar	(100,000)	(100,000)	—
Other, net	—	(966)	998
Net cash provided by (used for) financing activities	(103,108)	(995,788)	16,874
Effect of exchange rates on cash and cash equivalents	(2,233)	(3,614)	2,662
Net increase (decrease) in cash and cash equivalents	224,325	(311,149)	(399,025)
Cash and cash equivalents, including restricted amounts, beginning of period	430,148	741,297	1,140,322
Cash and cash equivalents, including restricted amounts, end of period	$ 654,473	$ 430,148	$ 741,297

The accompanying notes are an integral part of these Consolidated Financial Statements.

NOTE 1. ORGANIZATION AND BUSINESS ACTIVITIES

Principal Business

Hughes Satellite Systems Corporation (which, together with its subsidiaries, is referred to as "HSSC," the "Company," "we," "us" and "our") is a holding company and a subsidiary of EchoStar Corporation ("EchoStar" and "parent"). We are an industry leader in both networking technologies and services, innovating to deliver the global solutions that power a connected future for people, enterprises and things everywhere. We provide internet services to consumer customers, which include home and small to medium-sized businesses, and satellite and multi-transport technologies and managed network services to enterprise customers, telecommunications providers, aeronautical service providers and government entities, including the U.S. Department of Defense. We operate in the following two business segments:

- ***Hughes segment*** — which provides broadband satellite technologies and broadband internet products and services to consumer customers. We provide broadband network technologies, managed services, equipment, hardware, satellite services and communications solutions to government and enterprise customers. We also design, provide and install gateway and terminal equipment to customers for other satellite systems. In addition, we design, develop, construct and provide telecommunication networks comprising satellite ground segment systems and terminals to mobile system operators and our enterprise customers.
- ***Echostar Satellite Services segment ("ESS segment")*** — which provides satellite services on a full-time and/or occasional-use basis to U.S. government service providers, internet service providers, broadcast news organizations, content providers and private enterprise customers. We operate our ESS business using primarily the EchoStar IX satellite and the EchoStar 105/SES-11 satellite and related infrastructure. Revenue in our ESS segment depends largely on our ability to continuously make use of our available satellite capacity with existing customers and our ability to enter into commercial relationships with new customers.

Our operations also include various corporate functions (primarily Executive, Treasury, Strategic Development, Human Resources, Information Technology, Finance, Accounting, Real Estate and Legal) and other activities, such as costs incurred in certain satellite development programs and other business development activities, and gains or losses from certain of our investments, that have not been assigned to our business segments. These activities, costs and income, as well as eliminations of intersegment transactions, are accounted for in Corporate and Other segment in our segment reporting. We also divide our operations by primary geographic market as follows: (i) North America (the U.S. and its territories, Mexico, and Canada); (ii) South and Central America and (iii) Other (Asia, Africa, Australia, Europe, India, and the Middle East). Refer *to Note 20. Segment Reporting* for further detail.

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation and Basis of Presentation

These Consolidated Financial Statements and the accompanying notes (collectively, the "Consolidated Financial Statements") are prepared in conformity with U.S. generally accepted accounting principles ("GAAP"). We consolidate all entities in which we have a controlling financial interest. We are deemed to have a controlling financial interest in variable interest entities in which we are the primary beneficiary and in other entities in which we own more than 50% of the outstanding voting shares and other shareholders do not have substantive rights to participate in management. For entities we control but do not wholly own, we record a non-controlling interest within shareholder's equity for the portion of the entity's equity attributed to the non-controlling ownership interests. All significant intercompany balances and transactions have been eliminated in consolidation.

All amounts presented in these Consolidated Financial Statements are expressed in thousands of U.S. dollars, except share and per share amounts and unless otherwise noted.

Use of Estimates

We are required to make certain estimates and assumptions that affect the amounts reported in these Consolidated Financial Statements. The most significant estimates and assumptions are used in determining: (i) inputs used to recognize revenue over time, including amortization periods for deferred contract acquisition costs; (ii) allowances for doubtful accounts; (iii) deferred taxes and related valuation allowances, including uncertain tax positions; (iv) loss contingencies; (v) fair value of financial instruments; (vi) fair value of assets and liabilities acquired in business combinations; and (vii) assets and goodwill impairment testing.

We base our estimates and assumptions on historical experience, observable market inputs and on various other factors that we believe to be relevant under the circumstances. Due to the inherent uncertainty involved in making estimates, actual results may differ from previously estimated amounts and such differences may be material to our financial statements. Additionally, changing economic conditions may increase the inherent uncertainty in the estimates and assumptions indicated above. We review our estimates and assumptions periodically and the effects of revisions thereto are reflected in the period they occur or prospectively if the revised estimate affects future periods.

Fair Value Measurements

We determine fair value based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. Market or observable inputs are the preferred source of values, followed by unobservable inputs or assumptions based on hypothetical transactions in the absence of market inputs. We utilize the highest level of inputs available according to the following hierarchy in determining fair value:

- Level 1 - Defined as observable inputs being quoted prices in active markets for identical assets;
- Level 2 - Defined as observable inputs other than quoted prices included in Level 1, including quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar instruments in markets that are not active and model-derived valuations in which significant inputs and significant value drivers are observable in active markets; and
- Level 3 - Defined as unobservable inputs for which little or no market data exists, consistent with characteristics of the asset or liability that would be considered by market participants in a transaction to purchase or sell the asset or liability.

Fair values of our marketable investment securities are measured on a recurring basis based on a variety of observable market inputs. For our investments in publicly traded equity securities and U.S. government securities, fair value ordinarily is determined based on Level 1 measurements that reflect quoted prices for identical securities in active markets. Fair values of our investments in other marketable debt securities are generally based on Level 2 measurements as the markets for such debt securities are less active. We consider trades of identical debt securities on or near the measurement date as a strong indication of fair value and matrix pricing techniques that consider par value, coupon rate, credit quality, maturity and other relevant features may also be used to determine fair value of our investments in marketable debt securities. Fair values for our outstanding debt are based on quoted market prices in less active markets and are categorized as Level 2 measurements. Additionally, we use fair value measurements from time to time in connection with other investments, asset impairment testing and the assignment of purchase consideration to assets and liabilities of acquired companies. Those fair value measurements typically include significant unobservable inputs and are categorized within Level 3 of the fair value hierarchy.

Transfers between levels in the fair value hierarchy are considered to occur at the beginning of the quarterly accounting period. There were no transfers between levels during the years ended December 31, 2022 and 2021.

As of December 31, 2022 and 2021, the carrying amounts of our cash and cash equivalents, trade accounts receivable and contract assets, net, trade accounts payable, and accrued expenses and other current liabilities were equal to or approximated their fair value due to their short-term nature or proximity to current market rates.

Revenue Recognition

Overview

Revenue is recognized upon transfer of control of the promised goods or our performance of the services to our customers in an amount that reflects the consideration we expect to receive in exchange for those goods or services. We enter into contracts that may include various combinations of products and services, which are generally distinct and accounted for as separate performance obligations.

We also recognize lease revenue which is derived from leases of property and equipment which, for operating leases, is reported in *Services and other revenue* in the Consolidated Statements of Operations and, for sales-type leases, is reported in *Equipment revenue* in the Consolidated Statements of Operations. Certain of our customer contracts contain embedded equipment leases, which we separate from non-lease components of the contract based on the relative standalone selling prices of the lease and non-lease components.

Hughes Segment

Our Hughes segment service contracts typically obligate us to provide substantially the same services on a recurring basis in exchange for fixed recurring fees over the term of the contract. We satisfy such performance obligations over time and recognize revenue ratably as services are rendered over the service period. Certain of our contracts with service obligations provide for fees based on usage, capacity or volume. We satisfy these performance obligations and recognize the related revenue at the point in time, or over the period, when the services are rendered. Our Hughes segment also sells and leases communications equipment to its customers. Revenue from equipment sales generally is recognized based upon shipment terms. Our equipment sales contracts typically include standard product warranties, but generally do not provide for returns or refunds. Revenue for extended warranties is recognized ratably over the extended warranty period. For contracts with multiple performance obligations, we typically allocate the contract's transaction price to each performance obligation based on their relative standalone selling prices. When the standalone selling price is not observable, our primary method used to estimate standalone selling price is the expected cost plus a margin. Our contracts generally require customer payments to be made at or shortly after the time we transfer control of goods or perform the services.

In addition to equipment and service offerings, our Hughes segment also enters into long-term contracts to design, develop, construct and install complex telecommunication networks for mobile system operators and enterprise customers. Revenue from such contracts is generally recognized over time as a measure of progress that depicts the transfer of control of the goods or services to the customer. Depending on the nature of the arrangement, we measure progress toward contract completion using an appropriate input method or output method. Under the input method, we recognize the transaction price as revenue based on the ratio of costs incurred to estimated total costs at completion. Under the output method, revenue and cost of sales are recognized as products are delivered based on the expected profit for the entire agreement. Profit margins on long-term contracts generally are based on estimates of revenue and costs at completion. We review and revise our estimates periodically and recognize related adjustments in the period in which the revisions are made. Estimated losses on contracts are recorded in the period in which they are identified. We generally receive interim payments as work progresses, although for some contracts, we may be entitled to receive an advance payment.

ESS Segment

Generally, our ESS segment service contracts with customers contain a single performance obligation and, therefore, there is no need to allocate the transaction price. We transfer control and recognize revenue for satellite services at the point in time or over the period when the services are rendered.

Lease Revenue

We lease satellite capacity, communications equipment and real estate to certain of our customers. We identify and determine the classification of such leases as operating leases or sales-type leases. A lease is classified as a sales-type lease if it meets the criteria for a finance lease; otherwise it is classified as an operating lease. Some of our leases are embedded in contracts with customers that include non-lease performance obligations. For such contracts, except where we have elected otherwise, we allocate consideration in the contract between lease and non-lease components based on their relative standalone selling prices. We elected an accounting policy to not separate the lease of equipment from related services in our HughesNet satellite internet service (the “HughesNet service”) contracts with customers and account for all revenue from such contracts as non-lease service revenue. Assets subject to operating leases remain in *Property and equipment, net* and continue to be depreciated. Assets subject to sales-type leases are derecognized from *Property and equipment, net* at lease commencement and a net investment in the lease asset is recognized in *Trade accounts receivable and contract assets, net* and *Other non-current assets, net*.

Operating lease revenue is generally recognized on a straight-line basis over the lease term. Sales-type lease revenue and a corresponding receivable generally are recognized at lease commencement based on the present value of the future lease payments and related interest income on the receivable is recognized over the lease term. Payments under sales-type leases are discounted using the interest rate implicit in the lease or our incremental borrowing rate if the interest rate implicit in the lease cannot be reasonably determined. We report revenue from sales-type leases at the commencement date in *Equipment revenue* and periodic interest income in *Services and other revenue.* We report operating lease revenue in *Services and other revenue*.

Other

Sales and Value Added Taxes, Universal Service Fees and other taxes that we collect concurrent with revenue producing activities are excluded from revenue and included in *Accrued expenses and other current liabilities* in the Consolidated Balance Sheets.

Shipping and handling costs associated with outbound freight are accounted for as a fulfillment cost after control over a product has transferred to the customer and are included in *Cost of sales - equipment* in the Consolidated Statements of Operations at the time of shipment.

Cost of Sales - Services and Other

Cost of sales - services and other in the Consolidated Statements of Operations primarily consists of costs of satellite capacity and services, hub infrastructure, customer care, wireline and wireless capacity and direct labor costs associated with the services provided and is generally charged to expense as incurred.

Cost of Sales - Equipment

Cost of sales - equipment in the Consolidated Statements of Operations primarily consists of inventory costs, including freight and royalties, and is generally recognized at the point in time control of the equipment is passed to the customer and related revenue is recognized.

Additionally, customer-related research and development costs are incurred in connection with the specific requirements of a customer’s order; in such instances, the amounts for these customer funded development efforts are also included in *Cost of sales - equipment* in the Consolidated Statements of Operations.

Stock-based Compensation Expense

Stock-based compensation expense is recognized based on the fair value of stock awards ultimately expected to vest. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Compensation expense for awards with service conditions only is recognized on a straight-line basis over the requisite service period for the entire award. Compensation expense for awards subject to performance conditions is recognized only when satisfaction of the performance condition is probable.

Advertising Costs

Advertising costs are expensed as incurred and are included in *Selling, general and administrative expenses* in the Consolidated Statements of Operations.

Research and Development

Research and development costs, not incurred in connection with customer requirements, are generally expensed when incurred.

Debt Issuance Costs

Costs of issuing debt generally are deferred and amortized utilizing the effective interest method, with amortization included in *Interest expense, net of amounts capitalized* in the Consolidated Statements of Operations. We report unamortized debt issuance costs as a reduction of the related long-term debt in the Consolidated Balance Sheets.

Foreign Currency

The functional currency for certain of our foreign operations is determined to be the local currency. Accordingly, we translate assets and liabilities of these foreign entities from their local currencies to U.S. dollars using period-end exchange rates and translate income and expense accounts at monthly average rates. The resulting translation adjustments are reported as *Foreign currency translation adjustments* in the Consolidated Statements of Comprehensive Income (Loss). Except in certain uncommon circumstances, we have not recorded deferred income taxes related to our foreign currency translation adjustments.

Gains and losses resulting from the re-measurement of transactions denominated in foreign currencies are recognized in *Foreign currency transaction gains (losses), net* in the Consolidated Statements of Operations.

Income Taxes

We are included in the consolidated federal income tax return of EchoStar. We recognize a provision or benefit for income taxes currently payable or receivable and for income tax amounts deferred to future periods based upon a separate return allocation method which results in income tax expense that approximates the expense that would result if we were a stand-alone entity. Deferred tax assets and liabilities reflect the effects of tax losses, credits, and the future income tax effects of temporary differences between GAAP carrying amounts of existing assets and liabilities and their respective tax bases and are measured using enacted tax rates that apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Deferred tax assets are offset by valuation allowances when we determine it is more likely than not that such deferred tax assets will not be realized in the foreseeable future. We determine deferred tax assets and liabilities separately for each taxing jurisdiction and report the net amount for each jurisdiction as a non-current asset or liability in the Consolidated Balance Sheets.

From time to time, we engage in transactions where the income tax consequences are uncertain. We recognize tax benefits when, in management's judgment, a tax filing position is more likely than not to be sustained if challenged by the tax authorities. For tax positions that meet the more-likely-than-not threshold, we may not recognize a portion of a tax benefit depending on management's assessment of how the tax position will ultimately be settled. Unrecognized tax benefits generally are netted against the deferred tax assets associated with our net operating loss and tax credit carryforwards. We adjust our estimates periodically based on ongoing examinations by, and settlements with, various taxing authorities, as well as changes in tax laws, regulations and precedent. Estimates of our uncertain tax positions are made based upon prior experience and are updated in light of changes in facts and circumstances. However, due to the uncertain and complex application of tax regulations, it is possible that the ultimate resolution of audits may result in liabilities which could be materially different from these estimates. In such an event, we will record additional income tax provision or benefit in the period in which such resolution occurs. We classify interest and penalties, if any, associated with our unrecognized tax benefits as a component of income tax provision or benefit.

Lessee Accounting

At the inception of a contract, we assess whether the contract is, or contains, a lease. The assessment is based on (i) whether the contract involves the use of a distinct identified asset, (ii) whether we obtain the right to substantially all the economic benefit from the use of the asset throughout the period, and (iii) whether we have the right to direct the use of the asset. Our operating leases consist primarily of leases for office space, data centers and satellite-related ground infrastructure.

A lease is classified as a finance lease when one or more of the following criteria are met: (i) the lease transfers ownership of the asset by the end of the lease term, (ii) the lease contains an option to purchase the asset that is reasonably certain to be exercised, (iii) the lease term is for a major part of the remaining useful life of the asset, (iv) the present value of the lease payments equals or exceeds substantially all of the fair value of the asset or (v) the asset is of a specialized nature and there is not expected to be an alternative use to the lessor at the end of the lease term. A lease is classified as an operating lease if it does not meet any of these criteria. Our finance leases consist primarily of leases for satellite capacity.

All significant lease arrangements are generally recognized at lease commencement. Operating lease right-of-use (“ROU”) assets and lease liabilities are recognized at commencement. An ROU asset and corresponding lease liability are not recorded for leases with an initial term of 12 months or less (short-term leases), and we recognize lease expense for these leases as incurred over the lease term. ROU assets represent our right to use an underlying asset during the reasonably certain lease term, and lease liabilities represent our obligation to make lease payments arising from the lease. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option.

The ROU asset is initially measured at cost, which primarily comprises the initial amount of the lease liability, plus any prepayments to the lessor and initial direct costs such as brokerage commissions, less any lease incentives received. The lease liability is initially measured at the present value of the minimum lease payments, discounted using an estimate of our incremental borrowing rate for a collateralized loan with the same term as the underlying lease. The incremental borrowing rates used for the initial measurement of lease liabilities are based on the original lease terms. In determining our incremental borrowing rate, we consider the lease term, secured incremental borrowing rate, and for leases denominated in a currency different than U.S. dollar, the collateralized borrowing rate in the foreign currency using the U.S. dollar and foreign currency swap spread, when available.

We report operating lease ROU assets in *Operating lease right-of-use assets* and operating lease liabilities in *Accrued expenses and other current liabilities* and *Operating lease liabilities*. We report finance lease ROU assets in *Property and equipment, net* and finance lease liabilities in *Current portion of long-term debt, net* and *Long-term debt, net*.

Other Comprehensive Income (Loss)

The amounts reclassified to net income (loss) related to unrealized gain (loss) on available-for-sale securities are included in Gains (losses) on investments, net in the Consolidated Statements of Operations.

Cash and Cash Equivalents

We consider all liquid investments purchased with an original maturity of less than 90 days to be cash equivalents. Cash equivalents as of December 31, 2022 and 2021 primarily consisted of commercial paper, government bonds, corporate notes and money market funds. The amortized cost of these investments approximates their fair value.

Marketable Investment Securities

Debt Securities

Our corporate bond portfolio includes debt instruments issued by individual corporations, primarily in the industrial and financial services industries. Our commercial paper portfolio includes instruments issued by individual corporations, primarily in the industrial, financial services and utilities industries. Our other debt securities portfolio includes investments in various debt instruments, including U.S. government bonds and mutual funds. We consider all liquid investments purchased with an original maturity of 90 days or less to be cash equivalents.

We account for our debt securities as available-for-sale or using the fair value option based on our investment strategy for the securities. For available-for-sale debt securities, we recognize periodic changes in the difference between fair value and amortized cost in *Unrealized gains (losses) on available-for-sale securities* in the Consolidated Statements of Comprehensive Income (Loss). Gains and losses realized upon sales of available-for-sale debt securities are reclassified from other comprehensive income (loss) and recognized on the trade date in *Gains (losses) on investments, net* in the Consolidated Statements of Operations. We use the first-in, first-out ("FIFO") method to determine the cost basis on sales of available-for-sale debt securities. Interest income from available-for-sale debt securities is reported in *Interest income, net* in the Consolidated Statements of Operations.

We periodically evaluate our available-for-sale debt securities portfolio to determine whether any declines in the fair value of these securities are other-than-temporary. Our evaluation considers, among other things, (i) the length of time and extent to which the fair value of such security has been lower than amortized cost, (ii) market and company-specific factors related to the security and (iii) our intent and ability to hold the investment to maturity or when it recovers its value. We generally consider a decline to be other-than-temporary when (i) we intend to sell the security, (ii) it is more likely than not that we will be required to sell the security before maturity or when it recovers its value or (iii) we do not expect to recover the amortized cost of the security at maturity. Declines in the fair value of available-for-sale debt securities that are determined to be other-than-temporary are reclassified from other comprehensive income (loss) and recognized in *Net income (loss)* in the Consolidated Statements of Operations, thus establishing a new cost basis for the investment.

From time to time we make strategic investments in marketable corporate debt securities. Generally, we elect to account for these debt securities using the fair value option because it results in consistency in accounting for unrealized gains and losses for all securities in our portfolio of strategic investments. When we elect the fair value option for investments in debt securities, we recognize periodic changes in fair value of these securities in *Gains (losses) on investments, net* in the Consolidated Statements of Operations. Interest income from these securities is reported in *Interest income, net* in the Consolidated Statements of Operations.

Equity Securities

We account for our equity securities with readily determinable fair values at fair value and recognize periodic changes in the fair value in *Gains (losses) on investments, net* in the Consolidated Statements of Operations. We recognize dividend income on equity securities on the ex-dividend date and report such income in *Other, net* in the Consolidated Statements of Operations.

Restricted Marketable Investment Securities

Restricted marketable investment securities that are pledged as collateral for our letters of credit and surety bonds are included in *Other non-current assets, net* in the Consolidated Balance Sheets. Restricted marketable securities are accounted for in the same manner as marketable securities that are not restricted, but are presented differently in the Consolidated Balance Sheets due to the restrictions.

Trade Accounts Receivable

Trade accounts receivable includes amounts billed and currently due from customers and represents our unconditional rights to consideration arising from our performance under our customer contracts. Trade accounts receivable also includes amounts due from customers under our leasing arrangements. We make ongoing estimates relating to the collectability of our trade accounts receivable and maintain an allowance for estimated losses resulting from the inability of our customers to make the required payments. In determining the amount of the allowance, we consider historical levels of credit losses and make judgments about the creditworthiness of our customers based on ongoing credit evaluations. Past due trade accounts receivable balances are written off when our internal collection efforts have been unsuccessful. Bad debt expense related to our trade accounts receivable and other contract assets is included in *Selling, general and administrative expenses* in the Consolidated Statements of Operations.

Contract Assets

Contract assets represent revenue that we have recognized in advance of billing the customer and are included in *Trade accounts receivable and contract assets, net* or *Other non-current assets, net* in the Consolidated Balance Sheets based on the expected timing of customer payment. Our contract assets typically relate to our long-term contracts where we recognize revenue using the cost-based input method and the revenue recognized exceeds the amount billed to the customer. Our contract assets also include receivables related to sales-type leases recognized over the lease term as the customer is billed.

Contract Acquisition Costs

Our contract acquisition costs represent incremental direct costs of obtaining a contract and consist primarily of sales incentives paid to employees and third-party representatives. When we determine that our contract acquisition costs are recoverable, we defer and amortize the costs over the contract term, or over the estimated life of the customer relationship if anticipated renewals are expected and the incentives payable upon renewal are not commensurate with the initial incentive. We amortize contract acquisition costs in proportion to the revenue to which the costs relate. We expense sales incentives as incurred if the expected amortization period is one year or less. Unamortized contract acquisition costs are included in *Other non-current assets, net* in the Consolidated Balance Sheets and related amortization expense is included in *Selling, general and administrative expenses* in the Consolidated Statements of Operations.

Inventory

Inventory is stated at the lower of cost or net realizable value. Cost of inventory is determined using the FIFO method and consists primarily of materials, direct labor and indirect overhead incurred in the procurement and manufacturing of our products. We use standard costing methodologies in determining the cost of certain of our finished goods and work-in-process inventories. We determine net realizable value using our best estimates of future use or recovery, considering the aging and composition of inventory balances, the effects of technological and/or design changes, forecasted future product demand based on firm or near-firm customer orders and alternative means of disposition of excess or obsolete items. We recognize losses within *Cost of sales - equipment* in the Consolidated Statements of Operations when we determine that the cost of inventory and commitments to purchase inventory exceed net realizable value.

Property and Equipment

Satellites

Satellites are stated at cost, less accumulated depreciation. Depreciation is recorded on a straight-line basis over their estimated useful lives. The cost of our satellites includes construction costs, including the present value of in-orbit incentives payable to the satellite manufacturer, launch costs, capitalized interest and related insurance premiums. We depreciate our owned satellites on a straight-line basis over the estimated useful life of each satellite.

We have satellites acquired under finance leases. The recorded costs of those satellites are the present values of all lease payments. We amortize our finance lease ROU satellites over their respective lease terms.

Our satellites may experience anomalies from time to time, some of which may have a significant adverse effect on their remaining useful lives, the commercial operation of the satellites or our operating results or financial position.

We evaluate our satellites for impairment and test for recoverability whenever events or changes in circumstances indicate that their carrying value may not be recoverable. Certain anomalies may be considered a significant adverse change in the physical condition of a particular satellite. However, based on redundancies designed within each satellite, certain of these anomalies may not be considered to be significant events requiring a test of recoverability.

We generally do not carry in-orbit insurance on our satellites and payloads because we have assessed that the cost of insurance is not economical relative to the risk of failures. Therefore, we generally bear the risk of any in-orbit failures. However, we may be required to carry insurance on specific satellites and payloads per the terms of certain agreements. We will continue to assess circumstances going forward and make insurance-related decisions on a case-by-case basis.

Other Property and Equipment

Other property and equipment are stated at cost, less accumulated depreciation. Depreciation is recorded on a straight-line basis over their estimated useful lives. Other property and equipment includes: land; buildings and improvements; furniture, fixtures, equipment and internal-use software; customer premises equipment; and construction in process. Costs related to the procurement and development of software for internal-use are capitalized and amortized using the straight-line method over the estimated useful life of the software, not in excess of five years. Repair and maintenance costs are charged to expense when incurred.

Goodwill

We account for acquired businesses using the acquisition method of accounting which requires that the assets acquired and liabilities assumed be recorded at the date of acquisition at their respective fair values. Any excess of the purchase price over the estimated fair values of the net assets acquired is recorded as goodwill. All of our goodwill is assigned to our Hughes segment.

We evaluate goodwill for impairment on an annual basis in our second fiscal quarter or whenever events and changes in circumstances indicate the carrying amounts may not be recoverable. Impairments may result from, among other things, deterioration in financial and operational performance, declines in stock price, increased attrition, adverse market conditions, adverse changes in applicable laws and/or regulations, deterioration of general macroeconomic conditions, fluctuations in foreign exchange rates, increased competitive markets in which we operate in, declining financial performance over a sustained period, changes in key personnel and/or strategy, and a variety of other factors. Our impairment assessment typically begins with a qualitative assessment to determine whether it is more likely than not the fair value of the reporting unit is less than its carrying amount. The qualitative assessment includes comparing the overall financial performance against the planned results. In the performance of the qualitative assessment, we analyze a variety of events or factors that may influence the fair value of the reporting unit, that could include, but are not limited to: macroeconomic conditions, industry and market considerations, cost factors, and other relevant entity-specific events which requires significant judgment. If we determine in the qualitative assessment that it is more likely than not that the fair value is less than its carrying value, then we perform a quantitative assessment to determine the estimated fair value of the indefinite lived asset or reporting unit. We could also choose the option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to the quantitative impairment test. In the quantitative assessment, fair value is usually estimated using two valuation approaches: the discounted cash flows method and the market comparable method. In the performance of the quantitative assessment, we use a variety of inputs, some of which may require significant judgment, that influence the fair value of the reporting unit, that could include, but are not limited to: discount rate, revenue growth rate, amount and timing of future cash flows, guideline public company metrics, and comparable market transactions. In addition, we also perform a market capitalization reconciliation to compare the estimated fair value, determined using the discounted cash flows method and the market comparable method, to the Company's market capitalization as of the date of the test. If the carrying value exceeds the estimated fair value, then an impairment is recognized for the difference.

There has been no impairment to date.

Regulatory Authorizations

Finite Lived

We have regulatory authorizations that are not related to the Federal Communications Commission ("FCC") and have determined that they have finite lives due to uncertainties about the ability to extend or renew their terms.

Finite lived regulatory authorizations are amortized over their estimated useful lives on a straight-line basis. Renewal costs are usually capitalized when they are incurred.

Indefinite Lived

We also have indefinite lived regulatory authorizations that primarily consist of FCC authorizations and certain other contractual or regulatory rights to use spectrum at specified orbital locations. We have determined that our FCC authorizations generally have indefinite useful lives based on the following:

- FCC authorizations are non-depleting assets;
- Renewal satellite applications generally are authorized by the FCC subject to certain conditions, without substantial cost under a stable regulatory, legislative and legal environment;
- Expenditures required to maintain the authorization are not significant; and
- We intend to use these authorizations indefinitely.

Costs incurred to maintain or renew indefinite-lived regulatory authorizations are expensed as incurred.

Other Intangible Assets

Our other intangible assets consist of customer relationships, patents, trademarks and licenses which are amortized using the straight-line method over their estimated useful lives. We evaluate the recoverability of intangible assets periodically by taking into account events or circumstances that indicate that the carrying amount of the assets may not be recoverable.

Impairment of Long-lived Assets

We review our long-lived assets for recoverability whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. The evaluation is performed at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. For assets held and used in operations, the asset is not recoverable if the carrying amount of the asset exceeds its undiscounted estimated future net cash flows. When an asset is not recoverable, we adjust the carrying amount of such asset to its estimated fair value and recognize the impairment loss in *Impairment of long-lived assets* in the Consolidated Statements of Operations.

Other Investments

Equity Method Investments

We use the equity method to account for investments when we have the ability to exercise significant influence on the operating decisions of the affiliate. Such investments are initially recorded at cost and subsequently adjusted for our proportionate share of the net earnings or loss of the investee, which is reported in *Equity in earnings (losses) of unconsolidated affiliates, net* in the Consolidated Statements of Operations. Additionally, the carrying amount of such investments includes a component of goodwill when the cost of our investment exceeds the fair value of the underlying identifiable assets and liabilities of the affiliate. Lastly, dividends received from these affiliates reduces the carrying amount of our investment.

Other Equity Investments

We generally measure investments in non-publicly traded equity instruments without a readily determinable fair value at cost adjusted for observable price changes in orderly transactions for the identical or similar securities of the same issuer and changes resulting from impairments, if any. Other equity instruments are measured to determine their value based on observable market information. When we adjust the carrying amount of an investment to its estimated fair value, the gain or loss is recorded in *Gains (losses) on investments, net* in the Consolidated Statements of Operations.

Impairment Considerations

We periodically evaluate all of our other investments to determine whether events or changes in circumstances have occurred that may have a significant adverse effect on the fair value of the investment. We consider information if provided to us by our investees such as current financial statements, business plans, investment documentation, capitalization tables, liquidation waterfalls, and board materials; and we may make additional inquiries of investee management.

Indicators of impairment may include, but are not limited to, unprofitable operations, material loss contingencies, changes in business strategy, changes in market trends or market conditions, changes in the investees' enterprise value and changes in the investees' investment pricing. When we determine that one of our other investments is impaired we reduce its carrying value to its estimated fair value and recognize the impairment loss in *Other-than-temporary impairment losses on equity method investments* or *Gains (losses) on investments, net* in the Consolidated Statements of Operations.

Contract Liabilities

Contract liabilities consist of advance payments and billings in excess of revenue recognized under customer contracts and are included in *Contract liabilities* or *Other non-current liabilities* in the Consolidated Balance Sheets based on the timing of when we expect to recognize revenue. We recognize contract liabilities as revenue after all revenue recognition criteria have been met.

Recently Adopted Accounting Pronouncements

Government Assistance

On January 1, 2022 we adopted Accounting Standards Update ("ASU") No. 2021-10 - *Government Assistance (Topic 832)*: Disclosures by Business Entities about Government Assistance, which requires business entities (except for not-for-profit entities and employee benefit plans) to disclose information about certain government assistance they receive. The Topic 832 disclosure requirements include: (i) the nature of the transactions and the related accounting policy used; (ii) the line items on the balance sheet and income statement that are affected and the amounts applicable to each financial statement line item; and (iii) significant terms and conditions of the transactions. Our adoption of this ASU did not have a material impact on our Consolidated Financial Statements.

Income Taxes

On January 1, 2021, we adopted ASU No. 2019-12 - *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12"). ASU 2019-12 is part of the Financial Accounting Standards Board ("FASB") overall simplification initiative and seeks to simplify the accounting for income taxes by updating certain guidance and removing certain exceptions. Our adoption of this ASU did not have a material impact on our Consolidated Financial Statements.

Credit Losses

On January 1, 2020, we adopted ASU No. 2016-13 - *Financial Instruments - Credit Losses (Topic 326)*, as amended, and codified in Accounting Standards Codification Topic 326 ("ASC 326"). ASC 326 introduces a new approach to the periodic estimation of credit losses for certain financial assets based on expected losses instead of incurred losses. It also modifies the impairment model for available-for-sale debt securities and provides a simplified accounting model for purchased financial assets that have experienced credit deterioration since their original purchase. We have elected to apply the requirements of the new standard prospectively and we recognized a cumulative effect of adoption of $2.2 million to *Accumulated earnings (losses)* as of January 1, 2020. Based on this election, we did not restate our comparative Consolidated Financial Statements and they continue to be reported under the accounting standards in effect for the periods before January 1, 2020.

Financial Impact of Adoption. The following table presents our adoption of this new standard resulting in adjustments to our Consolidated Balance Sheet effective January 1, 2020:

	Balance December 31, 2019		Adoption of ASC 326 Increase (Decrease)		Balance January 1, 2020	
Trade accounts receivable and contract assets, net	$	196,520	$	(13,672)	$	182,848
Other current assets, net	$	301,652	$	6,723	$	308,375
Other non-current assets, net	$	251,936	$	4,050	$	255,986
Total assets	$	5,572,035	$	(2,899)	$	5,569,136
Deferred tax liabilities, net	$	380,316	$	(490)	$	379,826
Accumulated earnings (losses)	$	664,415	$	(2,169)	$	662,246
Non-controlling interests	$	75,748	$	(240)	$	75,508
Total shareholder's equity	$	2,134,163	$	(2,409)	$	2,131,754
Total liabilities and shareholder's equity	$	5,572,035	$	(2,899)	$	5,569,136

The application of ASC 326 requirements did not materially affect our Consolidated Statements of Operations for the year ended December 31, 2020.

Recently Issued Accounting Pronouncements Not Yet Adopted

Business Combinations

In October 2021, the FASB issued ASU No. 2021-08 - *Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers*, which provides an exception to fair value measurement for contract assets and contract liabilities related to revenue contracts acquired in a business combination. The ASU requires an entity (acquirer) to recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606. At the acquisition date, an acquirer should account for the related revenue contracts in accordance with Topic 606 as if it had originated the contracts. The ASU is effective for the Company for annual and interim periods in fiscal years beginning after December 15, 2022. The ASU is applied to business combinations occurring on or after the effective date.

Reference Rate Reform

In March 2020, the FASB issued ASU No. 2020-04 - *Reference Rate Reform (Topic 848)*, and all subsequent amendments to the initial guidance, codified as ASC 848 (“ASC 848”). The purpose of ASC 848 is to provide optional guidance to ease the potential effects on financial reporting of the market-wide migration away from Interbank Offered Rates to alternative reference rates. ASC 848 applies only to contracts, hedging relationships, and other transactions that reference a reference rate expected to be discontinued because of reference rate reform. The guidance may be applied upon issuance of ASC 848 through December 31, 2024. We expect to utilize the optional expedients provided by the guidance for contracts amended solely to use an alternative reference rate. We have evaluated the new guidance and we are in the process of implementing this ASU, and all subsequent amendments, and do not expect them to have a material impact on our Consolidated Financial Statements.

NOTE 3. REVENUE RECOGNITION

Contract Balances

The following table presents the components of our contract balances:

	As of December 31,	
	2022	2021
Trade accounts receivable and contract assets, net:		
Sales and services	$ 170,466	$ 154,676
Leasing	7,935	5,668
Total trade accounts receivable	178,401	160,344
Contract assets	73,293	36,307
Allowance for doubtful accounts	(15,358)	(14,588)
Total trade accounts receivable and contract assets, net	$ 236,336	$ 182,063
Contract liabilities:		
Current	$ 121,739	$ 141,343
Non-current	8,326	10,669
Total contract liabilities	$ 130,065	$ 152,012

The following table presents the revenue recognized in the Consolidated Statements of Operations that was previously included within contract liabilities:

	For the years ended December 31,		
	2022	2021	2020
Revenue	$ 120,867	$ 82,633	$ 72,877

The following table presents the activity in our allowance for doubtful accounts:

	For the years ended December 31,		
	2022	2021	2020
Balance at beginning of period	$ 14,588	$ 15,386	$ 23,777
Credit losses (1)	32,910	22,591	18,582
Deductions	(36,011)	(23,543)	(26,031)
Foreign currency translation	3,871	154	(942)
Balance at end of period	$ 15,358	$ 14,588	$ 15,386

(1)The impact of adopting ASC 326 on January 1, 2020 was a net decrease to our allowance for doubtful accounts largely driven by a $13.4 million reclassification to *Other current assets, net* and *Other non-current assets, net*, offset by a $2.9 million adjustment to *Accumulated earnings (losses)*.

Contract Acquisition Costs

The following table presents the activity in our contract acquisition costs, net:

	For the years ended December 31,		
	2022	2021	2020
Balance at beginning of period	$ 82,986	$ 99,837	$ 113,592
Additions	57,627	72,503	91,143
Amortization expense	(76,760)	(88,178)	(101,278)
Foreign currency translation	594	(1,176)	(3,620)
Balance at end of period	$ 64,447	$ 82,986	$ 99,837

Performance Obligations

As of December 31, 2022, the remaining performance obligations for our customer contracts with original expected durations of more than one year was $1.1 billion. Performance obligations expected to be satisfied within one year and greater than one year are 34.0% and 66.0%, respectively. This amount and percentages exclude agreements with consumer customers in our Hughes segment, our leasing arrangements and agreements with certain customers under which collectability of all amounts due through the term of contracts is uncertain.

Disaggregation of Revenue

Geographic Information

The following tables present our revenue from customer contracts disaggregated by primary geographic market and by segment:

	Hughes	ESS	Corporate and Other	Consolidated Total
For the year ended December 31, 2022				
North America	$ 1,576,773	$ 20,533	$ (1,400)	$ 1,595,906
South and Central America	171,318	—	—	171,318
Other	218,496	—	17,623	236,119
Total revenue	$ 1,966,587	$ 20,533	$ 16,223	$ 2,003,343
For the year ended December 31, 2021				
North America	$ 1,617,229	$ 17,679	$ (385)	$ 1,634,523
South and Central America	176,515	—	—	176,515
Other	162,482	—	21,206	183,688
Total revenue	$ 1,956,226	$ 17,679	$ 20,821	$ 1,994,726
For the year ended December 31, 2020				
North America	$ 1,556,961	$ 17,398	$ (1,161)	$ 1,573,198
South and Central America	151,194	—	—	151,194
Other	152,679	—	20,287	172,966
Total revenue	$ 1,860,834	$ 17,398	$ 19,126	$ 1,897,358

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Nature of Products and Services

The following tables present our revenue disaggregated by the nature of products and services and by segment:

	Hughes	ESS	Corporate and Other	Consolidated Total
For the year ended December 31, 2022				
Services and other revenue:				
Services	$ 1,551,613	$ 13,206	$ —	$ 1,564,819
Lease revenue	40,825	7,327	16,223	64,375
Total services and other revenue	1,592,438	20,533	16,223	1,629,194
Equipment revenue:				
Equipment	119,107	—	—	119,107
Design, development and construction services	246,265	—	—	246,265
Lease revenue	8,777	—	—	8,777
Total equipment revenue	374,149	—	—	374,149
Total revenue	$ 1,966,587	$ 20,533	$ 16,223	$ 2,003,343
For the year ended December 31, 2021				
Services and other revenue:				
Services	$ 1,646,778	$ 11,961	$ —	$ 1,658,739
Lease revenue	39,021	5,718	20,821	65,560
Total services and other revenue	1,685,799	17,679	20,821	1,724,299
Equipment revenue:				
Equipment	108,767	—	—	108,767
Design, development and construction services	152,934	—	—	152,934
Lease revenue	8,726	—	—	8,726
Total equipment revenue	270,427	—	—	270,427
Total revenue	$ 1,956,226	$ 17,679	$ 20,821	$ 1,994,726
For the year ended December 31, 2020				
Services and other revenue:				
Services	$ 1,614,730	$ 10,785	$ —	$ 1,625,515
Lease revenue	40,503	6,613	19,126	66,242
Total services and other revenue	1,655,233	17,398	19,126	1,691,757
Equipment revenue:				
Equipment	110,108	—	—	110,108
Design, development and construction services	88,511	—	—	88,511
Lease revenue	6,982	—	—	6,982
Total equipment revenue	205,601	—	—	205,601
Total revenue	$ 1,860,834	$ 17,398	$ 19,126	$ 1,897,358

Lease Revenue

The following table presents our lease revenue by type of lease:

	For the years ended December 31,		
	2022	2021	2020
Sales-type lease revenue:			
Revenue at lease commencement	$ 7,557	$ 7,998	$ 6,982
Interest income	1,220	728	393
Total sales-type lease revenue	8,777	8,726	7,375
Operating lease revenue	64,375	65,560	65,849
Total lease revenue	$ 73,152	$ 74,286	$ 73,224

Substantially all of our net investment in sales-type leases consisted of lease receivables totaling $21.9 million and $17.1 million as of December 31, 2022 and 2021, respectively.

The following table presents future operating lease payments to be received as of December 31, 2022:

	Amounts
December 31,	
2023	$ 37,478
2024	32,856
2025	30,802
2026	28,828
2027	23,860
2028 and beyond	46,070
Total lease payments to be received	$ 199,894

The following table presents amounts for assets subject to operating leases, which are included in *Property and equipment, net:*

	As of December 31,					
	2022			2021		
	Cost	Accumulated Depreciation	Net	Cost	Accumulated Depreciation	Net
Customer premises equipment	$ 933,669	$ (703,110)	$ 230,559	$ 1,860,766	$ (1,549,508)	$ 311,258
Satellites	104,620	(52,284)	52,336	104,620	(45,309)	59,311
Total	$ 1,038,289	$ (755,394)	$ 282,895	$ 1,965,386	$ (1,594,817)	$ 370,569

During 2022, the Company identified fully depreciated assets that were no longer in use, mostly related to our customer premises equipment assets. Cost and accumulated depreciation were reduced by $1.1 billion. There was no impact to *Other property and equipment, net*.

The following table presents depreciation expense for assets subject to operating leases, which is included in *Depreciation and amortization*:

	For the years ended December 31,		
	2022	2021	2020
Customer premises equipment	$ 221,645	$ 247,072	$ 246,542
Satellites	6,975	6,975	6,975
Total	$ 228,620	$ 254,047	$ 253,517

NOTE 4. LESSEE ACCOUNTING

The following table presents the amounts for ROU assets and lease liabilities:

	As of December 31,	
	2022	2021
Right-of-use assets:		
Operating	$ 150,632	$ 148,221
Finance	238,748	258,498
Total right-of-use assets	$ 389,380	$ 406,719
Lease liabilities:		
Current:		
Operating	$ 17,766	$ 16,697
Finance	—	123
Total current	17,766	16,820
Non-current:		
Operating	135,122	134,001
Finance	—	—
Total non-current	135,122	134,001
Total lease liabilities	$ 152,888	$ 150,821

As of December 31, 2022, we have prepaid our obligations regarding most of our finance ROU assets. Finance lease assets are reported net of accumulated amortization of $121.9 million and $95.7 million as of December 31, 2022 and 2021, respectively.

The following table presents the components of lease cost and weighted-average lease terms and discount rates for operating and finance leases:

	For the years ended December 31,		
	2022	2021	2020
Lease cost:			
Operating lease cost	$ 25,219	$ 23,323	$ 23,321
Finance lease cost:			
Amortization of right-of-use assets	29,906	29,270	27,611
Interest on lease liabilities	7	49	106
Total finance lease cost	29,913	29,319	27,717
Short-term lease cost	258	—	132
Variable lease cost	2,246	1,895	3,799
Total lease cost	$ 57,636	$ 54,537	$ 54,969

	As of December 31,	
	2022	2021
Lease term and discount rate:		
Weighted-average remaining lease term:		
Finance leases	0.0 years	0.3 years
Operating leases	8.0 years	10.8 years
Weighted-average discount rate:		
Finance leases	— %	12.8 %
Operating leases	5.9 %	5.6 %

The following table presents the detailed cash flows from operating and finance leases:

	For the years ended December 31,		
	2022	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows from operating leases	$ 24,653	$ 21,808	$ 21,313
Operating cash flows from finance leases	7	49	106
Financing cash flows from finance leases	124	430	499

We obtained ROU assets in exchange for lease liabilities of $4.3 million, $26.1 million and $22.6 million upon commencement of operating leases during the year ended December 31, 2022, 2021 and 2020, respectively.

The following table presents future minimum lease payments of our lease liabilities as of December 31, 2022:

	Operating Leases
Year ending December 31,	
2023	$ 24,983
2024	23,063
2025	19,470
2026	18,684
2027	17,168
2028 and beyond	97,162
Total future minimum lease payments	200,530
Less: Interest	(47,642)
Total lease liabilities	$ 152,888

NOTE 5. BUSINESS COMBINATIONS

In May 2019, we entered into an agreement with Bharti Airtel Limited ("BAL") and its subsidiary, Bharti Airtel Services Limited (together with BAL, "Bharti"), pursuant to which Bharti agreed to contribute its very small aperture terminal ("VSAT") telecommunications services and hardware business in India to Hughes Communications India Private Limited ("HCIPL") and its subsidiaries, our less than wholly owned Indian subsidiaries, that conduct our VSAT services and hardware business in India. On January 4, 2022, this joint venture was formed (the "India JV") and subsequent to the formation of the India JV, we hold a 67% ownership interest and Bharti holds a 33% ownership interest in HCIPL. The India JV combines the VSAT businesses of both companies to offer flexible and scalable enterprise networking solutions using satellite connectivity for primary transport, back-up and hybrid implementation in India. The results of operations related to the India JV have been included in these Consolidated Financial Statements from the date of formation. The costs associated with the closing of the India JV were not material and were expensed as incurred.

The fair value of the consideration transferred was $38.2 million. Net cash paid was $7.9 million, inclusive of amounts paid for the acquisition of, or of HCIPL shares from, entities that were shareholders of HCIPL prior to closing the India JV.

All assets and liabilities acquired in the India JV formation have been recorded at fair value. The following table presents our allocation of the purchase price:

		Amounts
Assets:		
Trade accounts receivable and contract assets, net	$	6,160
Other current assets		2,085
Property and equipment		4,669
Goodwill		23,086
Other intangible assets		4,428
Total assets	$	40,428
Liabilities:		
Trade accounts payable	$	133
Accrued expenses and other current liabilities		986
Deferred tax liabilities		1,114
Total liabilities	$	2,233
Total purchase price	$	38,195

The valuation of assets acquired and liabilities assumed in the India JV were derived using primarily unobservable Level 3 inputs, which require significant management judgment and estimation, and resulted in a customer relationship intangible of $4.4 million with an estimated life of 5 years and is reported in *Other intangible assets, net*.

Goodwill associated with the India JV is attributable to expected synergies, the projected long-term business growth in current and new markets and an assembled workforce. Goodwill has been allocated entirely to our Hughes segment.

NOTE 6. OTHER COMPREHENSIVE INCOME (LOSS)

The following table presents the changes in the balances of *Accumulated other comprehensive income (loss)* by component:

		Cumulative Foreign Currency Translation Adjustments		Unrealized Gain (Loss) On Available-For-Sale Securities		Other		Accumulated Other Comprehensive Income (Loss)
Balance, December 31, 2020	$	(146,953)	$	113	$	—	$	(146,840)
Other comprehensive income (loss) before reclassifications		(26,928)		490		(98)		(26,536)
Amounts reclassified to net income (loss)		—		(5)		—		(5)
Other comprehensive income (loss)		(26,928)		485		(98)		(26,541)
Balance, December 31, 2021		(173,881)		598		(98)		(173,381)
Other comprehensive income (loss) before reclassifications		3,767		(553)		—		3,214
Amounts reclassified to net income (loss)		—		(17)		—		(17)
Other comprehensive income (loss)		3,767		(570)		—		3,197
Balance, December 31, 2022	$	(170,114)	$	28	$	(98)	$	(170,184)

NOTE 7. MARKETABLE INVESTMENT SECURITIES

The following table presents our *Marketable investment securities*:

	As of December 31,	
	2022	2021
Marketable investment securities:		
Available-for-sale debt securities:		
Corporate bonds	$ 154,580	$ 284,787
Commercial paper	643,526	491,360
Other debt securities	1,663	78,355
Total available-for-sale debt securities	799,769	854,502
Equity securities	—	—
Total marketable investment securities	$ 799,769	$ 854,502

Debt Securities

Available-for-Sale

The following table presents the components of our available-for-sale debt securities:

	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
As of December 31, 2022				
Corporate bonds	$ 154,517	$ 119	$ (56)	$ 154,580
Commercial paper	643,553	—	(27)	643,526
Other debt securities	1,663	—	—	1,663
Total available-for-sale debt securities	$ 799,733	$ 119	$ (83)	$ 799,769
As of December 31, 2021				
Corporate bonds	$ 285,169	$ —	$ (382)	$ 284,787
Commercial paper	491,360	—	—	491,360
Other debt securities	78,395	—	(40)	78,355
Total available-for-sale debt securities	$ 854,924	$ —	$ (422)	$ 854,502

The following table presents the activity on our available-for-sale debt securities:

	For the years ended December 31,		
	2022	2021	2020
Proceeds from sales	$ 37,904	$ 292,188	$ 112,497

As of December 31, 2022, we have $784.4 million of available-for-sale debt securities with contractual maturities of one year or less and $15.4 million with contractual maturities greater than one year.

Equity Securities

The following table presents the activity of our equity securities:

	For the years ended December 31,		
	2022	2021	2020
Gains (losses) on investments, net	$ —	$ (6)	$ (235)

Fair Value Measurements

The following table presents our marketable investment securities categorized by the fair value hierarchy, certain of which have historically experienced volatility:

	Level 1	Level 2	Total
As of December 31, 2022			
Cash equivalents (including restricted)	$ 496	$ 548,058	$ 548,554
Available-for-sale debt securities:			
Corporate bonds	$ —	$ 154,580	$ 154,580
Commercial paper	—	643,526	643,526
Other debt securities	—	1,663	1,663
Total available-for-sale debt securities	—	799,769	799,769
Equity securities	—	—	—
Total marketable investment securities	$ —	$ 799,769	$ 799,769
As of December 31, 2021			
Cash equivalents (including restricted)	$ 4,032	$ 320,732	$ 324,764
Available-for-sale debt securities:			
Corporate bonds	$ —	$ 284,787	$ 284,787
Commercial paper	—	491,360	491,360
Other debt securities	—	78,355	78,355
Total available-for-sale debt securities	—	854,502	854,502
Equity securities	—	—	—
Total marketable investment securities	$ —	$ 854,502	$ 854,502

As of December 31, 2022 and December 31, 2021, we did not have any investments that were categorized within Level 3 of the fair value hierarchy.

NOTE 8. PROPERTY AND EQUIPMENT

The following table presents the components of *Property and equipment, net*:

	As of December 31,	
	2022	2021
Property and equipment, net:		
Satellites, net	$ 754,019	$ 847,613
Other property and equipment, net	621,985	675,834
Total property and equipment, net	$ 1,376,004	$ 1,523,447

Satellites

As of December 31, 2022, our satellite fleet consisted of eight geosynchronous (“GEO”) satellites, five of which are owned and three of which are leased. They are all in geosynchronous orbit, approximately 22,300 miles above the equator.

The following table presents our GEO satellite fleet as of December 31, 2022:

GEO Satellite	Segment	Launch Date	Nominal Degree Orbital Location (Longitude)	Depreciable Life (In Years)
Owned:				
SPACEWAY 3 (1)	Hughes	August 2007	95 W	10
EchoStar XVII	Hughes	July 2012	107 W	15
EchoStar XIX	Hughes	December 2016	97.1 W	15
Al Yah 3 (2)	Hughes	January 2018	20 W	7
EchoStar IX (3) (4)	ESS	August 2003	121 W	12
Finance leases:				
Eutelsat 65 West A	Hughes	March 2016	65 W	15
Telesat T19V	Hughes	July 2018	63 W	15
EchoStar 105/SES-11	ESS	October 2017	105 W	15

(1) Depreciable life represents the remaining useful life as of June 8, 2011, the date EchoStar completed the acquisition of Hughes Communications, Inc. (“Hughes Communications”) and its subsidiaries in 2011 (the “Hughes Acquisition”).
(2) Upon consummation of our joint venture with Al Yah Satellite Communications Company PrJSC (“Yahsat”) in Brazil in November 2019, we acquired the Brazilian Ka-band payload on this satellite. Depreciable life represents the remaining useful life as of November 2019.
(3) We own the Ka-band and Ku-band payloads on this satellite.
(4) EchoStar IX is approaching its end of station-kept life. The Company placed the satellite in an inclined-orbit in the first quarter of 2023. Inclined-orbit will extend its life to enable further revenue generating opportunities.

The following table presents the components of our satellites, net:

	Depreciable Life (In Years)	As of December 31, 2022	2021
Satellites, net:			
Satellites - owned	7 to 15	$ 1,503,435	$ 1,500,836
Satellites - acquired under finance leases	15	360,642	354,170
Total satellites		1,864,077	1,855,006
Accumulated depreciation:			
Satellites - owned		(988,164)	(911,722)
Satellites - acquired under finance leases		(121,894)	(95,671)
Total accumulated depreciation		(1,110,058)	(1,007,393)
Total satellites, net		$ 754,019	$ 847,613

The following table presents the depreciation expense associated with our satellites, net:

	For the years ended December 31, 2022	2021	2020
Depreciation expense:			
Satellites - owned	$ 75,738	$ 85,068	$ 108,273
Satellites - acquired under finance leases	24,127	23,740	27,611
Total depreciation expense	$ 99,865	$ 108,808	$ 135,884

The following table presents capitalized interest associated with our satellites and satellite-related ground infrastructure:

	For the years ended December 31,		
	2022	2021	2020
Capitalized interest	$ 8,712	$ 6,002	$ 2,488

Satellite-Related Commitments

As of December 31, 2022 and December 31, 2021 our satellite-related commitments were $143.5 million and $179.7 million, respectively. These include payments pursuant to regulatory authorizations, non-lease costs associated with our finance lease satellites, in-orbit incentives relating to certain satellites and commitments for satellite service arrangements.

In certain circumstances, the dates on which we are obligated to pay our contractual obligations could change.

Satellite Anomalies and Impairments

We are not aware of any anomalies with respect to our owned or leased satellites or payloads that have had any significant adverse effect on their remaining useful lives, the commercial operation of the satellites or payloads or our operating results or financial position as of and for the year ended December 31, 2022.

Satellite Insurance

We generally do not carry in-orbit insurance on our satellites or payloads because we have assessed that the cost of insurance is not economical relative to the risk of failures. Therefore, we generally bear the risk of any in-orbit failures. Pursuant to the terms of our joint venture agreement with Yahsat, we are required to maintain insurance for the Al Yah 3 Brazilian payload during the commercial in-orbit service of such payload, subject to certain limitations on coverage. We have obtained certain insurance for our EchoStar XXIV satellite covering launch plus the first year of operations. We will continue to assess circumstances going forward and make insurance-related decisions on a case-by-case basis.

Fair Value of In-Orbit Incentives

As of December 31, 2022 and December 31, 2021, the fair values of our in-orbit incentive obligations approximated their carrying amounts of $50.2 million and $53.2 million, respectively.

Other Property and Equipment, Net

The following table presents *Other property and equipment, net*:

	Depreciable Life (In Years)	As of December 31, 2022	As of December 31, 2021
Other property and equipment, net:			
Land	—	$ 13,510	$ 13,322
Buildings and improvements	1 to 40	75,163	73,824
Furniture, fixtures, equipment and other	1 to 12	747,179	723,902
Customer premises equipment	2 to 4	933,669	1,860,766
Construction in progress		195,655	157,038
Total other property and equipment		1,965,176	2,828,852
Accumulated depreciation		(1,343,191)	(2,153,018)
Other property and equipment, net		$ 621,985	$ 675,834

During 2022, the Company identified fully depreciated assets that were no longer in use, mostly related to our customer premises equipment assets. Cost and accumulated depreciation were reduced by $1.1 billion. There was no impact to *Other property and equipment, net*.

The following table presents the depreciation expense associated with our other property and equipment:

	For the years ended December 31, 2022	2021	2020
Other property and equipment depreciation expense:			
Buildings and improvements	$ 3,661	$ 4,908	$ 4,285
Furniture, fixtures, equipment and other	71,804	72,855	76,649
Customer premises equipment	221,645	247,072	246,542
Total depreciation expense	$ 297,110	$ 324,835	$ 327,476

NOTE 9. GOODWILL

All of our goodwill is assigned to our Hughes segment, as it was generated through: i) the Hughes Acquisition; ii) the agreement with Yahsat pursuant to which, in November 2019, Yahsat contributed its satellite communications services business in Brazil to one of our Brazilian subsidiaries in exchange for a 20% equity ownership interest in that subsidiary (the “Yahsat Brazil JV Transaction”); and iii) the India JV formation.

During the quarter ended December 31, 2022, we conducted a quantitative interim test of goodwill for all of our reporting units due to the sustained decline in our stock price during that period. We estimated the reporting unit's fair value using the discounted cash flow method and the market comparable method. The discounted cash flow method used the reporting unit's projections of estimated operating results and cash flows that were discounted using a weighted-average cost of capital based on a reasonable market participant’s point of view. The main assumptions supporting the cash flow projections include, but are not limited to, revenue growth, margins, discount rate, and terminal growth rate. The financial projections reflect management's best estimate of economic and market conditions over the projected period, including forecasted revenue growth, margins, capital expenditures, depreciation, and amortization. Under the market comparable method, we used the guideline company method to develop valuation multiples and compare the single reporting unit to similar publicly traded companies. Additionally, we performed a reconciliation of our estimated fair value, determined using the discounted cash flows method and the market comparable method, to the Company’s market capitalization. As a result of this interim test, no goodwill impairment was identified. The fair value of the Hughes reporting unit exceeded the carrying value by more than 20%. We concluded that there were no other indicators of impairment for the quarter ended December 31, 2022.

The following table presents our goodwill:

	For the years ended December 31,		
	2022	2021	2020
Balance at beginning of period	$ 511,086	$ 511,597	$ 506,953
India JV formation	23,086	—	—
Foreign currency translation	(1,681)	(511)	4,644
Balance at end of period	$ 532,491	$ 511,086	$ 511,597

NOTE 10. REGULATORY AUTHORIZATIONS

The following table presents our *Regulatory authorizations, net*:

	Finite lived				
	Cost	Accumulated Amortization	Total	Indefinite lived	Total
Balance, December 31, 2019	$ 12,524	$ (161)	$ 12,363	$ 400,000	$ 412,363
Amortization expense	—	(902)	(902)	—	(902)
Currency translation adjustments	(1,019)	9	(1,010)	—	(1,010)
Balance, December 31, 2020	11,505	(1,054)	10,451	400,000	410,451
Amortization expense	—	(806)	(806)	—	(806)
Currency translation adjustments	(772)	86	(686)	—	(686)
Balance, December 31, 2021	10,733	(1,774)	8,959	400,000	408,959
Amortization expense	—	(825)	(825)	—	(825)
Currency translation adjustments	598	(113)	485	—	485
Balance, December 31, 2022	$ 11,331	$ (2,712)	$ 8,619	$ 400,000	$ 408,619
Weighted-average useful life (in years)		14			

Future Amortization

The following table presents our estimated future amortization of our regulatory authorizations with finite lives as of December 31, 2022:

	Amount
For the years ending December 31,	
2023	$ 836
2024	836
2025	836
2026	836
2027	836
2028 and beyond	4,439
Total	$ 8,619

NOTE 11. OTHER INTANGIBLE ASSETS

The following table presents our other intangible assets:

	Customer Relationships	Patents	Trademarks and Licenses	Total
Cost:				
As of December 31, 2019	$ 270,300	$ 51,400	$ 29,700	$ 351,400
As of December 31, 2020	270,300	51,400	29,700	351,400
As of December 31, 2021	270,300	51,400	29,700	351,400
Additions	4,312	—	—	4,312
Currency Translation Adjustments	(328)	—	—	(328)
As of December 31, 2022	$ 274,284	$ 51,400	$ 29,700	$ 355,384
Accumulated amortization:				
As of December 31, 2019	$ (257,933)	$ (51,400)	$ (12,746)	$ (322,079)
Amortization expense	(9,496)	—	(1,485)	(10,981)
As of December 31, 2020	(267,429)	(51,400)	(14,231)	(333,060)
Amortization expense	(2,871)	—	(1,485)	(4,356)
As of December 31, 2021	(270,300)	(51,400)	(15,716)	(337,416)
Amortization expense	(785)	—	(1,485)	(2,270)
As of December 31, 2022	$ (271,085)	$ (51,400)	$ (17,201)	$ (339,686)
Carrying amount:				
As of December 31, 2021	$ —	$ —	$ 13,984	$ 13,984
As of December 31, 2022	$ 3,199	$ —	$ 12,499	$ 15,698
Weighted-average useful life (in years)	8	6	20	

Future Amortization

The following table presents our estimated future amortization of other intangible assets as of December 31, 2022:

	Amount
For the years ending December 31,	
2023	$ 2,282
2024	2,282
2025	2,282
2026	2,282
2027	1,496
2028 and beyond	5,074
Total	$ 15,698

NOTE 12. OTHER INVESTMENTS

The following table presents our *Other investments, net*:

	As of December 31,	
	2022	2021
Other investments, net:		
Equity method investments	$ 83,523	$ 91,226
Total other investments, net	$ 83,523	$ 91,226

Equity Method Investments

Deluxe/EchoStar LLC

We own 50% of Deluxe/EchoStar LLC (“Deluxe”), a joint venture that we entered into in 2010 to build an advanced digital cinema satellite distribution network targeting delivery to digitally equipped theaters in the U.S. and Canada.

Broadband Connectivity Solutions (Restricted) Limited

We own 20% of Broadband Connectivity Solutions (Restricted) Limited (together with its subsidiaries, “BCS”), a joint venture that we entered into in 2018 to provide commercial Ka-band satellite broadband services across Africa, the Middle East and southwest Asia operating over Yahsat's Al Yah 2 and Al Yah 3 Ka-band satellites.

Financial Information for Our Equity Method Investments

The following table presents revenue recognized:

	For the years ended December 31,		
	2022	2021	2020
Deluxe	$ 5,334	$ 5,480	$ 4,393
BCS	$ 7,933	$ 8,278	$ 9,080

The following table presents trade accounts receivable:

	As of December 31,	
	2022	2021
Deluxe	$ 3,026	$ 934
BCS	$ 5,062	$ 5,544

We recorded cash distributions from our investments of $2.0 million for the year ended December 31, 2022 that was considered a return of investment and reported in *Net cash provided by (used for) investing activities* in the Consolidated Statements of Cash Flows. There were no returns of investment during the years ended December 31, 2021 and 2020.

NOTE 13. LONG-TERM DEBT

The following table presents the carrying amount and fair values of our *Long-term debt, net:*

		As of December 31,			
		2022		2021	
	Effective Interest Rate	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Senior Secured Notes:					
5 1/4% Senior Secured Notes due 2026	5.320%	$ 750,000	$ 727,763	$ 750,000	$ 825,555
Senior Unsecured Notes:					
6 5/8% Senior Unsecured Notes due 2026	6.688%	750,000	707,490	750,000	838,740
Less: Unamortized debt issuance costs		(3,223)	—	(4,006)	—
Total long-term debt, net		$ 1,496,777	$ 1,435,253	$ 1,495,994	$ 1,664,295

2026 Senior Secured Notes and 2026 Senior Unsecured Notes

On July 27, 2016, we issued $750.0 million aggregate principal amount of 5 1/4% Senior Secured Notes due 2026 (the “2026 Senior Secured Notes”) at an issue price of 100.0%, pursuant to an indenture dated July 27, 2016 (the “2016 Secured Indenture”) and $750.0 million aggregate principal amount of 6 5/8% Senior Unsecured Notes due 2026 (the “2026 Senior Unsecured Notes”) at an issue price of 100.0%, pursuant to an indenture dated July 27, 2016 (together with the 2016 Secured Indenture, the “Indentures”). The 2026 Senior Secured Notes and the 2026 Senior Unsecured Notes are referred to collectively as the “Notes” and individually as a series of the Notes. The Notes mature on August 1, 2026. Interest on the 2026 Senior Secured Notes accrues at an annual rate of 5 1/4% and interest on the 2026 Senior Unsecured Notes accrues at an annual rate of 6 5/8%. Interest on the Notes is payable semi-annually in cash, in arrears, on February 1 and August 1 of each year.

Additional Information Relating to the Notes

Each series of the Notes is redeemable, in whole or in part, at any time at a redemption price equal to 100.0% of the principal amount thereof plus a “make-whole” premium, as defined in the applicable Indenture, together with accrued and unpaid interest, if any, to the date of redemption.

The 2026 Senior Secured Notes are:

- our secured obligations;
- secured by security interests in substantially all of our and certain of our subsidiaries’ existing and future tangible and intangible assets on a first priority basis, subject to certain exceptions;
- effectively junior to our obligations that are secured by assets that are not part of the collateral that secures the 2026 Senior Secured Notes to the extent of the value of the collateral securing such obligations;
- effectively senior to our existing and future unsecured obligations to the extent of the value of the collateral securing the 2026 Senior Secured Notes, after giving effect to permitted liens as provided in the 2016 Secured Indenture;
- senior in right of payment to all of our existing and future obligations that are expressly subordinated to the 2026 Senior Secured Notes;
- structurally junior to any existing and future obligations of any of our subsidiaries that do not guarantee the 2026 Senior Secured Notes; and
- unconditionally guaranteed, jointly and severally, on a general senior secured basis by certain of our subsidiaries, which guarantees rank equally with all of the guarantors’ existing and future unsubordinated indebtedness and effectively senior to such guarantors’ existing and future obligations to the extent of the value of the assets securing the 2026 Senior Secured Notes.

The 2026 Senior Unsecured Notes are:

- our unsecured senior obligations;
- ranked equally with all existing and future unsubordinated indebtedness and effectively junior to any secured indebtedness up to the value of the assets securing such indebtedness;
- effectively junior to our obligations that are secured to the extent of the value of the collateral securing such obligations;
- senior in right of payment to all our existing and future obligations that are expressly subordinated to the 2026 Senior Unsecured Notes;
- structurally junior to any existing and future obligations of any of our subsidiaries that do not guarantee the 2026 Senior Unsecured Notes; and
- unconditionally guaranteed, jointly and severally, on a general senior secured basis by certain of our subsidiaries, which guarantees rank equally with all of the guarantors' existing and future unsubordinated indebtedness, and effectively junior to any secured indebtedness of the guarantors up to the value of the assets securing such indebtedness.

Subject to certain exceptions, the Indentures contain restrictive covenants that, among other things, impose limitations on our ability and, in certain instances, the ability of certain of our subsidiaries to:

- incur additional debt;
- pay dividends or make distributions on our or their capital stock or repurchase our or their capital stock;
- make certain investments;
- create liens or enter into sale and leaseback transactions;
- enter into transactions with affiliates;
- merge or consolidate with another company;
- transfer and sell assets; and
- allow to exist certain restrictions on our or their ability to pay dividends, make distributions, make other payments, or transfer assets.

In the event of a Change of Control, as defined in the respective Indentures, we would be required to make an offer to repurchase all or any part of a holder's Notes at a purchase price equal to 101.0% of the aggregate principal amount thereof, together with accrued and unpaid interest to the date of repurchase.

The Indentures provide for customary events of default for each series of the Notes, including, among other things, non-payment, breach of the covenants in the applicable Indentures, payment defaults or acceleration of other indebtedness, a failure to pay certain judgments and certain events of bankruptcy, insolvency and reorganization. If any event of default occurs and is continuing with respect to any series of the Notes, the trustee or the holders of at least 25.0% in principal amount of the then outstanding Notes of such series may declare all the Notes of such series to be due and payable immediately, together with any accrued and unpaid interest.

Debt Issuance Costs

For the years ended December 31, 2022, 2021 and 2020, we amortized $0.8 million, $2.4 million and $4.3 million respectively, of debt issuance costs incurred for all debt issuances, which are included in *Interest expense, net of amounts capitalized* in the Consolidated Statements of Operations.

NOTE 14. INCOME TAXES

The following table presents the components of *Income (loss) before income taxes* in the Consolidated Statements of Operations:

	For the years ended December 31,		
	2022	2021	2020
Domestic	$ 253,654	$ 246,207	$ 116,268
Foreign	(60,303)	(78,479)	(76,579)
Income (loss) before income taxes	$ 193,351	$ 167,728	$ 39,689

The following table presents the components of *Income tax benefit (provision), net*, in the Consolidated Statements of Operations:

	For the years ended December 31,		
	2022	2021	2020
Current benefit (provision), net:			
Federal	$ (83,594)	$ (73,571)	$ (40,109)
State	(15,430)	(18,562)	(4,152)
Foreign	(4,292)	(3,254)	(1,740)
Total current benefit (provision), net	$ (103,316)	$ (95,387)	$ (46,001)
Deferred benefit (provision), net:			
Federal	$ 37,714	$ 28,319	$ 15,151
State	8,186	3,705	(2,926)
Foreign	2,975	6,252	(8,342)
Total deferred benefit (provision), net	48,875	38,276	3,883
Total income tax benefit (provision), net	$ (54,441)	$ (57,111)	$ (42,118)

The following table presents our actual tax provisions reconciled to the amounts computed by applying the statutory federal tax rate to *Income (loss) before income taxes* in the Consolidated Statements of Operations:

	For the years ended December 31,		
	2022	2021	2020
Statutory rate	$ (40,604)	$ (35,223)	$ (8,336)
State income taxes, net of federal benefit (provision)	(4,005)	(10,960)	(6,205)
Permanent differences	(2,233)	(806)	(1,447)
Tax credits, including withholding tax	3,699	4,573	1,137
Valuation allowance	(21,359)	(23,346)	(36,491)
Rates different than statutory	9,753	10,164	9,725
Other	308	(1,513)	(501)
Total income tax benefit (provision), net	$ (54,441)	$ (57,111)	$ (42,118)

The following table presents the components of our deferred tax assets and liabilities:

	As of December 31,	
	2022	2021
Deferred tax assets:		
Net operating losses, credit and other carryforwards	$ 119,594	$ 121,021
Other investments	11,648	8,890
Accrued expenses	53,324	30,973
Stock-based compensation	5,645	6,833
Other assets	32,824	8,985
Total deferred tax assets	223,035	176,702
Valuation allowance	(153,233)	(139,727)
Deferred tax assets after valuation allowance	$ 69,802	$ 36,975
Deferred tax liabilities:		
Property and equipment, regulatory authorizations, and other intangibles	$ (332,884)	$ (338,130)
Other liabilities	(18,853)	(27,840)
Total deferred tax liabilities	(351,737)	(365,970)
Total net deferred tax liabilities	$ (281,935)	$ (328,995)
Net deferred tax assets (liabilities) foreign jurisdiction	$ 6,277	$ 5,267
Net deferred tax assets (liabilities) domestic	(288,212)	(334,262)
Total net deferred tax assets (liabilities)	$ (281,935)	$ (328,995)

Overall, our net deferred tax assets were offset by a valuation allowance of $153.2 million and $139.7 million as of December 31, 2022 and 2021, respectively. The change in the valuation allowance relates to an increase in the net operating loss carryforwards of certain foreign subsidiaries, offset by a decrease due to changes in foreign exchange rates.

Tax benefits of net operating loss and tax credit carryforwards are evaluated on an ongoing basis, including a review of historical and projected future operating results, the eligible carryforward period, and other circumstances. As of December 31, 2022, we had foreign net operating loss carryforwards of $406.8 million. The net operating loss carryforwards associated with India will begin to expire in 2027.

As of December 31, 2022, we had undistributed earnings attributable to foreign subsidiaries for which no provision for U.S. income taxes or foreign withholding taxes has been made because it is expected that such earnings will be reinvested outside the U.S. indefinitely. It is not practicable to determine the amount of the unrecognized deferred tax liability at this time. As of December 31, 2022 and 2021, we had net deferred tax assets related to our foreign subsidiaries of $7.8 million and $5.4 million, respectively, which were recorded in *Other non-current assets, net* in the Consolidated Balance Sheets.

Accounting for Uncertainty in Income Taxes

In addition to filing U.S. federal income tax returns with EchoStar, we file income tax returns in all states that impose an income tax. As of December 31, 2022, we are not currently under a U.S. federal income tax examination. However, the IRS could perform tax examinations on years as early as tax year 2008. We are also subject to frequent state income tax audits and have open state examinations on years as early as tax year 2008. We also file income tax returns in the United Kingdom, Germany, Brazil, India and a number of other foreign jurisdictions. We generally are open to income tax examination in these foreign jurisdictions for taxable years beginning in 2004. As of December 31, 2022, we are currently being audited by the Indian tax authorities for fiscal years 2004 through 2021 and the German tax authority for calendar years 2016 through 2019. We have no other on-going significant income tax examinations in process in our foreign jurisdictions.

The following table presents the reconciliation of the beginning and ending amount of unrecognized income tax benefits:

	For the years ended December 31,		
	2022	2021	2020
Unrecognized tax benefit balance as of beginning of period:	$ 7,294	$ 7,294	$ 7,866
Reductions based on tax positions related to prior years	(122)	—	(572)
Balance as of end of period	$ 7,172	$ 7,294	$ 7,294

As of December 31, 2022 and 2021, we had $7.2 million of unrecognized income tax benefits, all of which, if recognized, would affect our effective tax rate.

For the years ended December 31, 2022, 2021 and 2020, our income tax provision included an insignificant amount of interest and penalties.

NOTE 15. EMPLOYEE BENEFIT PLANS

Employee Stock Purchase Plan

EchoStar has an employee stock purchase plan (the "ESPP"), under which it is authorized to issue 5.0 million shares of EchoStar's Class A common stock. As of December 31, 2022, EchoStar had approximately 0.7 million shares of Class A common stock which remain available for issuance under the ESPP. Generally, all full-time employees who have been employed by EchoStar or its subsidiaries for at least one calendar quarter are eligible to participate in the ESPP. Employee stock purchases are made through payroll deductions. Under the terms of the ESPP, each employee's deductions are limited so that the maximum they may purchase under the ESPP is $25,000 in fair value of Class A common stock per year. Stock purchases are made on the last business day of each calendar quarter at 85.0% of the closing price of EchoStar's Class A common stock on that date. For the years ended December 31, 2022, 2021 and 2020, employee purchases of EchoStar's Class A common stock through the ESPP totaled approximately 580,000 shares, 446,000 shares and 452,000 shares, respectively.

401(k) Employee Savings Plans

Under the EchoStar 401(k) Plan ("the Plan"), eligible employees are entitled to contribute up to 75.0% of their eligible compensation, on a pre-tax and/or after-tax basis, subject to the maximum contribution limit provided by the Internal Revenue Code of 1986, as amended (the "Code"). All employee contributions to the Plan are immediately vested. EchoStar matches 50 cents on the dollar for the first 6.0% of each employee's salary contributions to the Plan for a total of 3.0% match on a pre-tax basis up to a maximum of $7,500 annually. EchoStar's match is calculated each pay period there is an employee contribution. In addition, EchoStar may make an annual discretionary contribution to the Plan to be made in cash or EchoStar's stock. EchoStar's contributions under the Plan vest at 20.0% per year and are 100.0% vested after an eligible employee has completed five years of employment. Forfeitures of unvested participant balances may be used to fund matching and discretionary contributions.

The following table presents our matching contributions and discretionary contributions:

	For the years ended December 31,		
	2022	2021	2020
Matching contributions	$ 5,475	$ 5,434	$ 5,239
Fair value of EchoStar discretionary contributions of its Class A common stock, net of forfeitures, under 401(k) plan	$ 7,042	$ 7,125	$ 6,921

NOTE 16. RELATED PARTY TRANSACTIONS - ECHOSTAR

The following is a summary of the transactions and the terms of the underlying principal agreements that have had or may have an impact on our consolidated financial condition and results of operations.

Shared Corporate Services. We and EchoStar, including EchoStar's other subsidiaries, have agreed that we shall each have the right, but not the obligation, to receive from the other certain shared corporate services, including among other things: treasury, tax, accounting and reporting, risk management, cybersecurity, legal, internal audit, human resources, and information technology. These shared corporate services are generally provided at cost. We and EchoStar, including EchoStar's other subsidiaries, may each terminate a particular shared corporate service for any reason upon at least 30 days' notice. We recorded these expenses within Operating expenses - EchoStar for shared corporate services received from EchoStar and its other subsidiaries of $14.2 million, $2.8 million and $7.5 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Services and Other Revenue — EchoStar

The following table presents our *Services and other revenue* from EchoStar:

	For the years ended December 31,		
	2022	2021	2020
Services and other revenue - EchoStar	$ 17,623	$ 21,206	$ 20,287

The following table presents the corresponding related party receivables:

	As of December 31,	
	2022	2021
Related party receivables - EchoStar - current	$ 112,985	$ 122,619
Related party receivables - EchoStar - non-current	55,834	56,055
Total related party receivables - EchoStar	$ 168,819	$ 178,674

Receivables. EchoStar and its other subsidiaries reimburse us from time to time for amounts paid by us for costs and expenses attributable to EchoStar and its other subsidiaries. We report receivables under these arrangements

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within Related party receivables - EchoStar - current. No repayment schedule for these receivables has been determined.

Operating Expenses — EchoStar

The following table presents our operating expenses from EchoStar:

	For the years ended December 31,		
	2022	2021	2020
Operating expenses - EchoStar	$ 75,462	$ 56,430	$ 56,859

The following table presents the corresponding related party payables:

	As of December 31,	
	2022	2021
Related party payables - EchoStar - current	$ 216,504	$ 124,578
Related party payables - EchoStar - non-current	23,423	24,118
Total related party payables - EchoStar	$ 239,927	$ 148,696

Payables. We reimburse EchoStar and its other subsidiaries from time to time for amounts paid by EchoStar and its other subsidiaries for costs and expenses attributable to us. We report payables under these arrangements within Related party payables - EchoStar - current. No repayment schedule for these payables has been determined.

Real Estate. We occupy certain office space in buildings owned or leased by EchoStar and its other subsidiaries and pay a portion of the taxes, insurance, utilities and maintenance of the premises in accordance with the percentage of the space we occupy.

Cash Advances. EchoStar and certain of its other subsidiaries have also provided cash advances to certain of our foreign subsidiaries to fund certain expenditures pursuant to loan agreements that mature in 2023. Advances under these agreements bear interest at annual rates of three percent. We report amounts payable under these agreements within Related party payables - EchoStar - non-current.

BSS Transaction. Pursuant to the pre-closing restructuring contemplated by the Master Transaction Agreement (as defined below), and as part of the BSS Transaction (as defined below), we and our subsidiaries transferred certain of the BSS Business (as defined below) to BSS Corp. (as defined below), and we distributed all of the shares of BSS Corp. to EchoStar as a dividend.

Share Exchange Agreement. Prior to consummation of the Share Exchange, EchoStar was required to complete steps necessary for the transferring of certain assets and liabilities to DISH Network Corporation (“DISH”) and its subsidiaries (together with DISH, “DISH Network”). As part of these steps, subsidiaries of EchoStar that, prior to the consummation of the Share Exchange, owned EchoStar’s business of providing online video delivery and satellite video delivery for broadcasters and pay-TV operators, including satellite uplinking/downlinking, transmission services, signal processing and conditional access management, and other services and related assets and liabilities were contributed to one of our subsidiaries in consideration for additional shares of HSSC’s common stock that were then issued to a subsidiary of EchoStar.

EchoStar Mobile Limited Service Agreements. We provide services and lease equipment to support the business of EchoStar Mobile Limited, a subsidiary of EchoStar that is licensed by the EU to provide mobile satellite services and complementary ground component services covering the entire EU using S-band spectrum. Generally, the amounts EchoStar’s other subsidiaries pay for these services are based on cost plus a fixed margin. We recorded revenue in *Services and other revenue* of $17.6 million, $21.2 million and $20.3 million for the years ended December 31, 2022, 2021 and 2020, respectively, related to these services. Additionally, we have converted the receivables for certain of these services into loans, bearing an annual interest rate of 5%, that mature in 2023. We report these loans within Related party receivables - EchoStar - non-current.

Construction Management Services for EchoStar XXIV satellite. In August 2017, a subsidiary of EchoStar entered into a contract with Maxar Space, LLC (formerly Space Systems/Loral, LLC), for the design and construction of the EchoStar XXIV satellite, a new, next-generation, high throughput geostationary satellite, with an expected launch in the second quarter of 2023. We provide construction management services to EchoStar's subsidiary for the construction of the EchoStar XXIV satellite. We charged EchoStar's subsidiary and reduced our operating expenses by the costs of such services of $1.6 million, $1.6 million and $1.5 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Dividends. On March 17, 2022, our Board of Directors declared and approved payment of a cash dividend on our outstanding common stock to our shareholder and parent, EchoStar, in the amount of $100.0 million. Payment of this dividend was made in the first quarter of 2022.

NOTE 17. RELATED PARTY TRANSACTIONS - DISH NETWORK

Overview

EchoStar and DISH have operated as separate publicly-traded companies since 2008 (the "Spin-off"). A substantial majority of the voting power of the shares of each of EchoStar and DISH is owned beneficially by Charles W. Ergen, our Chairman, and by certain entities established for the benefit of his family.

In January 2017, EchoStar and certain of its subsidiaries entered into a share exchange agreement (the "Share Exchange Agreement") with DISH and certain of its subsidiaries pursuant to which, in February 2017, we received all of the shares of preferred tracking stock previously issued by us and one of our subsidiaries (the "Tracking Stock"), representing an 80% economic interest in the residential retail satellite broadband business of our Hughes segment, in exchange for 100% of the equity interests of certain EchoStar subsidiaries that held substantially all of our EchoStar Technologies businesses and certain other assets (collectively, the "Share Exchange"). The Tracking Stock was retired in March 2017.

In September 2019, pursuant to a master transaction agreement (the "Master Transaction Agreement") with DISH and a wholly-owned subsidiary of DISH ("Merger Sub"), (i) we transferred certain real property and the various businesses, products, licenses, technology, revenues, billings, operating activities, assets and liabilities primarily related to the former portion of our ESS segment that managed, marketed and provided (1) broadcast satellite services primarily to Network and our former joint venture Dish Mexico, S. de R.L. de C.V. and its subsidiaries ("Dish Mexico"), and (2) telemetry, tracking and control ("TT&C") services for satellites owned by DISH Network and a portion of our other businesses (collectively, the "BSS Business") to one of our former subsidiaries, EchoStar BSS Corporation ("BSS Corp."), (ii) we distributed to each holder of shares of our Class A or Class B common stock entitled to receive consideration in the transaction an amount of shares of common stock of BSS Corp., par value $0.001 per share ("BSS Common Stock"), equal to one share of BSS Common Stock for each share of our Class A or Class B common stock owned by such stockholder (the "Distribution"); and (iii) immediately after the Distribution, (1) Merger Sub merged with and into BSS Corp. (the "Merger"), such that BSS Corp. became a wholly-owned subsidiary of DISH and with DISH then owning and operating the BSS Business, and (2) each issued and outstanding share of BSS Common Stock owned by EchoStar stockholders was converted into the right to receive 0.23523769 shares of DISH Class A common stock, par value $0.001 per share ("DISH Common Stock") ((i) - (iii) collectively, the "BSS Transaction").

In connection with and following the Spin-off, the Share Exchange and the BSS Transaction, EchoStar, we and certain other of EchoStar's subsidiaries and DISH Network entered into certain agreements pursuant to which we, EchoStar and certain of its other subsidiaries, on the one hand, obtain certain products, services and rights from DISH Network, on the other hand; DISH Network, on the one hand, obtains certain products, services and rights from us, EchoStar and certain of its other subsidiaries, on the other hand; and such entities indemnify each other against certain liabilities arising from their respective businesses. Generally, the amounts we and/or EchoStar and its other subsidiaries or DISH Network pay for products and services provided under the agreements are based on cost plus a fixed margin (unless noted differently below), which varies depending on the nature of the products and services provided. We and/or EchoStar and its other subsidiaries may also enter into additional agreements with DISH Network in the future.

The following is a summary of the transactions and the terms of the underlying principal agreements that have had or may have an impact on our consolidated financial condition and results of operations.

Services and Other Revenue — DISH Network

The following table presents our *Services and other revenue - DISH Network*:

	For the years ended December 31,		
	2022	2021	2020
Services and other revenue - DISH Network	$ 17,832	$ 21,718	$ 25,930

The following table presents the related trade accounts receivable:

	As of December 31,	
	2022	2021
Trade accounts receivable - DISH Network	$ 1,992	$ 3,457

Satellite Capacity Leased to DISH Network. Effective January 2008, DISH Network began leasing satellite capacity from us on the EchoStar IX satellite. We terminated the provision of this satellite capacity in December 2022.

Telesat Obligation Agreement. In September 2009, we entered into an agreement with Telesat Canada to lease satellite capacity from Telesat Canada on all 32 direct broadcast satellite ("DBS") transponders on the Nimiq 5 satellite at the 72.7 degree west longitude orbital location (the "Telesat Transponder Agreement"). In September 2009, we entered into an agreement with DISH Network, pursuant to which DISH Network leased satellite capacity from us on all 32 of the DBS transponders covered by the Telesat Transponder Agreement (the "DISH Nimiq 5 Agreement"). Under the terms of the DISH Nimiq 5 Agreement, DISH Network made certain monthly payments to us that commenced in September 2009, when the Nimiq 5 satellite was placed into service. We transferred the Telesat Transponder Agreement to DISH Network in September 2019 as part of the BSS Transaction; however, we retained certain obligations related to DISH Network's performance under that agreement and we entered into an agreement with DISH Network whereby DISH Network compensates us for retaining such obligations.

TerreStar Agreement. In March 2012, DISH Network completed its acquisition of substantially all the assets of TerreStar Networks Inc. ("TerreStar"). Prior to DISH Network's acquisition of substantially all the assets of TerreStar and EchoStar's completion of the Hughes Acquisition, TerreStar and HNS entered into various agreements pursuant to which we provide, among other things, warranty, operations and maintenance and hosting services for TerreStar's ground-based communications equipment (the "TerreStar Agreements"). In December 2017, we and DISH Network amended these agreements, effective as of January 1, 2018, to reduce certain pricing terms through December 31, 2023 and to modify certain termination provisions. DISH Network generally has the right to continue to receive warranty services from us for our products on a month-to-month basis unless terminated by DISH Network upon at least 21 days' written notice to us. DISH Network generally has the right to continue to receive operations and maintenance services from us on a quarter-to-quarter basis unless these services are terminated by DISH Network upon at least 90 days' written notice to us. In addition, DISH Network generally may terminate any and all services for convenience subject to providing us with prior notice and/or payment of termination charges. In March 2020, we entered into an agreement with DISH Network pursuant to which we perform certain work and provide certain credits to amounts owed to us under the TerreStar Agreements in exchange for DISH Network's granting us rights to use certain satellite capacity under the Amended and Restated Professional Services Agreement (as defined below). As a result, we and DISH Network amended the TerreStar Agreements to suspend our provision of warranty services to DISH Network from April 2020 through December 2020. Following the expiration of this suspension, we have recommenced providing warranty services to DISH Network. In May 2022, we and DISH Network amended the agreement for the provision of hosting services to extend the term until May 2027.

Hughes Broadband Distribution Agreement. Effective October 2012, we and DISH Network entered into a distribution agreement (the “Distribution Agreement”) pursuant to which DISH Network has the right, but not the obligation, to market, sell and distribute our Gen 4 HughesNet service. DISH Network pays us a monthly per subscriber wholesale service fee for our Gen 4 HughesNet service based upon a subscriber’s service level and based upon certain volume subscription thresholds. The Distribution Agreement also provides that DISH Network has the right, but not the obligation, to purchase certain broadband equipment from us to support the sale of the Gen 4 HughesNet service. The Distribution Agreement had an initial term of five years with automatic renewal for successive one-year terms unless terminated by either party with a written notice at least 180 days’ before the expiration of the then-current term. In February 2014, we and DISH Network entered into an amendment to the Distribution Agreement which, among other things, extended the initial term of the Distribution Agreement until March 2024. Upon expiration or termination of the Distribution Agreement, we and DISH Network will continue to provide our Gen 4 HughesNet service to the then-current DISH Network subscribers pursuant to the terms and conditions of the Distribution Agreement.

DBSD North America Agreement. In March 2012, DISH Network completed its acquisition of all of the equity of DBSD North America, Inc. (“DBSD North America”). Prior to DISH Network’s acquisition of DBSD North America and EchoStar’s completion of the Hughes Acquisition, DBSD North America and HNS entered into various agreements pursuant to which we provide, among other things, warranty, operations and maintenance and hosting services of DBSD North America’s gateway and ground-based communications equipment. In December 2017, we and DBSD North America amended these agreements, effective as of January 1, 2018, to reduce certain pricing terms through December 31, 2023 and to modify certain termination provisions. DBSD North America has the right to continue to receive operations and maintenance services from us on a quarter-to-quarter basis, unless terminated by DBSD North America upon at least 120 days’ written notice to us. In February 2019, we further amended these agreements to provide DBSD North America with the right to continue to receive warranty services from us on a month-to-month basis until December 2023, unless terminated by DBSD North America upon at least 21 days’ written notice to us. The provision of hosting services will continue until February 2027 unless terminated by DBSD North America upon at least 180 days’ written notice to us. In addition, DBSD North America generally may terminate any and all such services for convenience, subject to providing us with prior notice and/or payment of termination charges.

Hughes Equipment and Services Agreement. In February 2019, we and DISH Network entered into an agreement pursuant to which we will sell to DISH Network our HughesNet Service and HughesNet equipment that has been modified to meet DISH Network’s internet-of-things specifications for the transfer of data to DISH Network’s network operations centers. This agreement has an initial term of five years expiring February 2024 with automatic renewal for successive one-year terms unless terminated by DISH Network with at least 180 days’ written notice to us or by us with at least 365 days’ written notice to DISH Network.

Operating Expenses — DISH Network

The following table presents our operating expenses related to DISH Network:

	For the years ended December 31,		
	2022	2021	2020
Operating expenses - DISH Network	$ 4,545	$ 4,813	$ 4,734

The following table presents the related trade accounts payable:

	As of December 31,	
	2022	2021
Trade accounts payable - DISH Network	$ 567	$ 587

Amended and Restated Professional Services Agreement. In connection with the Spin-off, EchoStar entered into various agreements with DISH Network including a transition services agreement, satellite procurement agreement and services agreement, all of which expired in January 2010 and were replaced by a professional services agreement (the “Professional Services Agreement”). In January 2010, EchoStar and DISH Network agreed that EchoStar and its subsidiaries shall continue to have the right, but not the obligation, to receive the following services from DISH Network, among others, certain of which were previously provided under a transition services agreement: information technology, travel and event coordination, internal audit, legal, accounting and tax, benefits administration, program acquisition services and other support services. Additionally, EchoStar and DISH Network agreed that DISH Network would continue to have the right, but not the obligation, to engage EchoStar and its subsidiaries to manage the process of procuring new satellite capacity for DISH Network (previously provided under a satellite procurement agreement), receive logistics, procurement and quality assurance services from EchoStar and its subsidiaries (previously provided under a services agreement) and provide other support services. In connection with the consummation of the Share Exchange, EchoStar and DISH amended and restated the Professional Services Agreement (as amended to date, the “Amended and Restated Professional Services Agreement”) to provide that EchoStar and its subsidiaries and DISH Network shall have the right to receive additional services that either EchoStar and its subsidiaries or DISH Network may require as a result of the Share Exchange, including access to antennas owned by DISH Network for our use in performing TT&C services and maintenance and support services for our antennas (collectively, the “TT&C Antennas”). In September 2019, in connection with the BSS Transaction, EchoStar and DISH further amended the Professional Services Agreement (the “Amended and Restated Professional Services Agreement”) to provide that EchoStar and its subsidiaries and DISH Network shall have the right to receive additional services that either EchoStar and its subsidiaries or DISH Network may require as a result of the BSS Transaction and to remove our access to and the maintenance and support services for the TT&C Antennas. A portion of these costs and expenses have been allocated to us in the manner described in Note 16. Related Party Transactions - EchoStar. The term of the Amended and Restated Professional Services Agreement is through January 1, 2023 and renews automatically for successive one-year periods thereafter, unless the agreement is terminated earlier by either party upon at least 60 days' notice. We or DISH network may generally terminate the Amended and Restated Professional Services Agreement in part with respect to any particular service it receives for any reason upon at least 30 days' notice, unless the statement of work for particular services states otherwise. Certain services provided under the Amended and Restated Professional Services Agreement may survive the termination of the agreement.

Collocation and Antenna Space Agreements. We and DISH Network entered into an agreement pursuant to which DISH Network provided us with collocation space in El Paso, Texas. This agreement was for an initial period ending in July 2015, and provided us with renewal options for four consecutive three-year terms. We exercised our first renewal option for a period commencing in August 2015 and ending in July 2018, in April 2018 we exercised our second renewal option for a period ending in July 2021, and in May 2021 we exercised our third renewal option for a period ending in July 2024. In connection with the Share Exchange, effective March 2017, we also entered into certain agreements pursuant to which DISH Network provides collocation and antenna space to EchoStar through February 2022 at the following locations: Cheyenne, Wyoming; Gilbert, Arizona; New Braunfels, Texas; Monee, Illinois; Spokane, Washington; and Englewood, Colorado. In October 2019, we provided a termination notice for our New Braunfels, Texas agreement effective May 2020. In November 2020, we provided a termination notice for one of our Englewood, Colorado agreements effective May 2021. In November 2021, we exercised our right to renew the collocation agreements at Gilbert, Arizona, Cheyenne, Wyoming, Spokane, Washington, Englewood, Colorado and Monee, Illinois for a period ending in February 2025. In August 2017, we and DISH Network also entered into certain other agreements pursuant to which DISH Network provides additional collocation and antenna space to us in Monee, Illinois and Spokane, Washington through August 2022. In May 2022, we exercised our right to renew such other agreements at Monee, Illinois and Spokane, Washington through August 2025. Generally, we may renew our collocation and antenna space agreements for three-year periods by providing DISH Network with prior written notice no more than 120 days but no less than 90 days prior to the end of the then-current term. We may terminate certain of these agreements with 180 days' prior written notice. In September 2019, in connection with the BSS Transaction, we entered into an agreement pursuant to which DISH Network provided us with certain additional collocation space in Cheyenne, Wyoming for a period that ended in September 2020. The fees for the services provided under these agreements depend on the number of racks located at the location.

Also in connection with the BSS Transaction, in September 2019, we entered into an agreement pursuant to which DISH Network provides us with antenna space and power in Cheyenne, Wyoming for a period of five years commencing in August 2020, with four three-year renewal terms, with prior written notice of renewal required no more than 120 days but no less than 90 days prior to the end of the then-current term. In March 2021, we entered into additional agreements pursuant to which DISH Network provides us with antenna space and power in Cheyenne, Wyoming, and the right to use an antenna and certain space in Gilbert, Arizona. Both agreements are for a period of five years with four three-year renewal terms, with prior written notice of renewal required no more than 120 days but no less than 90 days prior to the end of the then-current term.

Hughes Broadband Master Services Agreement. In conjunction with the launch of our EchoStar XIX satellite, in March 2017, we and DISH Network entered into a master service agreement (the "Hughes Broadband MSA") pursuant to which DISH Network, among other things: (i) has the right, but not the obligation, to market, promote and solicit orders and upgrades for our Gen 5 HughesNet service and related equipment and other telecommunication services and (ii) installs Gen 5 HughesNet service equipment with respect to activations generated by DISH Network. Under the Hughes Broadband MSA, we and DISH Network make certain payments to each other relating to sales, upgrades, purchases and installation services. The current term of the Hughes Broadband MSA is through March 2023 with automatic renewal for successive one-year terms. Either party has the ability to terminate the Hughes Broadband MSA, in whole or in part, for any reason upon at least 90 days' notice to the other party. Upon expiration or termination of the Hughes Broadband MSA, we will continue to provide our Gen 5 HughesNet service to subscribers and make certain payments to DISH Network pursuant to the terms and conditions of the Hughes Broadband MSA. We incurred sales incentives and other costs under the Hughes Broadband MSA totaling $6.8 million, $8.4 million and $16.6 million for the years ended December 31, 2022, 2021 and 2020, respectively.

2019 TT&C Agreement. In September 2019, in connection with the BSS Transaction, we and a subsidiary of EchoStar entered into an agreement pursuant to which DISH Network provides TT&C services to us and EchoStar and its other subsidiaries for a period ending in September 2021, with the option for a subsidiary of EchoStar to renew for a one-year period upon written notice at least 90 days prior to the initial expiration (the "2019 TT&C Agreement"). In June 2021, we amended the 2019 TT&C Agreement to extend the term until September 2022 and added the option for us to renew the 2019 TT&C Agreement up to an additional three years. In September 2022, we exercised the option to renew the 2019 TT&C Agreement until September 2023. The fees for services provided under the 2019 TT&C Agreement are calculated at either: (i) a fixed fee or (ii) cost plus a fixed margin, which will vary depending on the nature of the services provided. Any party is able to terminate the 2019 TT&C Agreement for any reason upon 12 months' notice.

Referral Marketing Agreement. In June 2021, we and DISH Network entered into an agreement pursuant to which we will pre-qualify prospects contacting Hughes call centers and transfer those prospects to DISH Network for introduction to DISH Network's video services, for prospects that convert Hughes will receive a commission. This agreement has an indefinite term and may be terminated by either party upon 90 days' prior written notice.

Whidbey Island 5G Network Test Bed Subcontract. In June 2022, we and DISH Wireless entered into a subcontract ("DISH Subcontract") pursuant to which DISH will provide access and use of a DISH lab, technical support and integration and testing support for the 5G network test bed to be delivered by Hughes to its customer.

Other Receivables - DISH Network

Tax Sharing Agreement. Effective December 2007, EchoStar and DISH Network entered into a tax sharing agreement (the “Tax Sharing Agreement”) in connection with the Spin-off. This agreement governs EchoStar and DISH and their respective subsidiaries’ respective rights, responsibilities and obligations after the Spin-off with respect to taxes for the periods ending on or before the Spin-off. Generally, all pre-Spin-off taxes, including any taxes that are incurred as a result of restructuring activities undertaken to implement the Spin-off, are borne by DISH Network and DISH Network indemnifies EchoStar and its subsidiaries for such taxes. However, DISH Network is not liable for and does not indemnify EchoStar or its subsidiaries for any taxes that are incurred as a result of the Spin-off or certain related transactions failing to qualify as tax-free distributions pursuant to any provision of Section 355 or Section 361 of the Internal Revenue Code of 1986, as amended (the “Code”), because of: (i) a direct or indirect acquisition of any of EchoStar’s stock, stock options or assets; (ii) any action that EchoStar or its subsidiaries take or fail to take or (iii) any action that EchoStar or its subsidiaries take that is inconsistent with the information and representations furnished to the IRS in connection with the request for the private letter ruling, or to counsel in connection with any opinion being delivered by counsel with respect to the Spin-off or certain related transactions. In such case, EchoStar and its subsidiaries will be solely liable for, and will indemnify DISH Network for any resulting taxes, as well as any losses, claims and expenses. The Tax Sharing Agreement will terminate after the later of the full period of all applicable statutes of limitations, including extensions, or once all rights and obligations are fully effectuated or performed.

In light of the Tax Sharing Agreement, among other things, and in connection with EchoStar’s consolidated federal income tax returns for certain tax years prior to and for the year of the Spin-off, in September 2013, EchoStar and DISH Network agreed upon a supplemental allocation of the tax benefits arising from certain tax items resolved in the course of the IRS’s examination of EchoStar’s consolidated tax returns. As a result, DISH Network agreed to pay EchoStar an amount that includes the federal tax benefit DISH received as a result of our operations.

In August 2018, EchoStar and DISH Network amended the Tax Sharing Agreement and the 2013 agreements (the “Tax Sharing Amendment”). Under the Tax Sharing Amendment, DISH Network is required to compensate EchoStar for certain past and future excess California research and development tax credits generated by EchoStar and its subsidiaries and used by DISH Network.

Other Agreements

Master Transaction Agreement. In May 2019, EchoStar and BSS Corp. entered into the Master Transaction Agreement with DISH and Merger Sub with respect to the BSS Transaction. Pursuant to the terms of the Master Transaction Agreement, on September 10, 2019: (i) EchoStar and its subsidiaries and we and our subsidiaries transferred the BSS Business to BSS Corp.; (ii) EchoStar completed the Distribution; and (iii) immediately after the Distribution, (1) BSS Corp. became a wholly-owned subsidiary of DISH such that DISH owns and operates the BSS Business and (2) each issued and outstanding share of BSS Common Stock owned by EchoStar stockholders was converted into the right to receive 0.23523769 shares of DISH Common Stock. Following the consummation of the BSS Transaction, we no longer operate the BSS Business, which was a substantial portion of our ESS segment. The Master Transaction Agreement contained customary representations and warranties by the parties, including EchoStar’s representations relating to the assets, liabilities and financial condition of the BSS Business, and representations by DISH Network relating to its financial condition and liabilities. EchoStar and DISH Network have agreed to indemnify each other against certain losses with respect to breaches of certain representations and covenants and certain retained and assumed liabilities, respectively.

BSS Transaction Intellectual Property and Technology License Agreement. Effective September 2019, in connection with the BSS Transaction, we, EchoStar and DISH Network entered into an intellectual property and technology license agreement (the "BSS IPTLA") pursuant to which we, EchoStar and its other subsidiaries and DISH Network license to each other certain intellectual property and technology. The BSS IPTLA will continue in perpetuity, unless mutually terminated by the parties. Pursuant to the BSS IPTLA, we, EchoStar and its other subsidiaries granted to DISH Network a license to our and their intellectual property and technology for use by DISH Network, among other things, in connection with its continued operation of the BSS Business acquired pursuant to the BSS Transaction, including a limited license to use the "ESS" and "ECHOSTAR SATELLITE SERVICES" trademarks during a transition period. EchoStar retains full ownership of the "ESS" and "ECHOSTAR SATELLITE SERVICES" trademarks. In addition, DISH Network granted a license back to us, EchoStar and its other subsidiaries, among other things, for the continued use of all intellectual property and technology that is used in our, EchoStar and its other subsidiaries' retained businesses but the ownership of which was transferred to DISH Network pursuant to the BSS Transaction.

BSS Transaction Tax Matters Agreement. Effective September 2019, in connection with the BSS Transaction, EchoStar, BSS Corp. and DISH entered into a tax matters agreement. This agreement governs certain rights, responsibilities and obligations of EchoStar and its subsidiaries' with respect to taxes of the BSS Business transferred pursuant to the BSS Transaction. Generally, EchoStar is responsible for all tax returns and tax liabilities for the BSS Business for periods prior to the BSS Transaction and DISH is responsible for all tax returns and tax liabilities for the BSS Business from and after the BSS Transaction.

Both EchoStar and DISH made certain tax-related representations and are subject to various tax-related covenants after the consummation of the BSS Transaction. Both EchoStar and DISH Network have agreed to indemnify each other for certain losses if there is a breach of any the tax representations or violation of any of the tax covenants in the tax matters agreement and that breach or violation results in the failure of the BSS Transaction being treated as a transaction that is tax-free for EchoStar or its stockholders for U.S. federal income tax purposes. In addition, DISH Network has agreed to indemnify EchoStar if the BSS Business is acquired, either directly or indirectly (e.g., via an acquisition of DISH Network), by one or more persons, where either it took an action, or knowingly facilitated, consented to or assisted with an action by its stockholders, that resulted in the failure of the BSS Transaction being treated as a transaction that is tax-free for EchoStar and its stockholders for U.S. federal income tax purposes. This tax matters agreement supplements the Tax Sharing Agreement outlined above and the Share Exchange Tax Matters Agreement outlined below, both of which continue in full force and effect.

BSS Transaction Employee Matters Agreement. Effective September 2019, in connection with the BSS Transaction, EchoStar and DISH Network entered into an employee matters agreement that addressed the transfer of employees from us to DISH Network, including certain benefit and compensation matters and the allocation of responsibility for employee related liabilities relating to current and past employees of the BSS Business. DISH Network assumed employee-related liabilities relating to the BSS Business as part of the BSS Transaction, except that EchoStar is responsible for certain pre-BSS Transaction compensation and benefits for employees who transferred to DISH Network in connection with the BSS Transaction.

Share Exchange Agreement. In February 2017 EchoStar consummated the Share Exchange, following which EchoStar and certain of its and our subsidiaries no longer operate the transferred EchoStar Technologies businesses and the Tracking Stock was retired and is no longer outstanding and all agreements, arrangements and policy statements with respect to such Tracking Stock terminated and are of no further effect. Pursuant to the Share Exchange Agreement, EchoStar and certain of its and our subsidiaries transferred certain assets, investments in joint ventures, spectrum licenses and real estate properties and DISH Network assumed certain liabilities relating to the transferred assets and businesses. The Share Exchange Agreement contained customary representations and warranties by the parties, including representations by EchoStar related to the transferred assets, assumed liabilities and the financial condition of the transferred businesses. EchoStar and DISH Network also agreed to customary indemnification provisions whereby each party indemnifies the other against certain losses with respect to breaches of representations, warranties or covenants and certain liabilities and if certain actions undertaken by EchoStar or DISH causes the transaction to be taxable to the other party after closing.

Share Exchange Intellectual Property and Technology License Agreement. Effective March 2017, in connection with the Share Exchange, EchoStar and one of its other subsidiaries and DISH Network entered into an intellectual property and technology license agreement ("IPTLA") pursuant to which we, EchoStar and its other subsidiaries and DISH Network license to each other certain intellectual property and technology. The IPTLA will continue in perpetuity, unless mutually terminated by the parties. Pursuant to the IPTLA, we, EchoStar and its other subsidiaries granted to DISH Network a license to our and their intellectual property and technology for use by DISH Network, among other things, in connection with its continued operation of the businesses acquired pursuant to the Share Exchange, including a limited license to use the "ECHOSTAR" trademark during a transition period. EchoStar retains full ownership of the "ECHOSTAR" trademark. In addition, DISH Network granted a license back to us, EchoStar and its other subsidiaries, among other things, for the continued use of all intellectual property and technology that is used in our, EchoStar and its other subsidiaries' retained businesses but the ownership of which was transferred to DISH Network pursuant to the Share Exchange.

Share Exchange Tax Matters Agreement. Effective March 2017, in connection with the Share Exchange, EchoStar and DISH entered into a tax matters agreement. This agreement governs certain rights, responsibilities and obligations of EchoStar and its subsidiaries with respect to taxes of the transferred businesses pursuant to the Share Exchange. Generally, EchoStar is responsible for all tax returns and tax liabilities for the transferred businesses and assets for periods prior to the Share Exchange and DISH Network is responsible for all tax returns and tax liabilities for the transferred businesses and assets from and after the Share Exchange. Both EchoStar and DISH Network made certain tax-related representations and are subject to various tax-related covenants after the consummation of the Share Exchange. Both EchoStar and DISH Network have agreed to indemnify each other if there is a breach of any such tax representation or violation of any such tax covenant and that breach or violation results in the Share Exchange not qualifying for tax free treatment for the other party. In addition, DISH Network has agreed to indemnify EchoStar if the transferred businesses are acquired, either directly or indirectly (e.g., via an acquisition of DISH Network), by one or more persons and such acquisition results in the Share Exchange not qualifying for tax free treatment. The tax matters agreement supplements the Tax Sharing Agreement outlined above which continues in full force and effect.

NOTE 18. RELATED PARTY TRANSACTIONS - OTHER

Hughes Systique Corporation

We contract with Hughes Systique Corporation ("Hughes Systique") for software development services. In addition to our approximately 42% ownership in Hughes Systique, Mr. Pradman Kaul, the former President of our subsidiary Hughes Communications and Vice-Chair of our board of directors (effective January 1, 2023), and his brother, who is the Chief Executive Officer and President of Hughes Systique, own in the aggregate approximately 25%, on an undiluted basis, of Hughes Systique's outstanding shares as of December 31, 2022. Furthermore, Mr. Pradman Kaul serves on the board of directors of Hughes Systique. Hughes Systique is a variable interest entity and we are considered the primary beneficiary of Hughes Systique due to, among other factors, our ability to direct the activities that most significantly impact the economic performance of Hughes Systique. As a result, we consolidate Hughes Systique's financial statements in these Consolidated Financial Statements.

TerreStar Solutions

DISH Network owns more than 15% of TerreStar Solutions, Inc. ("TSI"). In May 2018, we and TSI entered into an equipment and services agreement pursuant to which we design, manufacture and install upgraded ground communications network equipment for TSI's network and provide, among other things, warranty and support services. We recognized revenue of $2.0 million, $1.9 million and $4.4 million for the years ended December 31, 2022, 2021 and 2020, respectively. As of December 31, 2022 we had $0.5 million of trade accounts receivable from TSI.

NOTE 19. COMMITMENTS AND CONTINGENCIES

Commitments

The following table summarizes our contractual obligations as of December 31, 2022:

	Payments Due in the Years Ending December 31,						
	Total (4)(5)	2023	2024	2025	2026	2027	Thereafter
Long-term debt (1)	$ 1,500,000	$ —	$ —	$ —	$ 1,500,000	$ —	$ —
Interest on long-term debt	356,252	89,063	89,063	89,063	89,063	—	—
Satellite-related commitments (2)	143,516	43,729	17,737	17,351	16,089	14,393	34,217
Operating lease obligations (3)	200,528	24,983	23,063	19,470	18,684	17,168	97,160
Total	$ 2,200,296	$ 157,775	$ 129,863	$ 125,884	$ 1,623,836	$ 31,561	$ 131,377

(1) Assumes all long-term debt is outstanding until scheduled maturity.
(2) Includes payments pursuant to: i) the EchoStar XXIV launch contract, ii) regulatory authorizations, iii) non-lease costs associated with our finance lease satellites, iv) in-orbit incentives relating to certain satellites and v) commitments for satellite service arrangements.
(3) Operating leases consist primarily of leases for office space, data centers and satellite-related ground infrastructure.
(4) The table excludes amounts related to deferred tax liabilities, unrecognized tax positions and certain other amounts recorded in our non-current liabilities as the timing of any payments is uncertain.
(5) The table excludes long-term deferred revenue and other long-term liabilities that do not require future cash payments.

In certain circumstances, the dates on which we are obligated to pay our contractual obligations could change.

Contingencies

Patents and Intellectual Property

Many entities, including some of our competitors, have, or may have in the future, patents and other intellectual property rights that cover or affect products or services directly or indirectly related to those that we offer. We may not be aware of all patents and other intellectual property rights that our products and services may potentially infringe. Damages in patent infringement cases can be substantial, and in certain circumstances can be tripled. Further, we cannot estimate the extent to which we may be required in the future to obtain licenses with respect to intellectual property rights held by others and the availability and cost of any such licenses. Various parties have asserted patent and other intellectual property rights with respect to our products and services. We cannot be certain that these parties do not own the rights they claim, that these rights are not valid or that our products and services do not infringe on these rights. Further, we cannot be certain that we would be able to obtain licenses from these parties on commercially reasonable terms or, if we were unable to obtain such licenses, that we would be able to redesign our products and services to avoid infringement.

Certain Arrangements with DISH Network

In connection with EchoStar's spin-off from DISH in 2008, EchoStar entered into a separation agreement with DISH Network that provides, among other things, for the division of certain liabilities, including liabilities resulting from litigation. Under the terms of the separation agreement, EchoStar assumed certain liabilities that relate to its and our business, including certain designated liabilities for acts or omissions that occurred prior to the Spin-off. Certain specific provisions govern intellectual property related claims under which EchoStar will generally only be liable for its and its subsidiaries' acts or omissions following the Spin-off and DISH Network will indemnify EchoStar for any liabilities or damages resulting from intellectual property claims relating to the period prior to the Spin-off as well as DISH Network's acts or omissions following the Spin-off. In connection with the Share Exchange and BSS Transaction, EchoStar and certain of its and our subsidiaries entered into the Share Exchange Agreement and the Master Transaction Agreement, respectively, and other agreements which provide, among other things, for the division of certain liabilities, including liabilities relating to taxes, intellectual property and employees and liabilities resulting from litigation and the assumption of certain liabilities that relate to the transferred businesses and assets. These agreements also contain additional indemnification provisions between EchoStar and us and DISH Network for, in the case of the Share Exchange, certain pre-existing liabilities and legal proceedings and, in the case of the

BSS Transaction, certain losses with respect to breaches of certain representations and covenants and certain liabilities.

Litigation

We are involved in a number of legal proceedings concerning matters arising in connection with the conduct of our business activities. Many of these proceedings are at preliminary stages and/or seek an indeterminate amount of damages. We regularly evaluate the status of the legal proceedings in which we are involved to assess whether a loss is probable and to determine if accruals are appropriate. We record an accrual for litigation and other loss contingencies when we determine that a loss is probable, and the amount of the loss can be reasonably estimated. If accruals are not appropriate, we further evaluate each legal proceeding to assess whether an estimate of possible loss or range of loss can be made. There can be no assurance that legal proceedings against us will be resolved in amounts that will not differ from the amounts of our recorded accruals. Legal fees and other costs of defending legal proceedings are charged to expense as incurred.

For certain proceedings, management is unable to predict with any degree of certainty the outcome or provide a meaningful estimate of the possible loss or range of possible loss because, among other reasons: (i) the proceedings are in various stages; (ii) damages have not been sought or specified; (iii) damages are unsupported, indeterminate and/or exaggerated in management's opinion; (iv) there is uncertainty as to the outcome of pending trials, appeals, motions or other proceedings; (v) there are significant factual issues to be resolved; and/or (vi) there are novel legal issues or unsettled legal theories to be presented or a large number of parties are involved (as with many patent-related cases). Except as described below, however, management does not believe, based on currently available information, that the outcomes of these proceedings will have a material effect on our financial condition, operating results or cash flows, though there is no assurance that the resolution and outcomes of these proceedings, individually or in the aggregate, will not be material to our financial condition, operating results or cash flows for any particular period, depending, in part, upon the operating results for such period.

We intend to vigorously defend the proceedings against us. In the event that a court, tribunal, other body or jury ultimately rules against us, we may be subject to adverse consequences, including, without limitation, substantial damages, which may include treble damages, fines, penalties, compensatory damages and/or other equitable or injunctive relief that could require us to materially modify our business operations or certain products or services that we offer to our consumers.

Shareholder Litigation

On July 2, 2019, the City of Hallandale Beach Police Officers' and Firefighters' Personnel Retirement Trust, purporting to sue on behalf of a class of EchoStar Corporation's stockholders, filed a complaint in the District Court of Clark County, Nevada against EchoStar's directors, Charles W. Ergen, R. Stanton Dodge, Anthony M. Federico, Pradman P. Kaul, C. Michael Schroeder, Jeffrey R. Tarr, William D. Wade, and Michael T. Dugan; our chief financial officer, David J. Rayner; EchoStar; HSSC; our former subsidiary BSS Corp.; and DISH and its subsidiary Merger Sub. On September 5, 2019, the defendants filed motions to dismiss. On October 11, 2019, the plaintiffs filed an amended complaint removing Messrs. Dodge, Federico, Kaul, Schroeder, Tarr and Wade as defendants. The amended complaint alleges that Mr. Ergen, as our controlling stockholder, breached fiduciary duties to EchoStar's minority stockholders by structuring the BSS Transaction with inadequate consideration and improperly influencing our and EchoStar's boards of directors to approve the BSS Transaction. The amended complaint also alleges that the other defendants aided and abetted such alleged breaches. The plaintiffs seek equitable and monetary relief, including the issuance of additional DISH Common Stock, and other costs and disbursements, including attorneys' fees on behalf of the purported class. On November 11, 2019, we and the other defendants filed separate motions to dismiss plaintiff's amended complaint and during a hearing on January 13, 2020 the court denied these motions. On February 10, 2020, we and the other defendants filed answers to the amended complaint. The Court certified plaintiff's class on January 11, 2021. On June 18, 2021, the parties executed a settlement agreement to resolve all claims in this case. On the same day, the parties filed a joint motion for preliminary approval of the settlement agreement. The motion was granted by an order dated July 30, 2021. On December 9, 2021, the Court held a final settlement hearing. On December 10, 2021, the Court issued an Order granting final approval of the settlement agreement. In an order dated October 24, 2022, the Court granted plaintiff's unopposed motion to approve the class distribution plan.

License Fee Dispute with Government of India, Department of Telecommunications

In 1994, the Government of India promulgated a "National Telecommunications Policy" under which the government liberalized the telecommunications sector and required telecommunications service providers to pay fixed license fees. Pursuant to this policy, our subsidiary HCIPL, formerly known as Hughes Escorts Communications Limited, obtained a license to operate a data network over satellite using VSAT systems. In 2002, HCIPL's license was amended pursuant to a new government policy that was first established in 1999. The new policy eliminated the fixed license fees and instead required each telecommunications service provider to pay license fees based on its adjusted gross revenue ("AGR"). In March 2005, the Indian Department of Telecommunications ("DOT") notified HCIPL that, based on its review of HCIPL's audited accounts and AGR statements, HCIPL must pay additional license fees and penalties and interest on such fees and penalties. HCIPL responded that the DOT had improperly calculated its AGR by including revenue from licensed and unlicensed activities. The DOT rejected this explanation and in 2006, HCIPL filed a petition with an administrative tribunal (the "Tribunal"), challenging the DOT's calculation of its AGR. The DOT also issued license fee assessments to other telecommunications service providers and a number of similar petitions were filed by several other such providers with the Tribunal. These petitions were amended, consolidated, remanded and re-appealed several times. On April 23, 2015, the Tribunal issued a judgment affirming the DOT's calculation of AGR for the telecommunications service providers but reversing the DOT's imposition of interest, penalties and interest on such penalties as excessive. Over subsequent years, the DOT and HCIPL and other telecommunications service providers, respectively, filed several appeals of the Tribunal's ruling. On October 24, 2019, the Supreme Court of India ("Supreme Court") issued an order (the "October 2019 Order") affirming the license fee assessments imposed by the DOT, including its imposition of interest, penalties and interest on the penalties, but without indicating the amount HCIPL is required to pay the DOT, and ordering payment by January 23, 2020. On November 23, 2019, HCIPL and other telecommunication service providers filed a petition asking the Supreme Court to reconsider the October 2019 Order. The petition was denied on January 20, 2020. On January 22, 2020, HCIPL and other telecommunication service providers filed an application requesting that the Supreme Court modify the October 2019 Order to permit the DOT to calculate the final amount due and extend HCIPL's and the other telecommunication service providers' payment deadline. On February 14, 2020, the Supreme Court directed HCIPL and the other telecommunication service providers to explain why the Supreme Court should not initiate contempt proceedings for failure to pay the amounts due. During a hearing on March 18, 2020, the Supreme Court ordered that all amounts that were due before the October 2019 Order must be paid, including interest, penalties and interest on the penalties. The Supreme Court also ordered that the parties appear for a further hearing addressing, potentially among other things, a proposal by the DOT to allow for extended or deferred payments of amounts due. On June 11, 2020, the Supreme Court ordered HCIPL and the other telecommunication service providers to submit affidavits addressing the proposal made by the DOT to extend the time frame for payment of the amounts owed and for HCIPL and the other telecommunication providers to provide security for such payments. On September 1, 2020, the Supreme Court issued a judgment permitting a10-year payment schedule. Under this payment schedule, HCIPL is required to make an annual payment every March 31, through 2031. Following the Supreme Court of India's October 2019 judgment, HCIPL made payments during the first quarter of 2020, and additional payments on March 31, 2021 and March 31, 2022.

The following table presents the components of the accrual:

	As of December 31,	
	2022	2021
Additional license fees	$ 3,425	$ 3,812
Penalties	3,516	3,912
Interest and interest on penalties	78,327	81,389
Less: Payments	(17,785)	(8,451)
Total accrual	67,483	80,662
Less: Current portion	10,191	11,178
Total long-term accrual	$ 57,292	$ 69,484

Any eventual payments made with respect to the ultimate outcome of this matter may be different from our accrual and such differences could be significant.

Other

In addition to the above actions, we are subject to various other legal proceedings and claims, which arise in the ordinary course of business. As part of our ongoing operations, we are subject to various inspections, audits, inquiries, investigations and similar actions by third parties, as well as by governmental/regulatory authorities responsible for enforcing the laws and regulations to which we may be subject. Further, under the federal False Claims Act, private parties have the right to bring qui tam, or “whistleblower,” suits against companies that submit false claims for payments to, or improperly retain overpayments from, the federal government. Some states have adopted similar state whistleblower and false claims provisions. In addition, we from time to time receive inquiries from federal, state and foreign agencies regarding compliance with various laws and regulations.

In our opinion, the amount of ultimate liability with respect to any of these other actions is unlikely to materially affect our financial position, results of operations or cash flows, though the resolutions and outcomes, individually or in the aggregate, could be material to our financial position, operating results or cash flows for any particular period, depending, in part, upon the operating results for such period.

We also indemnify our directors, officers and employees for certain liabilities that might arise from the performance of their responsibilities for us. Additionally, in the normal course of its business, we enter into contracts pursuant to which we may make a variety of representations and warranties and indemnify the counterparty for certain losses. Our possible exposure under these arrangements cannot be reasonably estimated as this involves the resolution of claims made, or future claims that may be made, against us or our officers, directors or employees, the outcomes of which are unknown and not currently predictable or estimable.

NOTE 20. SEGMENT REPORTING

Business segments are components of an enterprise for which separate financial information is available and regularly evaluated by our chief operating decision maker (“CODM”), who is our Chief Executive Officer. We operate in two business segments, Hughes segment and ESS segment.

The primary measure of segment profitability that is reported regularly to our CODM is earnings before interest, taxes, depreciation and amortization, and net income (loss) attributable to non-controlling interests (“EBITDA”).

Total assets by segment have not been reported herein because the information is not provided to our CODM on a regular basis.

The following table presents total revenue, capital expenditures and EBITDA for each of our business segments:

	Hughes	ESS	Corporate and Other	Consolidated Total
For the year ended December 31, 2022				
External revenue	$ 1,966,587	$ 19,132	$ 17,624	$ 2,003,343
Intersegment revenue	—	1,401	(1,401)	—
Total revenue	$ 1,966,587	$ 20,533	$ 16,223	$ 2,003,343
Capital expenditures	$ 239,403	$ —	$ —	$ 239,403
EBITDA	$ 732,929	$ 14,416	$ (50,852)	$ 696,493
For the year ended December 31, 2021				
External revenue	$ 1,956,226	$ 17,295	$ 21,205	$ 1,994,726
Intersegment revenue	—	384	(384)	—
Total revenue	$ 1,956,226	$ 17,679	$ 20,821	$ 1,994,726
Capital expenditures	$ 296,303	$ —	$ —	$ 296,303
EBITDA	$ 781,824	$ 9,185	$ (30,628)	$ 760,381
For the year ended December 31, 2020				
External revenue	$ 1,860,834	$ 16,237	$ 20,287	$ 1,897,358
Intersegment revenue	—	1,161	(1,161)	—
Total revenue	$ 1,860,834	$ 17,398	$ 19,126	$ 1,897,358
Capital expenditures	$ 355,197	$ 41	$ —	$ 355,238
EBITDA	$ 727,608	$ 7,873	$ (31,498)	$ 703,983

The following table reconciles *Income (loss) before income taxes* in the Consolidated Statements of Operations to EBITDA:

	For the years ended December 31,		
	2022	2021	2020
Income (loss) before income taxes	$ 193,351	$ 167,728	$ 39,689
Interest income, net	(30,812)	(8,146)	(18,802)
Interest expense, net of amounts capitalized	92,386	126,499	172,466
Depreciation and amortization	431,065	464,146	498,876
Net loss (income) attributable to non-controlling interests	10,503	10,154	11,754
EBITDA	$ 696,493	$ 760,381	$ 703,983

Geographic Information

The following table summarizes total long-lived assets attributed to the North America, South and Central America and other foreign locations:

	As of December 31,	
	2022	2021
Long-lived assets:		
North America	$ 2,075,373	$ 2,148,052
South and Central America	206,556	267,429
Other	50,883	41,995
Total long-lived assets	$ 2,332,812	$ 2,457,476

NOTE 21. SUPPLEMENTAL FINANCIAL INFORMATION

Research and Development

The following table presents the research and development costs incurred in connection with customers' orders:

	For the years ended December 31,		
	2022	2021	2020
Cost of sales - equipment	$ 31,781	$ 29,636	$ 19,788
Research and development expenses	$ 32,810	$ 31,777	$ 29,448

Advertising Costs

We incurred advertising expense of $69.0 million, $82.4 million and $65.1 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Cash and Cash Equivalents and Restricted Cash

The following table reconciles cash and cash equivalents and restricted cash, as presented in the Consolidated Balance Sheets to the total of the same as presented in the Consolidated Statements of Cash Flows:

	For the years ended December 31,		
	2022	2021	2020
Cash and cash equivalents, including restricted amounts, beginning of period:			
Cash and cash equivalents	$ 429,168	$ 740,490	$ 1,139,435
Restricted cash	980	807	887
Total cash and cash equivalents, included restricted amounts, beginning of period	$ 430,148	$ 741,297	$ 1,140,322
Cash and cash equivalents, including restricted amounts, end of period:			
Cash and cash equivalents	$ 653,132	$ 429,168	$ 740,490
Restricted cash	1,341	980	807
Total cash and cash equivalents, included restricted amounts, end of period	$ 654,473	$ 430,148	$ 741,297

Other Current Assets, Net and Other Non-current Assets, Net

The following table presents the components of *Other current assets, net* and *Other non-current assets, net*:

	As of December 31,	
	2022	2021
Other current assets, net:		
Related party receivables - EchoStar	$ 112,985	$ 122,619
Inventory	123,006	102,907
Prepaids and deposits	23,948	27,737
Trade accounts receivable - DISH Network	1,992	3,457
Other, net	13,271	20,124
Total other current assets	$ 275,202	$ 276,844
Other non-current assets, net:		
Capitalized software, net	$ 116,844	$ 124,701
Contract acquisition costs, net	64,447	82,986
Related party receivables - EchoStar	55,834	56,055
Deferred tax assets, net	7,822	5,411
Restricted cash	1,341	980
Contract fulfillment costs, net	1,931	1,721
Other, net	37,658	30,986
Total other non-current assets, net	$ 285,877	$ 302,840

The following table presents the activity in our allowance for doubtful accounts, which is included within Other, net in each of Other current assets, net and Other non-current assets, net in the table above:

	For the years ended December 31,					
	2022		2021		2020	
	Other current assets, net	Other non-current assets, net	Other current assets, net	Other non-current assets, net	Other current assets, net	Other non-current assets, net
Balance at beginning of period	$ —	$ 16,709	$ 1,747	$ 12,869	$ —	$ —
Credit losses [1]	—	—	—	3,328	1,595	13,378
Foreign currency translation	—	—	(1,747)	1,159	152	(509)
Deductions	—	—	—	(647)	—	—
Balance at end of period	$ —	$ 16,709	$ —	$ 16,709	$ 1,747	$ 12,869

1) The impact of adopting ASC 326 on January 1, 2020 was a net increase to our allowance for doubtful accounts largely driven by a $13.4 million reclassification from *Trade accounts receivables and contracts assets, net.*

Accrued Expenses and Other Current Liabilities and Other Non-Current Liabilities

The following table presents the components of *Accrued expenses and other current liabilities* and *Other non-current liabilities*:

	As of December 31, 2022	As of December 31, 2021
Accrued expenses and other current liabilities:		
Related party payables - EchoStar	$ 216,504	$ 124,578
Accrued compensation	40,684	45,630
Operating lease obligation	17,766	16,697
Accrued interest	39,194	39,289
Accrued taxes	10,631	9,790
Accrual for license fee dispute	10,191	11,178
Trade accounts payable - DISH Network	567	587
Other	58,362	61,130
Total accrued expenses and other current liabilities	$ 393,899	$ 308,879
Other non-current liabilities:		
Accrual for license fee dispute	$ 57,292	$ 69,484
Related party payables - EchoStar	23,423	24,118
Contract liabilities	8,326	10,669
Other	44,856	48,980
Total other non-current liabilities	$ 133,897	$ 153,251

Inventory

The following table presents the components of inventory:

	As of December 31, 2022	As of December 31, 2021
Raw materials	$ 32,920	$ 13,778
Work-in-process	16,408	11,705
Finished goods	73,678	77,424
Total inventory	$ 123,006	$ 102,907

Capitalized Software Costs

The following tables present the activity related to our capitalized software cost:

	As of December 31,	
	2022	2021
Net carrying amount of externally marketed software	$ 116,841	$ 124,701
Externally marketed software under development and not yet placed into service	$ 26,924	$ 57,357

	For the years ended December 31,		
	2022	2021	2020
Capitalized costs related to development of externally marketed software	$ 23,105	$ 33,543	$ 38,655
Amortization expense relating to externally marketed software	$ 30,965	$ 25,288	$ 23,780
Weighted-average useful life (in years)	4		

Supplemental and Non-cash Investing and Financing Activities

The following table presents the supplemental and non-cash investing and financing activities:

	For the years ended December 31,		
	2022	2021	2020
Supplemental disclosure of cash flow information:			
Cash paid for interest, net of amounts capitalized	$ 91,583	$ 118,638	$ 162,692
Cash paid for income taxes	$ 12,538	$ 10,641	$ 9,094
Non-cash investing and financing activities:			
Increase (decrease) in capital expenditures included in accounts payable, net	$ 8,001	$ (347)	$ (6,198)
Non-cash net assets received as part of the India JV formation	$ 36,701	$ —	$ —

NOTE 22. SUPPLEMENTAL GUARANTOR AND NON-GUARANTOR FINANCIAL INFORMATION

Certain of our wholly-owned subsidiaries (together, the "Guarantor Subsidiaries") have fully and unconditionally guaranteed, on a joint and several basis, the obligations of our Notes. See Note 13. Long-term Debt for further information on our Notes.

In lieu of separate financial statements of the Guarantor Subsidiaries, accompanying consolidating financial information prepared in accordance with Rule 3-10(f) of Regulation S-X is presented below, including the accompanying balance sheet information, the accompanying statement of operations and comprehensive income (loss) information and the accompanying statement of cash flows information of HSSC, the Guarantor Subsidiaries on a combined basis and the non-guarantor subsidiaries of HSSC on a combined basis and the eliminations necessary to arrive at the corresponding information of HSSC on a consolidated basis.

The indentures governing our Notes contain restrictive covenants that, among other things, impose limitations on our ability and the ability of certain of our subsidiaries to pay dividends or make distributions, incur additional debt, make certain investments, create liens or enter into sale and leaseback transactions, merge or consolidate with another company, transfer and sell assets, enter into transactions with affiliates or allow to exist certain restrictions on the ability to pay dividends, make distributions, make other payments, or transfer assets.

The accompanying consolidating financial information (amounts in thousands) presented below should be read in conjunction with our Consolidated Financial Statements and notes thereto included herein.

Consolidating Balance Sheet as of December 31, 2022

	Hughes Satellite Systems Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Total
Assets					
Current assets:					
Cash and cash equivalents	$ 547,605	$ 25,318	$ 80,209	$ —	$ 653,132
Marketable investment securities	799,769	—	—	—	799,769
Trade accounts receivable and contract assets, net	—	168,484	67,852	—	236,336
Other current assets, net	71	1,330,813	284,621	(1,340,303)	275,202
Total current assets	1,347,445	1,524,615	432,682	(1,340,303)	1,964,439
Non-current assets:					
Property and equipment, net	—	1,140,294	235,710	—	1,376,004
Operating lease right-of-use assets	—	121,609	29,023	—	150,632
Goodwill	—	504,173	28,318	—	532,491
Regulatory authorizations, net	—	400,000	8,619	—	408,619
Other intangible assets, net	—	12,499	3,199	—	15,698
Other investments, net	8,920	—	74,603	—	83,523
Investment in subsidiaries	3,312,961	358,141	—	(3,671,102)	—
Other non-current assets, net	1,095	261,906	163,165	(140,289)	285,877
Total non-current assets	3,322,976	2,798,622	542,637	(3,811,391)	2,852,844
Total assets	$ 4,670,421	$ 4,323,237	$ 975,319	$ (5,151,694)	$ 4,817,283
Liabilities and Shareholder's Equity					
Current liabilities:					
Trade accounts payable	$ 477	$ 85,327	$ 12,425	$ —	$ 98,229
Contract liabilities	—	115,893	5,846	—	121,739
Accrued expenses and other current liabilities	1,121,740	296,666	315,796	(1,340,303)	393,899
Total current liabilities	1,122,217	497,886	334,067	(1,340,303)	613,867
Non-current liabilities:					
Long-term debt, net	1,496,777	—	—	—	1,496,777
Deferred tax liabilities, net	—	288,716	1,451	(410)	289,757
Operating lease liabilities	—	111,052	24,070	—	135,122
Other non-current liabilities	—	113,183	160,593	(139,879)	133,897
Total non-current liabilities	1,496,777	512,951	186,114	(140,289)	2,055,553
Total liabilities	2,618,994	1,010,837	520,181	(1,480,592)	2,669,420
Shareholder's equity:					
Total Hughes Satellite Systems Corporation shareholder's equity	2,051,427	3,312,400	358,702	(3,671,102)	2,051,427
Non-controlling interests	—	—	96,436	—	96,436
Total shareholder's equity	2,051,427	3,312,400	455,138	(3,671,102)	2,147,863
Total liabilities and shareholder's equity	$ 4,670,421	$ 4,323,237	$ 975,319	$ (5,151,694)	$ 4,817,283

Consolidating Balance Sheet as of December 31, 2021

	Hughes Satellite Systems Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Total
Assets					
Current assets:					
Cash and cash equivalents	$ 324,764	$ 42,550	$ 61,854	$ —	$ 429,168
Marketable investment securities	854,502	—	—	—	854,502
Trade accounts receivable and contract assets, net	—	127,350	54,713	—	182,063
Other current assets, net	170,283	1,056,871	94,185	(1,044,495)	276,844
Total current assets	1,349,549	1,226,771	210,752	(1,044,495)	1,742,577
Non-current assets:					
Property and equipment, net	—	1,209,859	313,588	—	1,523,447
Operating lease right-of-use assets	—	117,912	30,309	—	148,221
Goodwill	—	504,173	6,913	—	511,086
Regulatory authorizations, net	—	400,000	8,959	—	408,959
Other intangible assets, net	—	13,984	—	—	13,984
Other investments, net	—	9,600	81,626	—	91,226
Investment in subsidiaries	3,126,926	292,211	—	(3,419,137)	—
Other non-current assets, net	1,191	299,149	97,305	(94,805)	302,840
Total non-current assets	3,128,117	2,846,888	538,700	(3,513,942)	2,999,763
Total assets	$ 4,477,666	$ 4,073,659	$ 749,452	$ (4,558,437)	$ 4,742,340
Liabilities and Shareholder's Equity					
Current liabilities:					
Trade accounts payable	$ —	$ 92,156	$ 13,321	$ —	$ 105,477
Contract liabilities	—	134,474	6,869	—	141,343
Accrued expenses and other current liabilities	972,936	218,463	161,975	(1,044,495)	308,879
Total current liabilities	972,936	445,093	182,165	(1,044,495)	555,699
Non-current liabilities:					
Long-term debt, net	1,495,994	—	—	—	1,495,994
Deferred tax liabilities, net	—	334,148	258	—	334,406
Operating lease liabilities	—	108,431	25,570	—	134,001
Other non-current liabilities	—	59,623	188,432	(94,804)	153,251
Total non-current liabilities	1,495,994	502,202	214,260	(94,804)	2,117,652
Total liabilities	2,468,930	947,295	396,425	(1,139,299)	2,673,351
Shareholder's equity:					
Total Hughes Satellite Systems Corporation shareholder's equity	2,008,736	3,126,364	292,774	(3,419,138)	2,008,736
Non-controlling interests	—	—	60,253	—	60,253
Total shareholder's equity	2,008,736	3,126,364	353,027	(3,419,138)	2,068,989
Total liabilities and shareholder's equity	$ 4,477,666	$ 4,073,659	$ 749,452	$ (4,558,437)	$ 4,742,340

HUGHES SATELLITE SYSTEMS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - CONTINUED

Consolidating Statement of Operations and Comprehensive Income (Loss)
For the Year Ended December 31, 2022

	Hughes Satellite Systems Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Total
Revenue:					
Services and other revenue	$ —	$ 1,336,782	$ 317,935	$ (25,523)	$ 1,629,194
Equipment revenue	—	360,656	34,071	(20,578)	374,149
Total revenue	—	1,697,438	352,006	(46,101)	2,003,343
Costs and expenses:					
Cost of sales - services and other (exclusive of depreciation and amortization)	—	419,074	173,385	(29,610)	562,849
Cost of sales - equipment (exclusive of depreciation and amortization)	—	285,665	21,208	(14,583)	292,290
Selling, general and administrative expenses	—	346,392	85,393	(1,908)	429,877
Research and development expenses	—	32,447	363	—	32,810
Depreciation and amortization	—	293,330	137,735	—	431,065
Total costs and expenses	—	1,376,908	418,084	(46,101)	1,748,891
Operating income (loss)	—	320,530	(66,078)	—	254,452
Other income (expense):					
Interest income	25,801	5,345	4,655	(4,989)	30,812
Interest expense, net of amounts capitalized	(89,846)	4,170	(11,699)	4,989	(92,386)
Gains (losses) on investments, net	28	217	—	—	245
Equity in earnings (losses) of unconsolidated affiliates, net	880	440	(7,023)	—	(5,703)
Equity in earnings (losses) of subsidiaries, net	193,023	(53,571)	—	(139,452)	—
Foreign currency transaction gains (losses), net	—	6,704	(688)	—	6,016
Other, net	—	(28,397)	28,312	—	(85)
Total other income (expense), net	129,886	(65,092)	13,557	(139,452)	(61,101)
Income (loss) before income taxes	129,886	255,438	(52,521)	(139,452)	193,351
Income tax benefit (provision), net	19,527	(62,415)	(11,553)	—	(54,441)
Net income (loss)	149,413	193,023	(64,074)	(139,452)	138,910
Less: Net loss (income) attributable to non-controlling interests	—	—	10,503	—	10,503
Net income (loss) attributable to HSSC	$ 149,413	$ 193,023	$ (53,571)	$ (139,452)	$ 149,413
Comprehensive income (loss):					
Net income (loss)	$ 149,413	$ 193,023	$ (64,074)	$ (139,452)	$ 138,910
Other comprehensive income (loss), net of tax:					
Foreign currency translation adjustments	—	—	5,475	—	5,475
Unrealized gains (losses) on available-for-sale securities	(553)	—	—	—	(553)
Amounts reclassified to net income (loss):					
Realized losses (gains) on available-for-sale debt securities	(17)	—	—	—	(17)
Equity in other comprehensive income (loss) of subsidiaries, net	3,770	3,770	—	(7,540)	—
Total other comprehensive income (loss), net of tax	3,200	3,770	5,475	(7,540)	4,905
Comprehensive income (loss)	152,613	196,793	(58,599)	(146,992)	143,815
Less: Comprehensive loss (income) attributable to non-controlling interests	—	—	8,795	—	8,795
Comprehensive income (loss) attributable to HSSC	$ 152,613	$ 196,793	$ (49,804)	$ (146,992)	$ 152,610

Consolidating Statement of Operations and Comprehensive Income (Loss)
For the Year Ended December 31, 2021

	Hughes Satellite Systems Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Total
Revenue:					
Services and other revenue	$ —	$ 1,428,960	$ 317,948	$ (22,609)	$ 1,724,299
Equipment revenue	—	284,139	26,041	(39,753)	270,427
Total revenue	—	1,713,099	343,989	(62,362)	1,994,726
Costs and expenses:					
Cost of sales - services and other (exclusive of depreciation and amortization)	—	420,767	147,660	(23,512)	544,915
Cost of sales - equipment (exclusive of depreciation and amortization)	—	251,195	17,938	(37,173)	231,960
Selling, general and administrative expenses	—	331,973	91,939	(1,677)	422,235
Research and development expenses	—	31,159	618	—	31,777
Depreciation and amortization	—	333,618	130,528	—	464,146
Impairment of long-lived assets	—	210	—	—	210
Total costs and expenses	—	1,368,922	388,683	(62,362)	1,695,243
Operating income (loss)	—	344,177	(44,694)	—	299,483
Other income (expense):					
Interest income, net	3,367	5,270	4,460	(4,951)	8,146
Interest expense, net of amounts capitalized	(120,635)	1,189	(12,004)	4,951	(126,499)
Gains (losses) on investments, net	2	2,101	—	—	2,103
Equity in earnings (losses) of unconsolidated affiliates, net	—	1,714	(7,061)	—	(5,347)
Equity in earnings (losses) of subsidiaries, net	207,895	(65,083)	—	(142,812)	—
Foreign currency transaction gains (losses), net	—	(72)	(11,422)	—	(11,494)
Other, net	(1,938)	3,380	(106)	—	1,336
Total other income (expense), net	88,691	(51,501)	(26,133)	(142,812)	(131,755)
Income (loss) before income taxes	88,691	292,676	(70,827)	(142,812)	167,728
Income tax benefit (provision), net	32,080	(84,781)	(4,410)	—	(57,111)
Net income (loss)	120,771	207,895	(75,237)	(142,812)	110,617
Less: Net loss (income) attributable to non-controlling interests	—	—	10,154	—	10,154
Net income (loss) attributable to HSSC	$ 120,771	$ 207,895	$ (65,083)	$ (142,812)	$ 120,771
Comprehensive income (loss):					
Net income (loss)	$ 120,771	$ 207,895	$ (75,237)	$ (142,812)	$ 110,617
Other comprehensive income (loss), net of tax:					
Foreign currency translation adjustments	—	—	(31,317)	—	(31,317)
Unrealized gains (losses) on available-for-sale securities	490	—	—	—	490
Other	—	—	(98)	—	(98)
Amounts reclassified to net income (loss):					
Realized losses (gains) on available-for-sale debt securities	(5)	—	—	—	(5)
Equity in other comprehensive income (loss) of subsidiaries, net	(27,026)	(27,026)	—	54,052	—
Total other comprehensive income (loss), net of tax	(26,541)	(27,026)	(31,415)	54,052	(30,930)
Comprehensive income (loss)	94,230	180,869	(106,652)	(88,760)	79,687
Less: Comprehensive loss (income) attributable to non-controlling interests	—	—	14,543	—	14,543
Comprehensive income (loss) attributable to HSSC	$ 94,230	$ 180,869	$ (92,109)	$ (88,760)	$ 94,230

Consolidating Statement of Operations and Comprehensive Income (Loss)
For the Year Ended December 31, 2020

	Hughes Satellite Systems Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Total
Revenue:					
Services and other revenue	$ —	$ 1,452,180	$ 274,926	$ (35,349)	$ 1,691,757
Equipment revenue	—	256,090	26,520	(77,009)	205,601
Total revenue	—	1,708,270	301,446	(112,358)	1,897,358
Costs and expenses:					
Cost of sales - services and other (exclusive of depreciation and amortization)	—	443,806	162,561	(33,730)	572,637
Cost of sales - equipment (exclusive of depreciation and amortization)	—	223,086	20,352	(77,009)	166,429
Selling, general and administrative expenses	—	359,151	75,876	(1,619)	433,408
Research and development expenses	—	28,846	602	—	29,448
Depreciation and amortization	—	391,319	107,557	—	498,876
Impairment of long-lived assets	—	—	—	—	—
Total costs and expenses	—	1,446,208	366,948	(112,358)	1,700,798
Operating income (loss)	—	262,062	(65,502)	—	196,560
Other income (expense):					
Interest income, net	14,843	4,049	3,711	(3,801)	18,802
Interest expense, net of amounts capitalized	(162,012)	(2,691)	(11,564)	3,801	(172,466)
Gains (losses) on investments, net	(82)	(150)	—	—	(232)
Equity in earnings (losses) of unconsolidated affiliates, net	—	(6,116)	—	—	(6,116)
Equity in earnings (losses) of subsidiaries, net	121,688	(68,916)	—	(52,772)	—
Foreign currency transaction gains (losses), net	—	(269)	3,696	—	3,427
Other, net	—	(645)	359	—	(286)
Total other income (expense), net	(25,563)	(74,738)	(3,798)	(52,772)	(156,871)
Income (loss) before income taxes	(25,563)	187,324	(69,300)	(52,772)	39,689
Income tax benefit (provision), net	34,888	(65,435)	(11,571)	—	(42,118)
Net income (loss)	9,325	121,889	(80,871)	(52,772)	(2,429)
Less: Net loss (income) attributable to non-controlling interests	—	—	11,754	—	11,754
Net income (loss) attributable to HSSC	$ 9,325	$ 121,889	$ (69,117)	$ (52,772)	$ 9,325
Comprehensive income (loss):					
Net income (loss)	$ 9,325	$ 121,889	$ (80,871)	$ (52,772)	$ (2,429)
Other comprehensive income (loss), net of tax:					
Foreign currency translation adjustments	—	—	(77,646)	—	(77,646)
Unrealized gains (losses) on available-for-sale securities	(192)	—	—	—	(192)
Other	—	—	(4)	—	(4)
Amounts reclassified to net income (loss):					
Realized losses (gains) on available-for-sale debt securities	(1)	—	—	—	(1)
Equity in other comprehensive income (loss) of subsidiaries, net	(62,012)	(62,012)	—	124,024	—
Total other comprehensive income (loss), net of tax	(62,205)	(62,012)	(77,650)	124,024	(77,843)
Comprehensive income (loss)	(52,880)	59,877	(158,521)	71,252	(80,272)
Less: Comprehensive loss (income) attributable to non-controlling interests	—	—	27,392	—	27,392
Comprehensive income (loss) attributable to HSSC	$ (52,880)	$ 59,877	$ (131,129)	$ 71,252	$ (52,880)

Consolidating Statement of Cash Flows
For the Year Ended December 31, 2022

	Hughes Satellite Systems Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Total
Cash flows from operating activities:					
Net income (loss)	$ 149,413	$ 193,023	$ (64,074)	$ (139,452)	$ 138,910
Adjustments to reconcile net income (loss) to net cash flows from operating activities	(205,763)	335,155	131,098	139,452	399,942
Net cash provided by (used for) operating activities	(56,350)	528,178	67,024	—	538,852
Cash flows from investing activities:					
Purchases of marketable investment securities	(986,736)	—	—	—	(986,736)
Sales and maturities of marketable investment securities	1,045,950	—	—	—	1,045,950
Expenditures for property and equipment	—	(193,449)	(45,954)	—	(239,403)
Expenditures for externally marketed software	—	(23,105)	—	—	(23,105)
Distributions (contributions) and advances from (to) subsidiaries, net	317,977	—	—	(317,977)	—
India JV formation	—	(7,892)	—	—	(7,892)
Dividend received from unconsolidated affiliate	2,000	—	—	—	2,000
Net cash provided by (used for) investing activities	379,191	(224,446)	(45,954)	(317,977)	(209,186)
Cash flows from financing activities:					
Payment of finance lease obligations	—	—	(120)	—	(120)
Payment of in-orbit incentive obligations	—	(2,988)	—	—	(2,988)
Dividend paid to EchoStar	(100,000)	—	—	—	(100,000)
Contribution (distributions) and advances (to) from parent, net	—	(317,977)	—	317,977	—
Net cash provided by (used for) financing activities	(100,000)	(320,965)	(120)	317,977	(103,108)
Effect of exchange rates on cash and cash equivalents	—	—	(2,233)	—	(2,233)
Net increase (decrease) in cash and cash equivalents	222,841	(17,233)	18,717	—	224,325
Cash and cash equivalents, including restricted amounts, beginning of period	324,764	42,549	62,835	—	430,148
Cash and cash equivalents, including restricted amounts, end of period	$ 547,605	$ 25,316	$ 81,552	$ —	$ 654,473

HUGHES SATELLITE SYSTEMS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - CONTINUED

Consolidating Statement of Cash Flows
For the Year Ended December 31, 2021

	Hughes Satellite Systems Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Total
Cash flows from operating activities:					
Net income (loss)	$ 120,771	$ 207,895	$ (75,237)	$ (142,812)	$ 110,617
Adjustments to reconcile net income (loss) to net cash flows from operating activities	(213,342)	479,663	142,561	142,812	551,694
Net cash provided by (used for) operating activities	(92,571)	687,558	67,324	—	662,311
Cash flows from investing activities:					
Purchases of marketable investment securities	(1,517,849)	—	—	—	(1,517,849)
Sales and maturities of marketable investment securities	1,864,186	—	—	—	1,864,186
Expenditures for property and equipment	—	(196,902)	(99,401)	—	(296,303)
Expenditures for externally marketed software	—	(33,543)	—	—	(33,543)
Distributions (contributions) and advances from (to) subsidiaries, net	422,965	(44,891)	—	(378,074)	—
Sales of other investments	—	9,451	—	—	9,451
Net cash provided by (used for) investing activities	769,302	(265,885)	(99,401)	(378,074)	25,942
Cash flows from financing activities:					
Repurchase and maturity of the 2021 Senior Unsecured Notes	(901,818)	—	—	—	(901,818)
Payment of finance lease obligations	—	—	(670)	—	(670)
Payment of in-orbit incentive obligations	—	(2,214)	—	—	(2,214)
Contribution by non-controlling interest holder	—	—	9,880	—	9,880
Dividend paid to EchoStar	(100,000)	—	—	—	(100,000)
Other, net	—	—	(966)	—	(966)
Contribution (distributions) and advances (to) from parent, net	—	(422,965)	44,891	378,074	—
Net cash provided by (used for) financing activities	(1,001,818)	(425,179)	53,135	378,074	(995,788)
Effect of exchange rates on cash and cash equivalents	—	—	(3,614)	—	(3,614)
Net increase (decrease) in cash and cash equivalents	(325,087)	(3,506)	17,444	—	(311,149)
Cash and cash equivalents, including restricted amounts, beginning of period	649,851	46,055	45,391	—	741,297
Cash and cash equivalents, including restricted amounts, end of period	$ 324,764	$ 42,549	$ 62,835	$ —	$ 430,148

Consolidating Statement of Cash Flows
For the Year Ended December 31, 2020

	Hughes Satellite Systems Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations	Total
Cash flows from operating activities:					
Net income (loss)	$ 9,325	$ 121,889	$ (80,871)	$ (52,772)	$ (2,429)
Adjustments to reconcile net income (loss) to net cash flows from operating activities	(108,780)	480,249	106,528	52,772	530,769
Net cash provided by (used for) operating activities	(99,455)	602,138	25,657	—	528,340
Cash flows from investing activities:					
Purchases of marketable investment securities	(2,035,712)	—	—	—	(2,035,712)
Sales and maturities of marketable investment securities	1,482,704	—	—	—	1,482,704
Expenditures for property and equipment	—	(202,083)	(153,155)	—	(355,238)
Expenditures for externally marketed software	—	(38,655)	—	—	(38,655)
Distributions (contributions) and advances from (to) subsidiaries, net	244,411	(101,718)	—	(142,693)	—
Sales of other investments	—	—	—	—	—
Net cash provided by (used for) investing activities	(308,597)	(342,456)	(153,155)	(142,693)	(946,901)
Cash flows from financing activities:					
Payment of finance lease obligations	—	—	(811)	—	(811)
Payment of in-orbit incentive obligations	—	(1,554)	—	—	(1,554)
Contribution by non-controlling interest holder	—	—	18,241	—	18,241
Other, net	—	—	998	—	998
Contribution (distributions) and advances (to) from parent, net	—	(244,411)	101,718	142,693	—
Net cash provided by (used for) financing activities	—	(245,965)	120,146	142,693	16,874
Effect of exchange rates on cash and cash equivalents	—	—	2,662	—	2,662
Net increase (decrease) in cash and cash equivalents	(408,052)	13,717	(4,690)	—	(399,025)
Cash and cash equivalents, including restricted amounts, beginning of period	1,057,903	32,338	50,081	—	1,140,322
Cash and cash equivalents, including restricted amounts, end of period	$ 649,851	$ 46,055	$ 45,391	$ —	$ 741,297

EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER
Section 302 Certification

I, Hamid Akhavan, certify that:

1. I have reviewed this Annual Report on Form 10-K of Hughes Satellite Systems Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. I am responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under my supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to me by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under my supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report my conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. I have disclosed, based on my most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2023

By: *\/s/ Hamid Akhavan*
Name: Hamid Akhavan
Title: Chief Executive Officer and President
(Principal Executive Officer and Principal Financial Officer)

EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER
Section 906 Certifications

In connection with the annual report for the year ended December 31, 2022 on Form 10-K (the “Annual Report”), of Hughes Satellite Systems Corporation (the “Company”) as filed with the Securities and Exchange Commission on the date hereof, i, Hamid Akhavan, Chief Executive Officer and Principal Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002, that to the best of our knowledge:

(i) the Annual Report fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934; and

(ii) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 22, 2023

By: */s/ Hamid Akhavan*
Name: Hamid Akhavan
Title: Chief Executive Officer and President
(Principal Executive Officer and Principal Financial Officer)

The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Report or as a separate disclosure document.

A SIGNED ORIGINAL OF THIS WRITTEN STATEMENT REQUIRED BY SECTION 906 HAS BEEN PROVIDED TO THE COMPANY AND WILL BE RETAINED BY THE COMPANY AND FURNISHED TO THE SECURITIES AND EXCHANGE COMMISSION OR ITS STAFF UPON REQUEST.

EchoStar Announces Financial Results for the Three and Twelve Months Ended December 31, 2022

Englewood, CO, February 22, 2023—EchoStar Corporation (NASDAQ: SATS) announced its financial results for the three and twelve months ended December 31, 2022.

Three Months Ended December 31, 2022 Financial Highlights:

- Consolidated revenue of $499.9 million.
- Net income of $47.6 million, consolidated net income attributable to EchoStar common stock of $49.3 million, and basic and diluted earnings per share of common stock of $0.59
- Consolidated Adjusted EBITDA of $163.6 million (see discussion and the reconciliation of GAAP to this non-GAAP measure below).

Twelve Months Ended December 31, 2022 Financial Highlights:

- Consolidated revenue of $2.0 billion.
- Net income of $166.5 million, consolidated net income attributable to EchoStar common stock of $177.1 million, and basic and diluted earnings per share of common stock of $2.10.
- Consolidated Adjusted EBITDA of $656.0 million (see discussion and the reconciliation of GAAP to this non-GAAP measure below).

"The EchoStar team finished 2022 with a solid performance, continuing to optimize operations and asset yields," said Hamid Akhavan, CEO and President of EchoStar. "In the near term, we remain focused on operating the business in an efficient manner and preparing for the launch of our upcoming EchoStar XXIV/JUPITER 3 satellite as a catalyst for new growth. We have also made tangible strides toward expanding our future capabilities as we begin construction on a global S-band mobile satellite service network."

Three Months Ended December 31, 2022 - Additional Information:

- Consolidated revenue increased year over year. Higher equipment sales of $33.1 million to our domestic and international enterprise customers was offset by lower service revenues of $31.9 million, primarily due to lower broadband consumer customers.
- Adjusted EBITDA increased 2.5% or $4.0 million year over year.
  - Hughes segment Adjusted EBITDA increased $4.2 million year over year. The increase was driven primarily by lower sales and marketing expense for our broadband consumer business.
  - ESS segment Adjusted EBITDA increased $2.1 million year over year primarily due to higher revenue.
  - Corporate and Other segment Adjusted EBITDA decreased $2.3 million year over year. The decrease was primarily due to higher corporate expenses, partially offset by higher earnings of unconsolidated affiliates, net, of $1.3 million.
- Net income increased $127.7 million year over year. The increase was primarily due to higher operating income of $16.0 million, a favorable change in net interest expense of $17.0 million, a favorable change in investments of $42.5 million, and $55.3 million related to the impairment of our Dish Mexico equity investment that occurred in 2021. These items were partially offset by higher net income tax expense of $12.7 million.
- Hughes broadband subscribers totaled approximately 1,228,000, declining 57,000 from September 30, 2022. Our current capacity limitations and increased competitive pressures are impacting our consumer subscriber levels. In Latin America, subscriber levels were also

impacted by adverse economic conditions and capacity allocation to community WiFi and enterprise opportunities.

- For the three months ended December 31, 2022, approximately 42% of Hughes segment revenue was attributable to our enterprise customers, increasing from 35% in the same period last year. The increase supports our strong focus on our enterprise business and diversification objectives.
- Cash, cash equivalents and current marketable investment securities were $1.7 billion as of December 31, 2022.
- The Jupiter 3/EchoStar XXIV satellite is expected to be launched during the second quarter of 2023.

Set forth below is a table highlighting certain of EchoStar's segment results for the three and twelve months ended December 31, 2022 and 2021 (amounts in thousands) (all US GAAP amounts reference results from operations):

	For the three months ended December 31,		For the twelve months ended December 31,	
	2022	2021	2022	2021
Revenue				
Hughes	$ 491,075	$ 491,154	$ 1,966,587	$ 1,956,226
EchoStar Satellite Services	6,228	$ 4,871	20,533	$ 17,679
Corporate and Other	2,553	$ 2,619	10,973	$ 11,815
Total revenue	$ 499,856	$ 498,644	$ 1,998,093	$ 1,985,720
Adjusted EBITDA				
Hughes	$ 182,467	$ 178,218	$ 726,752	$ 790,469
EchoStar Satellite Services	4,757	$ 2,704	14,416	$ 9,185
Corporate & Other:				
Corporate overhead, operating and other	(24,235)	$ (20,675)	(86,502)	$ (82,615)
Equity in earnings (losses) of unconsolidated affiliates, net	561	$ (723)	1,320	$ 1,892
Total Corporate & Other	(23,674)	$ (21,398)	(85,182)	$ (80,723)
Total Adjusted EBITDA	$ 163,550	$ 159,524	$ 655,986	$ 718,931
Net income (loss)	$ 47,580	$ (80,083)	$ 166,548	$ 62,721
Expenditures for property and equipment	$ 76,517	$ 86,427	$ 325,891	$ 438,430

Reconciliation of GAAP to Non-GAAP Measurement (amounts in thousands):

	For the three months ended December 31,		For the twelve months ended December 31,	
	2022	2021	2022	2021
Net income (loss)	$ 47,580	$ (80,083)	$ 166,548	$ 62,721
Interest income, net	(21,223)	(5,887)	(50,900)	(22,801)
Interest expense, net of amounts capitalized	14,045	15,664	57,170	95,512
Income tax provision (benefit), net	15,308	2,579	66,675	65,626
Depreciation and amortization	110,397	122,465	457,621	491,329
Net loss (income) attributable to non-controlling interests	1,767	3,735	10,503	10,154
EBITDA	167,874	58,473	707,617	702,541
(Gains) losses on investments, net	964	43,450	(47,107)	(69,531)
Impairment of long-lived assets	—	—	711	245
Impairment loss on equity method investment	—	55,266	—	55,266
Litigation Expense	—	—	—	16,800
License fee dispute - India, net of non-controlling interests	—	(233)	—	(941)
Loss on Debt Repurchase	—	—	—	1,938
Foreign currency transaction (gains) losses, net	(5,288)	2,568	(5,235)	12,613
Adjusted EBITDA	$ 163,550	$ 159,524	$ 655,986	$ 718,931

Note on Use of Non-GAAP Financial Measures

EBITDA is defined as “Net income (loss)” excluding “Interest income, net,” “Interest expense, net of amounts capitalized,” “Income tax benefit (provision), net,” “Depreciation and amortization,” and “Net income (loss) attributable to non-controlling interests.”

Adjusted EBITDA is defined as EBITDA excluding Gains and losses on investments, net, Foreign currency transaction gains (losses), net, and other non-recurring or non-operational items. EBITDA and Adjusted EBITDA are not measures determined in accordance with US GAAP. EBITDA and Adjusted EBITDA are reconciled to Net income (loss) in the table above and should not be considered in isolation or as a substitute for operating income, net income or any other measure determined in accordance with US GAAP. Our management uses EBITDA and Adjusted EBITDA as measures of our operating efficiency and overall financial performance for benchmarking against our peers and competitors. Management believes that these non-GAAP measures provide meaningful supplemental information regarding the underlying operating performance of our business and are appropriate to enhance an overall understanding of our financial performance. Management also believes that EBITDA and Adjusted EBITDA are useful to investors because they are frequently used by securities analysts, investors, and other interested parties to evaluate the performance of companies in our industry.

The consolidated financial statements of EchoStar for the periods ended December 31, 2022 are attached to this press release. Detailed financial data and other information are available in EchoStar’s Annual Report on Form 10-K for the period ended December 31, 2022 filed today with the Securities and Exchange Commission.

EchoStar will host a conference call to discuss its earnings on Thursday, February 23, 2023 at 1:00 p.m. Eastern Time. The conference call will be broadcast live in listen-only mode on EchoStar’s investor relations website at ir.echostar.com. To participate via telephone and ask a question, participants must register using an online form found at: https://register.vevent.com/register/BIa7c9b243b8424fd3af6e63301e48fac6.

About EchoStar Corporation

EchoStar Corporation (NASDAQ: SATS) is a premier global provider of satellite communications solutions. Headquartered in Englewood, Colo., and conducting business around the globe, EchoStar is a pioneer in secure communications technologies through its Hughes Network Systems and EchoStar Satellite Services business segments.

Safe Harbor Statement under the US Private Securities Litigation Reform Act of 1995

This press release may contain statements that are forward looking, as that term is defined by the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on management’s beliefs, as well as assumptions made by, and information currently available to, management. When used in this release, the words “believe,” “anticipate,” “goal,” “seek,” “estimate,” “expect,” “intend,” “project,” “continue,” “future,” “will,” “would,” “can,” “may,” “plans,” and similar expressions and the use of future dates are intended to identify forward-looking statements. Although management believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that these expectations will prove to have been correct. You are cautioned not to place undue reliance on any forward-looking statements, which speak only as of the date made. We assume no responsibility for the accuracy of forward-looking statements or information or for updating forward-looking information or statements. These statements are subject to certain risks, uncertainties, and assumptions. See “Risk Factors” in EchoStar’s Annual Report on Form 10-K for the period ended December 31, 2022 as filed with the Securities and Exchange Commission and in the other documents EchoStar files with the Securities and Exchange Commission from time to time.

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ECHOSTAR CORPORATION
Consolidated Balance Sheets
(Amounts in thousands, except share and per share amounts)

	As of December 31,	
	2022	**2021**
Assets		
Current assets:		
Cash and cash equivalents	$ 704,541	$ 535,894
Marketable investment securities	973,915	1,010,496
Trade accounts receivable and contract assets, net	236,479	182,063
Other current assets, net	210,446	198,444
Total current assets	2,125,381	1,926,897
Non-current assets:		
Property and equipment, net	2,237,617	2,338,285
Operating lease right-of-use assets	151,518	149,198
Goodwill	532,491	511,086
Regulatory authorizations, net	462,531	469,766
Other intangible assets, net	15,698	13,984
Other investments, net	356,705	297,747
Other non-current assets, net	317,062	338,241
Total non-current assets	4,073,622	4,118,307
Total assets	$ 6,199,003	$ 6,045,204
Liabilities and Stockholders' Equity		
Current liabilities:		
Trade accounts payable	$ 101,239	$ 109,338
Contract liabilities	121,739	141,343
Accrued expenses and other current liabilities	199,853	209,442
Total current liabilities	422,831	460,123
Non-current liabilities:		
Long-term debt, net	1,496,777	1,495,994
Deferred tax liabilities, net	424,621	403,684
Operating lease liabilities	135,932	134,897
Other non-current liabilities	119,787	136,426
Total non-current liabilities	2,177,117	2,171,001
Total liabilities	2,599,948	2,631,124
Commitments and contingencies		

ECHOSTAR CORPORATION
Consolidated Balance Sheets
(Amounts in thousands, except share and per share amounts)

Stockholders' equity:		
Preferred stock, $0.001 par value, 20,000,000 shares authorized, none issued and outstanding at both December 31, 2022 and December 31, 2021	—	—
Common stock, $0.001 par value, 4,000,000,000 shares authorized:		
Class A common stock, $0.001 par value, 1,600,000,000 shares authorized, 58,604,927 shares issued and 35,291,616 shares outstanding at December 31, 2022 and 58,059,622 shares issued and 38,726,923 shares outstanding at December 31, 2021	59	58
Class B convertible common stock, $0.001 par value, 800,000,000 shares authorized, 47,687,039 shares issued and outstanding at both December 31, 2022 and December 31, 2021	48	48
Class C convertible common stock, $0.001 par value, 800,000,000 shares authorized, none issued and outstanding at both December 31, 2022 and December 31, 2021	—	—
Class D common stock, $0.001 par value, 800,000,000 shares authorized, none issued and outstanding at both December 31, 2022 and December 31, 2021	—	—
Additional paid-in capital	3,367,058	3,345,878
Accumulated other comprehensive income (loss)	(172,239)	(212,102)
Accumulated earnings (losses)	833,517	656,466
Treasury shares, at cost, 23,313,311 and 19,332,699 shares at December 31, 2022 and 2021, respectively	(525,824)	(436,521)
Total EchoStar Corporation stockholders' equity	3,502,619	3,353,827
Non-controlling interests	96,436	60,253
Total stockholders' equity	3,599,055	3,414,080
Total liabilities and stockholders' equity	$ 6,199,003	$ 6,045,204

ECHOSTAR CORPORATION
Consolidated Statements of Operations
(Amounts in thousands, except per share amounts)

	For the years ended December 31,		
	2022	2021	2020
Revenue:			
Services and other revenue	$ 1,623,931	$ 1,715,287	$ 1,682,304
Equipment revenue	374,162	270,433	205,603
Total revenue	1,998,093	1,985,720	1,887,907
Costs and expenses:			
Cost of sales - services and other (exclusive of depreciation and amortization)	569,755	551,679	577,943
Cost of sales - equipment (exclusive of depreciation and amortization)	292,318	231,975	166,435
Selling, general and administrative expenses	455,234	461,705	474,912
Research and development expenses	32,810	31,777	29,448
Depreciation and amortization	457,621	491,329	525,011
Impairment of long-lived assets	711	245	1,685
Total costs and expenses	1,808,449	1,768,710	1,775,434
Operating income (loss)	189,644	217,010	112,473
Other income (expense):			
Interest income, net	50,900	22,801	39,982
Interest expense, net of amounts capitalized	(57,170)	(95,512)	(147,927)
Gains (losses) on investments, net	47,107	69,531	(31,306)
Equity in earnings (losses) of unconsolidated affiliates, net	(5,703)	(5,170)	(7,267)
Foreign currency transaction gains (losses), net	5,235	(12,613)	6,015
Other-than-temporary impairment losses on equity method investments	—	(55,266)	—
Other, net	3,210	(12,434)	195
Total other income (expense), net	43,579	(88,663)	(140,308)
Income (loss) before income taxes	233,223	128,347	(27,835)
Income tax benefit (provision), net	(66,675)	(65,626)	(24,069)
Net income (loss)	166,548	62,721	(51,904)
Less: Net loss (income) attributable to non-controlling interests	10,503	10,154	11,754
Net income (loss) attributable to EchoStar Corporation common stock	$ 177,051	$ 72,875	$ (40,150)
Earnings (losses) per share - Class A and B common stock:			
Basic	$ 2.10	$ 0.81	$ (0.41)
Diluted	$ 2.10	$ 0.81	$ (0.41)

ECHOSTAR CORPORATION
Consolidated Statements of Cash Flows
(Amounts in thousands)

	For the years ended December 31,		
	2022	2021	2020
Cash flows from operating activities:			
Net income (loss)	$ 166,548	$ 62,721	$ (51,904)
Adjustments to reconcile net income (loss) to cash flows provided by (used for) operating activities:			
Depreciation and amortization	457,621	491,329	525,011
Impairment of long-lived assets	711	245	1,685
Losses (gains) on investments, net	(47,107)	(69,531)	31,306
Equity in losses (earnings) of unconsolidated affiliates, net	5,703	5,170	7,267
Foreign currency transaction losses (gains), net	(5,235)	12,613	(6,015)
Deferred tax provision (benefit), net	21,430	37,664	18,147
Stock-based compensation	11,546	7,699	8,887
Amortization of debt issuance costs	783	2,381	4,324
Other-than-temporary impairment losses on equity method investments	—	55,266	—
Other, net	(3,711)	19,740	(12,501)
Changes in assets and liabilities, net:			
Trade accounts receivable and contract assets, net	(50,959)	(2,334)	2,237
Other current assets, net	(6,456)	(7,303)	(12,984)
Trade accounts payable	8,825	(15,599)	(12,339)
Contract liabilities	(19,604)	36,774	3,509
Accrued expenses and other current liabilities	(3,649)	(84,621)	42,822
Non-current assets and non-current liabilities, net	(6,841)	80,012	(15,064)
Net cash provided by (used for) operating activities	529,605	632,226	534,388
Cash flows from investing activities:			
Purchases of marketable investment securities	(1,067,461)	(1,651,608)	(2,799,838)
Sales and maturities of marketable investment securities	1,136,594	2,321,560	2,110,336
Expenditures for property and equipment	(325,891)	(438,430)	(408,798)
Expenditures for externally marketed software	(23,105)	(33,543)	(38,655)
India JV formation	(7,892)	—	—
Dividend received from unconsolidated affiliate	2,000	—	—
Sale of unconsolidated affiliate	7,500	—	—
Purchase of other investments	—	(50,000)	(5,500)
Sales of other investments	3,070	10,951	—
Net cash provided by (used for) investing activities	(275,185)	158,930	(1,142,455)

Cash flows from financing activities:			
Repurchase and maturity of the 2021 Senior Unsecured Notes	—	(901,818)	—
Payment of finance lease obligations	(120)	(670)	(811)
Payment of in-orbit incentive obligations	(2,988)	(2,214)	(1,554)
Proceeds from Class A common stock options exercised	—	408	855
Proceeds from Class A common stock issued under the Employee Stock Purchase Plan	9,306	9,471	10,109
Treasury share repurchase	(89,303)	(261,436)	(43,458)
Contribution by non-controlling interest holder	—	9,880	18,241
Other, net	—	(966)	998
Net cash provided by (used for) financing activities	(83,105)	(1,147,345)	(15,620)
Effect of exchange rates on cash and cash equivalents	(2,306)	(3,749)	(1,390)
Net increase (decrease) in cash and cash equivalents	169,009	(359,938)	(625,077)
Cash and cash equivalents, including restricted amounts, beginning of period	536,874	896,812	1,521,889
Cash and cash equivalents, including restricted amounts, end of period	$ 705,883	$ 536,874	$ 896,812