UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

☒ 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: **001-38202**

Virgin Galactic Holdings, Inc.

(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**85-3608069** **(I.R.S. Employer Identification Number)**
1700 Flight Way Tustin, California (Address of principal executive offices)	**92782** (Zip Code)

(949) 774-7640
(Registrant's telephone number, including area code)

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common stock, $0.0001 par value per share	SPCE	New York Stock Exchange

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

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

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

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

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

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

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

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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

As of June 30, 2022, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the voting common stock held by non-affiliates, computed by reference to the closing sales price of $6.02 reported on The New York Stock Exchange, was approximately $1.4 billion.

As of February 15, 2023, there were 280,260,286 shares of the registrant's common stock, $0.0001 par value per share, issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement relating to its annual meeting of stockholders to be held in 2023 (the "2023 Annual Meeting"), to be filed with the Securities and Exchange Commission (the "SEC") within 120 days after the end of the fiscal year to which this Annual Report on Form 10-K relates, are incorporated herein by reference where indicated. Except with respect to information specifically incorporated by reference in this Annual Report on Form 10-K, such proxy statement is not deemed to be filed as part hereof.

VIRGIN GALACTIC HOLDINGS, INC.

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Cautionary Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements (including within the meaning of the Private Securities Litigation Reform Act of 1995) concerning us and other matters. These statements may discuss goals, intentions and expectations as to future plans, trends, events, results of operations or financial condition, or otherwise, based on current beliefs of management, as well as assumptions made by, and information currently available to management. Forward-looking statements may be accompanied by words such as "achieve," "anticipate," "believe," "can," "continue," "could," "estimate," "expect," "future," "grow," "increase," "intend," "may," "opportunity," "plan," "possible," "potential," "predict," "project," "should," "strategy," "target," "will," "would," or similar words, phrases, or expressions. These forward-looking statements are subject to various risks and uncertainties, many of which are outside our control. Therefore, you should not place undue reliance on such statements. Factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to, the following:

- any delay in completing the flight test program and final development of our spaceflight fleet, which is comprised of our SpaceShipTwo spaceships, VSS Unity and VSS Imagine, and our mothership carrier aircraft, VMS Eve;
- our ability to successfully develop our next generation vehicles, and the time and costs associated with doing so;
- our ability to conduct test flights;
- our ability to operate our spaceflight system after commercial launch;
- the safety of our spaceflight systems;
- the development of the markets for commercial human spaceflight and commercial research and development payloads;
- our ability to effectively market and sell human spaceflights;
- our ability to convert our backlog or inbound inquiries into revenue;
- our anticipated full passenger capacity;
- our ability to achieve or maintain profitability;
- delay in development or the manufacture of spaceflight systems;
- our ability to supply our technology to additional market opportunities;
- our expected capital requirements and the availability of additional financing;
- our ability to attract or retain highly qualified personnel;
- the effect of terrorist activity, armed conflict, including any escalation of hostility arising out of the conflict between Russia and Ukraine, natural disasters or pandemic diseases, including without limitation the COVID-19 pandemic, on the economy generally, and on our future financial or operational results, and our access to additional financing;
- consumer preferences and discretionary purchasing activity, which can be significantly adversely affected by unfavorable economic or market conditions;
- extensive and evolving government regulation that impact the way we operate;
- risks associated with international expansion;
- our ability to maintain effective internal control over financial reporting and disclosure and procedures; and

- our ability to continue to use, maintain, enforce, protect and defend our owned and licensed intellectual property, including the Virgin brand.

Additional factors that may cause actual results to differ materially from current expectations include, among other things, those set forth in Part I, Item 1A. “Risk Factors” and Part II, Item 7. “Management's Discussion and Analysis of Financial Condition and Results of Operations" below and for the reasons described elsewhere in this Annual Report on Form 10-K. Although we believe that the expectations reflected in the forward-looking statements are reasonable, our information may be incomplete or limited, and we cannot guarantee future results. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

Each of the terms the “Company,” “Virgin Galactic,” “we,” “our,” “us” and similar terms used herein refer collectively to Virgin Galactic Holdings, Inc., a Delaware corporation, and its consolidated subsidiaries, unless otherwise stated.

Risk Factor Summary

Your investment in our common stock will involve certain risks. Set forth below is only a summary of the principal risks associated with an investment in our common stock. You should consider carefully the following discussion of risks, as well as the discussion of risks included in this annual report, before you decide that an investment in our common stock appropriate for you.

- We have incurred significant losses since inception, we expect to incur losses in the future and we may not be able to achieve or maintain profitability.
- The success of our business will be highly dependent on our ability to effectively market and sell human spaceflights.
- The market for commercial human spaceflight has not been established with precision. It is still emerging and may not achieve the growth potential we expect or may grow more slowly than expected.
- We anticipate commencing commercial spaceflight operations with a single spaceflight system, which has yet to complete flight testing. Delays in completing the flight test program and the final development of our existing spaceflight system would adversely impact our business, financial condition and results of operations.
- Any inability to operate our spaceflight system after commercial launch at our anticipated flight rate could adversely impact our business, financial condition and results of operations.
- Our ability to grow our business depends on the successful development of our spaceflight systems and related technology, which is subject to many uncertainties, some of which are beyond our control.
- Unsatisfactory safety performance of our spaceflight systems or security incidents at our facilities could have a material adverse effect on our business, financial condition and results of operation.
- Any delays in the development and manufacture of additional spaceflight systems and related technology may adversely impact our business, financial condition and results of operations.
- We may require substantial additional funding to finance our operations, but adequate additional financing may not be available when we need it, on acceptable terms or at all.
- Failure of third-party contractors could adversely affect our business.
- Our investments in developing new offerings and technologies and exploring the application of our existing proprietary technologies for other uses and those offerings, technologies or opportunities may never materialize.
- The “Virgin” brand is not under our control, and negative publicity related to the Virgin brand name could materially adversely affect our business.
- If we fail to adequately protect our proprietary intellectual property rights, our competitive position could be impaired and we may lose valuable assets, generate reduced revenue and incur costly litigation to protect our rights.

- Our business is subject to a wide variety of extensive and evolving government laws and regulations. Failure to comply with such laws and regulations could have a material adverse effect on our business.

- The COVID-19 pandemic has disrupted and may continue to adversely affect our business operations and our financial results.

- Virgin Investments Limited has significant ability to control the direction of our business, which may prevent you and other stockholders from influencing significant decisions.

Part I

Item 1. Business.

Overview

We are at the vanguard of a new industry, pioneering a consumer space experience using reusable spaceflight systems. We believe the commercial exploration of space represents one of the most exciting and important technological initiatives of our time. Approximately 640 humans have ever traveled above the Earth's atmosphere into space. This industry is growing dramatically due to new products, new sources of private and government funding, and new technologies. Demand is emerging from new sectors and demographics, which we believe is broadening the total addressable market. As government space agencies have retired or reduced their capacity to send humans into space, private companies are beginning to make exciting inroads into the fields of human space exploration. We have embarked on this journey with a mission to put humans and research experiments into space and return them safely to Earth on a routine and consistent basis. We believe that opening access to space will connect the world to the wonder and awe created by space travel, offering customers a transformative experience, and providing the foundation for a myriad of exciting new industries.

We are an aerospace and space travel company offering access to space for private individuals, researchers and government agencies. Our missions include flying passengers to space as tourists, professional astronaut training, flying autonomous scientific payloads and flying researchers to space in order to conduct experiments for scientific and educational purposes. Our operations include the design and development, manufacturing, ground and flight testing, and post-flight maintenance of our spaceflight system vehicles. Our spaceflight system is developed using our proprietary technology and processes and is focused on providing space experiences for private astronauts, researchers and professional astronauts.

We intend to offer our customers a unique, multi-day experience culminating in a spaceflight that includes several minutes of weightlessness and views of Earth from space. Our elegant and distinctive spaceflight system – which takes off and lands on a runway – has been designed for optimal safety and comfort. As part of our commercial operations, we have exclusive access to the Gateway to Space facility at Spaceport America located in New Mexico. Spaceport America is the world's first purpose-built commercial spaceport and will be the site of our initial commercial spaceline operations. We believe the site provides us with a competitive advantage as it has a desert climate with relatively predictable weather conditions preferable to support our spaceflights and it also has airspace that is restricted for surrounding general commercial air traffic which facilitates frequent and consistent flight scheduling.

Our near-term focus is to launch the commercial program for human spaceflight. In December 2018, we made history by flying our groundbreaking spaceship, VSS Unity, to space. This represented the first flight of a spaceflight system built for commercial service to take humans into space. In February 2019, we flew our second spaceflight with VSS Unity, which carried a crew member in the cabin in addition to the two pilots. After relocating our operations to Spaceport America, we have flown an additional two spaceflights in May and July of 2021. The May 2021 flight carried revenue-generating research experiments as part of NASA's Flight Opportunities Program. This was the third time Virgin Galactic has flown technology experiments in the cabin on a spaceflight. This flight also completed the data submission to the Federal Aviation Administration ("FAA") resulting in the approval for the expansion of our commercial space transportation operator license to allow for the carriage of space flight participants. This marked the first time the FAA licensed a spaceline to fly customers and was further validation of the inherent safety of our system.

Our flight in July 2021 was the 22nd flight of VSS Unity, the fourth rocket powered spaceflight and the first spaceflight with a full crew of four mission specialists in the cabin, including our Founder, Sir Richard Branson.

We believe that the market for commercial human spaceflight is significant and untapped. As of December 31, 2022, we received reservations for approximately 800 spaceflight tickets and collected $103.3 million in deposits and membership fees from future astronauts. With each ticket purchased, future astronauts are granted membership in Virgin Galactic's Future Astronaut community. This membership provides access to events and experiences, including exclusive weeks 'at home' with Virgin Galactic Astronaut 001, Sir Richard Branson. With this membership, they will experience a multi-day journey to prepare their mind and body for their upcoming flight, which includes a comprehensive spaceflight training preparation program and culminates with a trip to space on the final day.

We have developed an extensive portfolio of proprietary technologies embodied in the highly specialized assets that we have developed or leased to enable commercial spaceflight and address these industry trends. These assets include:

- ***Our carrier aircraft, the mothership.*** The mothership is a twin-fuselage, custom-built aircraft designed to carry our spaceships up to an altitude of approximately 45,000 feet, where the spaceship is released for its flight into space. Using the mothership's air launch capacity, rather than a standard ground-launch, reduces the energy requirements of

our spaceflight system as the spaceship does not have to ascend through the higher density atmosphere closest to the Earth's surface. Our carrier aircraft is designed to launch thousands of spaceship flights over its lifetime. This reusable launch platform design provides a flight experience and economics similar to commercial airplanes and may offer a considerable economic advantage over other potential launch alternatives. Additionally, our carrier aircraft is designed to have a rapid turnaround time to enable it to provide frequent spaceflight launch services for multiple spaceships.

- ***Our spaceship.*** The spaceship is a vehicle with the capacity to carry pilots and private astronauts, research experiments and researchers that travel with their experiments for human tended research flights, into space and return them safely to Earth. The spaceship is a rocket-powered winged vehicle designed to achieve a maximum speed of over Mach 3 and has a flight duration, measured from the takeoff of our carrier aircraft to the landing of spaceship, of up to approximately 90 minutes. The spaceship cabin has been designed to maximize the future astronaut's safety, experience and comfort. A dozen windows line the sides and ceiling of the spaceship, offering customers the ability to view the blackness of space as well as stunning views of the Earth below. Pilot-designed and pilot-flown missions aid safety and customer confidence, enhancing the spaceflight experience. With the exception of the rocket motor's fuel and oxidizer, which must be replenished after each flight, the spaceship is designed as a wholly reusable vehicle.

- ***Our hybrid rocket motor.*** Our spaceships are powered by a hybrid rocket propulsion system that propels them on a trajectory into space. The term "hybrid" rocket refers to the fact that the rocket uses a solid fuel grain cartridge and a liquid oxidizer. The fuel cartridge is consumed over the course of a flight and replaced in between flights. Our rocket motor has been designed to provide performance capabilities necessary for spaceflight with a focus on safety, reliability and economy. Its design incorporates comprehensive critical safety features, including the ability to be safely shut down at any time, and its limited number of moving parts increases reliability and robustness for human spaceflight. Furthermore, the fuel is made from a benign substance that needs no special or hazardous storage.

- ***Spaceport America.*** The future astronaut flight preparation and experience will take place at our operational headquarters at Spaceport America. Spaceport America is the first purpose-built commercial spaceport in the world and serves as the home of our terminal hangar building, officially designated the "Virgin Galactic Gateway to Space." Spaceport America is located in New Mexico on 27 square miles of desert landscape, with access to 6,000 square miles of restricted airspace running from the ground to space. The restricted airspace will facilitate frequent and consistent flight scheduling by preventing general commercial air traffic from entering the area. Additionally, the desert climate and its relatively predictable weather provide favorable launch conditions year-round. Our license from the FAA includes Spaceport America as a location from which we can launch and land our spaceflight system on a routine basis.

Our team is currently in various stages of designing, testing and manufacturing additional spaceships, motherships, and rocket motors in order to meet the expected demand for human spaceflight experiences. Our next generation spaceships will include the various learnings from our flight test program so we are able to design and manufacture our future spaceships to allow for greater predictability, faster turnaround time and easier maintenance. Concurrently, we are also researching and developing new products and technologies to grow our company.

Our goal is to offer our future astronauts an unmatched, safe, and affordable journey to space without the need for any prior experience or significant prior training and preparation. We have worked diligently for over a decade to plan every aspect of the future astronaut's journey to become an astronaut, drawing on a world-class team with extensive experience with human spaceflight, high-end customer experiences, and reliable transportation system operations and safety. Each future astronaut will spend several days at Spaceport America, including days devoted to pre-flight training and the spaceflight itself occurring at the end of the training period. In space, they will be able to float out of their seats and experience weightlessness, floating about the cabin and positioning themselves at one of the many windows around the cabin, looking directly down at Earth. After enjoying several minutes of weightlessness, our astronauts will maneuver back to their seats to prepare for re-entry and the journey back into the Earth's atmosphere. Upon landing, astronauts will disembark and join family and friends to celebrate their achievements and receive their Virgin Galactic astronaut wings.

Our operations also include spaceflight opportunities for research and technology development. Researchers have historically utilized parabolic aircraft and drop towers to create moments of microgravity and conduct significant research activities related to the space environment. In most cases, these solutions offer only seconds of continuous microgravity time and do not offer access to the upper atmosphere or space itself. Researchers can also conduct experiments on sounding rockets, satellites or orbital platforms. These opportunities are high cost, infrequent and may impose highly limiting operational constraints. Our spaceflight system is intended to provide the scientific research community low cost, repeatable access to space and the microgravity environment. Our suborbital platform is an end-to-end offering, which includes not only our vehicles, but also the hardware such as middeck lockers that we provide to researchers that request them, along with the processes and facilities needed for a successful campaign. The platform offers a routine, reliable and responsive service allowing for

experiments to be repeated rapidly and frequently and with the opportunity to be tended in-flight by one or more researchers. This capability will enable scientific experiments as well as educational and research programs to be carried out by a broader range of individuals, organizations and institutions than ever before. Our commitment to advancing research and science has been present in all of our spaceflights to date. In May 2021, we carried payloads into space for research purposes through NASA's Flight Opportunities Program, and our flight in July 2021 included a research payload from the University of Florida.

We have also leveraged our knowledge and expertise in manufacturing spaceships to occasionally perform engineering services, such as research, design, development, manufacturing and integration of advanced technology systems.

Commercial Space Industry

The commercial exploration of space represents one of the most exciting and important technological initiatives of our time. For the last six decades, crewed spaceflight missions commanded by the national space agencies of the United States, Russia and China have captured and sustained the attention of the world, inspiring countless entrepreneurs, scientists, inventors, ordinary citizens and new industries. Despite the importance of these missions and their cultural, scientific, economic and geopolitical influence, as of December 31, 2022, only approximately 640 humans have ever traveled above the Earth's atmosphere into space. Overwhelmingly, these men and women have been government employees handpicked by government space agencies such as NASA, and trained over many years at significant expense. While these highly capable government astronauts have inspired millions, individuals in the private sector have had extremely limited opportunity to fly into space, regardless of their wealth or ambitions. We are planning to change that.

Over the past decade, several trends have converged to invigorate the commercial space industry. Rapidly advancing technologies, decreasing costs, open innovation models with improved access to technology and greater availability of capital have driven explosive growth in the commercial space market. The growth in private investment in the commercial space industry has led to a wave of new companies reinventing parts of the traditional space industry, including human spaceflight, satellites, payload delivery and methods of launch, in addition to unlocking entirely new potential market segments. Government agencies have taken note of the massive potential and growing import of space and are increasingly relying on the commercial space industry to spur innovation and advance national space objectives. In the United States, this has been evidenced by notable policy initiatives and by commercial contractors' growing share of space activity.

As a result of these trends, we believe the exploration of space and the cultivation and monetization of space-related capabilities offers immense potential to create economic value and future growth. Further, we believe we are at the center of these industry trends and well-positioned to capitalize on them by bringing human spaceflight to a broader global population that dreams of traveling to space. We are initially focused on human spaceflight for recreation and research, but we believe our differentiated technology and unique capabilities can be leveraged to address numerous commercial and government opportunities in the commercial space industry.

We have developed an extensive set of integrated aerospace development capabilities for developing, manufacturing and testing aircraft and related propulsion systems. These capabilities encompass preliminary systems and vehicle design and analysis, detail design, manufacturing, ground testing, flight testing and post-delivery support and maintenance. We believe our unique approach and rapid prototyping capabilities enable innovative ideas to be designed quickly, built and tested with process and rigor. In addition, we have expertise in configuration management and developing documentation needed to transition our technologies and systems to commercial applications. Further, we have developed a significant amount of know-how, expertise and capability that we believe we can leverage to capture growing demand for innovative, agile and low-cost development projects for third parties, including contractors, government agencies and commercial service providers. We are exploring strategic relationships to identify new applications for our technologies and to develop advanced aerospace technologies for commercial and transportation applications that we believe will accelerate progress within relevant industries and enhance our growth.

Human Spaceflight

The market for commercial human spaceflight for private individuals is new and virtually untapped. To date, private commercial space travel has been limited to a select group of individuals who were able to reach space only at great personal expense and risk. In 2001, Dennis Tito was the first private individual to purchase a ticket for space travel, paying an estimated $20 million for a ride to the International Space Station (the "ISS") on a Russian Soyuz rocket. Since then, only a limited number of individuals have purchased tickets and flown successful orbital and suborbital missions. In 2021, Blue Origin sold its first commercial ticket for a suborbital flight at a price of $28 million. Current prices for NASA spaceflights to the ISS and SpaceX orbital missions approximately range between $50 million and $75 million per seat.

Historically, the privatization of human spaceflight has been limited primarily by cost and availability to private individuals. In the past, the technologies necessary to journey to space have been owned and controlled strictly by government space agencies. Government agencies have recently demonstrated interest in opening up access to the private sector for human spaceflight. Because of the high cost of development, historically, there has been limited innovation to foster the commercial viability of human spaceflight. For example, most spacecraft were developed as single-use vehicles; and while the Space Shuttle was built as a reusable vehicle, it required significant recovery and refurbishment between flights.

The interconnected dynamics of national security concerns, government funding, a lack of competing technologies and economies of scale, as well as the infrequency of flights, have all contributed to sustained high costs of human spaceflight. In addition to the cost, privatization has also been limited by concerns surrounding the ability to safely transport untrained general members of the public into space.

While these obstacles have significantly limited the adoption of human space travel, we believe the few private individuals who have already flown at significant personal cost provide important insight into the potential demand for private space travel, particularly if these obstacles can be addressed.

Our Strategy

Using our proprietary and reusable flight system and supported by a distinctive, Virgin-branded customer experience, we seek to provide affordable, safe, reliable and regular transportation to space. To accomplish this, we intend to:

- ***Launch our commercial program for human spaceflight.*** In December 2018, we flew our first spaceflight using our spaceship, VSS Unity. This marked the first-ever flight of a vehicle designed for commercial service to take humans into space and was the first crewed space launch from U.S. soil since 2011. In February 2019, we flew VSS Unity to space for a second time and, in addition to the two pilots, carried a crew member in the cabin. The crew member was able to unbuckle her seatbelt and float around the cabin in weightlessness – another first for a commercial space vehicle. All five crew members flown across these two flights were thereafter awarded official U.S. government commercial astronaut wings in recognition of having traveled more than 50 miles above sea level. After relocating our flight operations to Spaceport America, we have flown an additional two spaceflights, in May and July of 2021. The May 2021 flight was the third time Virgin Galactic had flown technology experiments in the cabin on a spaceflight. This flight also completed the data submission to the FAA resulting in the approval for the expansion of our commercial space transportation operator license to allow for the carriage of space flight participants. This marked the first time the FAA licensed a spaceline to fly customers and was further validation of the inherent safety of our systems.

- ***Expand the fleet to increase our flight rate.*** We will commence commercial operations with our spaceship, VSS Unity, and our mothership carrier aircraft, VMS Eve, which together comprise our spaceflight system. We are currently developing our newest spaceship, VSS Imagine. We believe these crafts will be sufficient to meet our initial operating plan. We intend to expand our fleet with our next generation vehicles, our Delta class spaceships and our next generation motherships, which will allow us to increase our annual flight rate. Beyond that, we plan to identify opportunities to expand to additional spaceports.

- ***Lower operating costs.*** We are focused on developing and implementing manufacturing and operating efficiencies in an effort to decrease the manufacturing cost per spaceship, mothership and propulsion system. Additionally, we expect that, as we commence commercial operations, our staff will become more efficient in various aspects of operations and maintenance to reduce associated operating costs.

- ***Leverage our proprietary technology and deep manufacturing experience to augment our product and service offerings and expand into adjacent and international markets.*** We have developed an extensive set of integrated aerospace development capabilities and technologies. While our primary focus for the foreseeable future will be on commercializing human space flight, we intend to explore the application of our proprietary technologies and our capabilities in areas such as design, engineering, composites manufacturing, high-speed propulsion and production for other commercial and government uses. Among other opportunities, we believe our technology could be used to develop high-speed vehicles that drastically reduce travel time for point-to-point international travel. By leveraging our technology and operations, we believe we will also have an opportunity in the future to pursue growth opportunities abroad, including by potentially opening additional spaceports or entering into other arrangements with different international government agencies. We also expect to continue and expand our government and research payload business, in addition to developing additional commercial partnerships.

Our Competitive Strengths

We are a pioneer in commercial human spaceflight with a mission to transform access to space for the benefit of humankind; to reveal the wonder of space to more people than ever before. We believe that our collective expertise, coupled with the following strengths, will allow us to build our business and expand our market opportunity and addressable markets:

- ***Differentiated technology and capabilities.*** Since the Company was formed in 2004, we have developed reusable vehicles and capabilities that will allow us to move towards airline-like operations for spaceflight, and which were the basis for the FAA granting us our commercial space launch license in 2016. Our spaceflight system and our hybrid rocket motor together enable the following key differentiators:
    - horizontal take-off and landing using winged vehicles and traditional airplane runway infrastructure that enable a familiar airplane-like experience;
    - use of our carrier aircraft for the first stage of flight and then to air launch our spaceship, which is intended to maximize the safety and efficiency of our spaceflight system;
    - pilot-designed and pilot-flown missions to aid safety and customer confidence;
    - carbon composite construction that is light, strong and durable;
    - robust, controllable spaceship hybrid rocket motor propulsion system that can be safely shut down at any time during the flight;
    - large cabin with multiple windows, allowing for an experience of weightlessness and easy access to views of Earth for all of our future astronauts;
    - unique “wing-feathering” system, designed to enable a safe, aerodynamically controlled re-entry into the Earth’s atmosphere on a repeated basis; and
    - Versatile cabin provides the adaptability to operate research-focused flights with payload racks and researchers onboard as well as private astronaut flights with a full cabin of commercial passengers.
- ***Significant backlog and pent-up customer demand.*** We believe a significant market opportunity exists for a company that can provide high net worth individuals with the opportunity to enjoy a spaceflight experience in comfort and safety. While not yet in commercial service, we have already received significant interest from future astronauts and research organizations. As of December 31, 2022, we received reservations for spaceship flights from approximately 800 future astronauts and collected $103.3 million in deposits and membership fees. In August 2021, following Sir Richard Branson's successful test flight, we reopened ticket sales to a select group and increased the pricing of our consumer offerings to a base price of $450,000 per seat. In February 2022, we opened ticket sales to the general public. We are reserving 100 seats within our first 1,000 commercial seats sold for research and scientific experiments. As of December 31, 2022, the tickets sold represent approximately $208 million in expected future spaceflight revenue upon completion of space flights and collection of outstanding balances owed by customers, which become due prior to space flights. Additionally, as of December 31, 2022, we have flown 12 payloads for space research missions and intend to pursue similar arrangements for additional research missions. We continue to see demand for future payload flights with per-seat equivalent prices higher than our consumer offering.
- ***Iconic brand associated with unique customer experiences.*** The Virgin brand carries an exceptional reputation worldwide for innovation, customer experience, adventure and luxury. We have been planning our customer journey for many years and have refined our plans with the help of our future astronauts, many of whom are highly regarded enthusiasts who are committed to optimizing their experience and our success. The customer journey starts with marketing materials, the sales process and the purchase of a reservation. It concludes with a multi-day spaceflight experience in New Mexico, which includes several days of personalized training with the full flight crew and the Virgin Galactic team at the world’s first purpose built commercial spaceport. The training program is designed to optimize the flight for each crew member. Luxury accommodations will house future astronaut family and guests, underpinned by Virgin’s renowned all-inclusive luxury amenities. The experience culminates in an epic flight to space and a full video and photographic record of the journey. A clear customer service ethos and language runs through the entire journey and is managed by our uniquely experienced team.
- ***Limited competition with natural barriers to entry.*** Entry into the commercial human spaceflight market requires a significant financial investment as well as many years of high-risk development. We were formed in 2004 after the architecture of our spaceflight system had been proven in prototype form, which in itself had taken several years. In total, the development of our platform and capabilities has required approximately $2 billion in total investment to

date. We are aware of only one competitor with a similar investment of time and money in suborbital commercial human spaceflight, which is taking a different approach to its launch architecture.

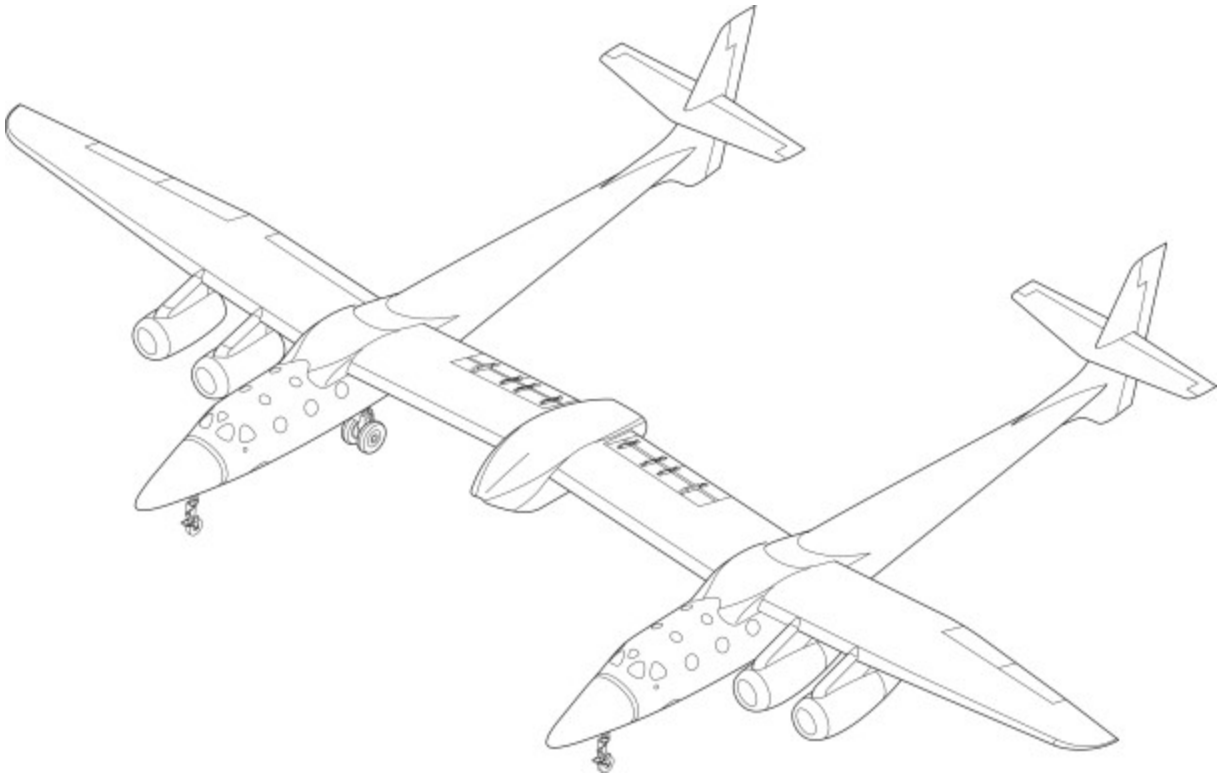
- ***Highly specialized and extensive integrated design and manufacturing capabilities.*** We possess highly specialized and extensive integrated capabilities that enable us to manage and control almost all elements of design and manufacturing of our current generation of spaceships and carrier aircraft. These capabilities include a unique approach to rapid prototyping that enables us to design, build and test innovative ideas quickly; a deep composite manufacturing experience with broad applications in the aerospace industry; a dedicated team and facilities that support the full development of our high-performance vehicles; a 200,000 square foot campus in Mojave, California that houses fabrication, assembly, hangar and office space and where we perform ground and test operations; and a design and collaboration center in Tustin, California. We have partnered with third parties to manufacture key subassemblies for our next generation spaceships, which will be assembled in our manufacturing and operations facilities in Mesa, Arizona. Additionally, we have partnered with a third party for the design and manufacturing of our next generation motherships. These partnerships further enhance our current design and manufacturing capabilities.

- ***First purpose-built commercial spaceport.*** We operate our flights at Spaceport America, which was designed to be both functional and beautiful and sets the stage for our future astronaut experiences. Spaceport America is located in New Mexico on 27 square miles of desert landscape, with access to 6,000 square miles of restricted airspace running from the ground to space. The restricted airspace will facilitate frequent and consistent flight scheduling and the desert climate and its relatively predictable weather provide favorable launch conditions year-round. Although leased, the facilities were built with our operational requirements and our future astronauts in mind, with comprehensive consideration of its practical function, while also providing the basis for the Virgin Galactic experience.

- ***Experienced management team and an industry-leading flight team.*** Our Chief Executive Officer spent more than 30 years working at The Walt Disney Company, most recently as its President and Managing Director, Disney Parks International, and leads a senior management and advisory team with extensive experience in the aerospace industry, including NASA’s former space shuttle launch integration manager and former Senior Vice President of Delta Air Lines' TechOps Services Group. Our team of pilots is similarly experienced, with 267 years of collective flight experience, and includes former test pilots for NASA, the Royal Air Force, the Royal Canadian Air Force, the U.S. Air Force, the Italian Air Force, and the U.S. Marine Corps. Our commercial team is managed and supported by individuals with significant experience and success in building and growing a commercial spaceflight brand, selling spaceflight reservations and managing the Future Astronaut community.

Our Assets

We have developed an extensive portfolio of proprietary technologies that are embodied in the highly specialized vehicles that we have created to enable commercial spaceflight. These technologies underpin our carrier aircraft, the mothership; our spaceships; our hybrid rocket motor; and our safety systems. Our future astronauts will interact with these technologies at our operational headquarters at Spaceport America, the first purpose-built commercial spaceport, and our terminal hangar building, officially designated the “Virgin Galactic Gateway to Space.”



Our Carrier Aircraft—The Mothership

The mothership is a twin-fuselage, custom-built aircraft designed to carry spaceships up to an altitude of approximately 45,000 feet, where the spaceship is released for its flight into space. Using the mothership rather than a standard ground-launch rocket reduces the energy requirements for suborbital launch because our spaceships are not required to propel their way through the higher density atmosphere nearer to the Earth's surface. Air-launch systems have a well-established flight heritage, having first been used in 1947 for the Bell X-1, which was the first aircraft to break the speed of sound, and later on, the X-15 suborbital spaceplane, in Northrop Grumman's Pegasus rocket system and in earlier versions of our spaceflight system.

The mothership's differentiating design features include its twin-boom configuration, its single-piece composite main wing spars, its reusability as the first stage in our space launch system, and its versatility as a flight training vehicle for our pilots and spaceships. The twin-boom configuration allows for a spacious central area between the two fuselages to accommodate a center wing launch pylon to which the spaceship can be attached. Both cabins of the mothership are constructed using the same tooling and are identical in shape and size to the spaceship cabin. The commonality of cabin construction provides cost savings in production, as well as operational, maintenance and crew training advantages. The mothership's all-composite material construction substantially reduces weight as compared to an all-metal design. The mothership is powered by four Pratt and Whitney Canada commercial turbo-fan engines. Spare parts and maintenance support are readily available for these engines, which have reliably been in service on the mothership since December 2008.

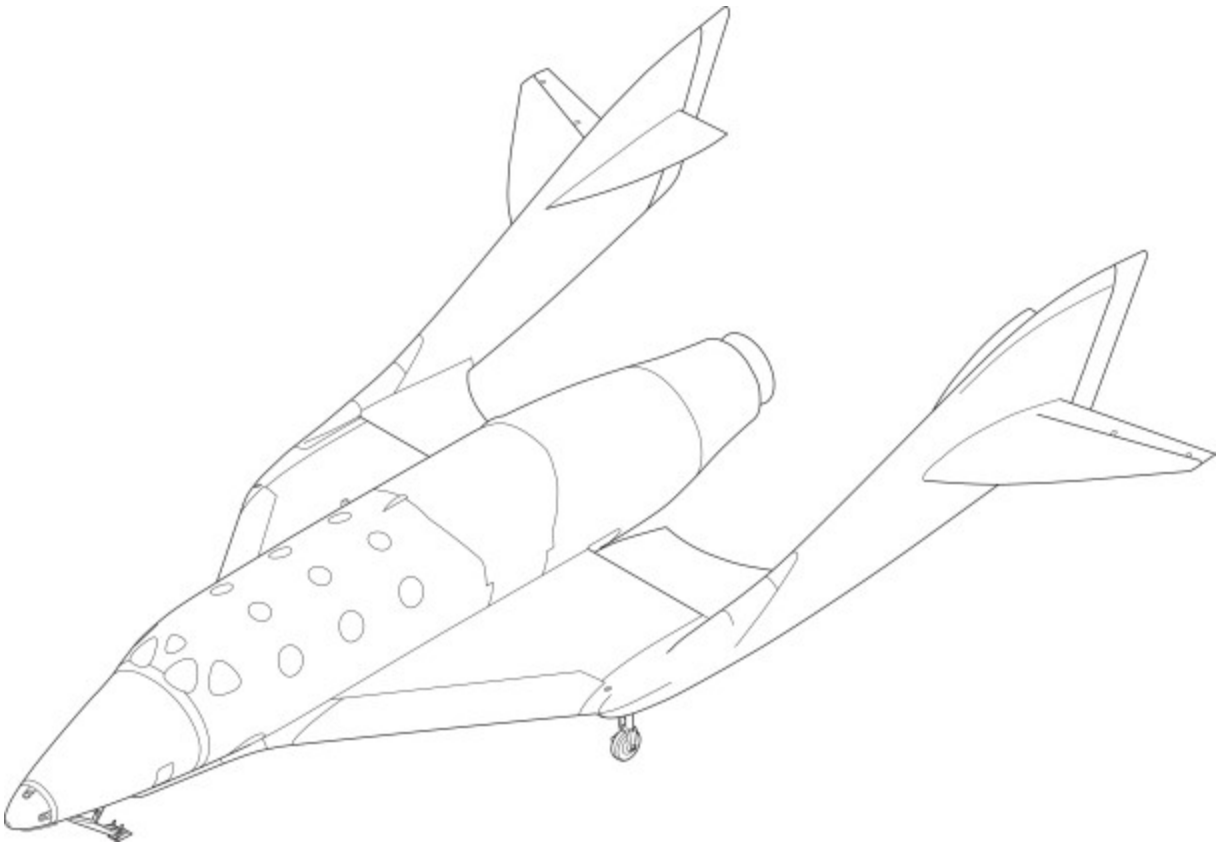
The mothership's pilots are all located in the right boom during all phases of ground operations and flight. At present, the left boom is empty and unpressurized; however, in the future, the left boom could be used to accommodate additional crew, research experiments or astronauts training for their flight on our spaceship, if permitted by relevant government agencies.

The mothership's 140 foot main wing houses large air brakes that allow the mothership to mimic the spaceship's aerodynamic characteristics in the gliding portions of the spaceship's flight. This provides our pilots with a safe, cost-effective and repeatable way to train for the spaceship's final approach and landing.

Our carrier aircraft is designed to launch thousands of spaceship flights over its lifetime. As such, our spaceflight launch platform system provides a flight experience and economics akin to commercial airplanes and offers a considerable economic advantage over other potential launch architectures. Additionally, our carrier aircraft has a rapid turnaround time, enabling it to provide frequent spaceflight launch services for multiple spaceships.

The mothership was designed with a view towards supporting our international expansion and has a range of up to 2,800 nautical miles. As a result, the mothership can transport our spaceships virtually anywhere in the world to establish launch capabilities.

The mothership has completed an extensive, multi-year test program that included a combination of ground and flight tests. As of December 31, 2022, it had completed 300 test flights, with more than 50 of those being dual tests with SpaceShipTwo, VSS Unity. Planned upgrades of the mothership are complete, and ground tests and validation test flights have commenced in the first quarter of 2023 to verify the enhancements to the ship.



Our Spaceships

Virgin Galactic spaceships are reusable with the capacity to carry two pilots and up to six private astronauts, research experiments or researchers that travel with their experiments for human tended research flights, into space and return them safely to Earth. The spaceship is a rocket-powered winged vehicle designed to achieve a maximum speed of over Mach 3 and has a flight duration, measured from the mothership's takeoff to landing, of up to approximately 90 minutes.

The spaceship begins each mission by being carried to an altitude of approximately 45,000 feet by the mothership before being released. Upon release, the pilot fires the hybrid rocket motor, which propels the spaceship on a near vertical trajectory into space. Once in space, after providing the future astronauts with amazing views and a weightlessness experience, a pilot uses the spaceship's unique "wing-feathering" feature in order to prepare the vehicle for re-entry. The feathering system works like a badminton shuttlecock, naturally orienting the spaceship into the desired re-entry position with minimal pilot and computer input. This re-entry position uses the entire bottom of the spaceship to create substantial drag, thereby slowing the vehicle to a safe re-entry speed and preventing unacceptable heat loads. Once the spaceship has descended back to an altitude of approximately 55,000 feet above sea level, the wings un-feather back to their normal position, and the spaceship glides back to the base for a runway landing, similar to NASA's Space Shuttle or any other glider. The spaceship's feathering system was originally developed and tested on SpaceShipTwo's smaller predecessor, SpaceShipOne.

Our spaceship's cabin has been designed to maximize customer safety and comfort. A dozen windows in the cabin line the sides and ceiling of the spaceship, offering future astronauts the ability to view the black of space as well as stunning views of the Earth below.

With the exception of the rocket motor's fuel and oxidizer, which must be replenished after each flight, our spaceships are designed to be reusable. Like the mothership, our spaceship was constructed with all-composite material construction, providing beneficial weight and durability characteristics.

SpaceShipTwo, VSS Unity, is completing an extensive flight test program that began in March 2010 with the original SpaceShipTwo, VSS Enterprise, which was built by a third-party contractor. This flight program was designed to include a rigorous series of ground and flight tests. As of December 31, 2022, the SpaceShipTwo configuration had completed more than 50 test flights, of which ten were rocket-powered test flights, including successful flights to space in December 2018, February 2019, May 2021 and July 2021. Prior to commercial launch, SpaceShipTwo will complete its flight test program at Spaceport America in New Mexico.

Hybrid Rocket Motor

Our spaceship is powered by a hybrid rocket propulsion system that propels it on a trajectory into space. The term "hybrid" rocket refers to the fact that the rocket uses a solid fuel grain and a liquid oxidizer. The fuel cartridge is consumed over the course of a flight, meaning that each spaceship flight will require the installation of a new, replaceable fuel cartridge that contains the fuel used in the hybrid rocket motor. The assembly of this fuel cartridge is designed to be efficient and to support high rates of commercial spaceflight. In 2018, our rocket motor set a Guinness world record as the most powerful hybrid rocket to be used in crewed flight. In February 2019, it was accepted into the permanent collection of the National Air and Space Museum.

Our rocket motor has been designed to provide the required mission performance capability with a focus on safety, reliability and economy. Its design benefits from critical safety features, including its ability to be shut down safely at any time during flight and its limited number of moving parts, which increases reliability and robustness for human spaceflight. Furthermore, the motor is made from a benign substance that needs no special or hazardous storage.

Our in-house propulsion team is in the process of upgrading our fuel cartridge production plant to increase the production rate and to reduce the unit production cost to accommodate planned growth in the spaceship fleet and drive increasingly attractive per-flight economics.

Safety Systems

We have designed our spaceflight system with a fundamental focus on safety. Important elements of our safety design include:

- ***Horizontal takeoff and landing.*** We believe that launching our spaceship from the mothership offers several critical safety advantages. Among other advantages, horizontal launch generally requires less fuel, oxidizer and pressurant on board than would otherwise be required. Moreover, the horizontal launch method allows increased time for pilots and crew to respond to any potential problems that may arise with the spaceship or its propulsion system. As such, if the pilots observe a problem while the spaceship is still mated to the mothership, they can quickly and safely return to the ground without releasing our spaceship. Furthermore, if potential concerns emerge after release from the mothership, spaceship can simply glide back to the runway.
- ***The mothership's engine reliability.*** Highly reliable and rigorously tested jet engines made by Pratt and Whitney Canada power the first 45,000 feet of the journey to space.
- ***Two pilots per vehicle.*** Two pilots will fly in each mothership and each spaceship. Having a second pilot in the vehicles spreads the workload and provides critical redundancies.
- ***Design of our rocket motors.*** Our rocket motor is a simple and robust, human-rated spaceflight rocket motor with no turbo-pumps or complicated machinery. This rocket offers simple shut-off control at any point in the trajectory, unlike a traditional solid rocket motor.
- ***Feathering system.*** Our unique wing feathering technology provides self-correcting capability that requires limited pilot input for our spaceship to align properly for re-entry.

- ***Astronaut preparation.*** Each of our future astronauts will go through a customized medical screening and flight preparation process, including training for the use of communication systems, flight protocols, emergency procedures and G-force training. In addition, initial customer questionnaires and health assessments have been completed and are maintained in a comprehensive and secure medical database.

- ***Full mission abort capability.*** Due to our air-launch configuration and flight profile, mission abort capability exists at all points along the flight path and consists of aborts that mimic the normal mission profile. For example, if pre-launch release criteria are not met, the spaceship is designed to remain attached to the carrier aircraft and make a smooth, mated landing. In the event of an abort in a short-burn duration, the spaceship pilot may choose to fly a parabolic, gliding recovery. For longer duration burns, pilots will continue to climb to configure a feathered re-entry and establish a gliding recovery at nominal altitudes.

- ***Safety Management System.*** We have an aviation Safety Management System (SMS) that is aligned with industry and regulatory standards contained in FAA SMS Advisory Circular 120-92B and 14 Code of Federal Regulations Part 5, which advocates for a formal, top-down, and business-like approach to managing safety. Our SMS provides a framework designed to minimize the consequences of hazards in our business life cycle through a continuing process of hazard identification and risk management that decreases the likelihood of incident, accident, injury, or illness. Our SMS has four subparts: Safety Policy, Safety Risk Management, Safety Assurance and Safety Promotion.

Spaceport America

The future astronauts' flight preparation and experience will take place at The Gateway To Space at Spaceport America, the first purpose-built commercial spaceport in the world. Spaceport America is located in New Mexico on 27 square miles of desert landscape and includes a space terminal, hangar facilities and a 12,000 foot runway. The facility has access to 6,000 square miles of restricted airspace running from the ground to space. The restricted airspace will facilitate frequent and consistent flight scheduling, and the desert climate and its relatively predictable weather provide favorable launch conditions year-round. The development costs of Spaceport America were largely funded by the State of New Mexico. Our license from the FAA includes Spaceport America as a location from which we can launch and land our spaceflight system.

The terminal hangar building, officially designated the "Virgin Galactic Gateway to Space," was designed to be functional and beautiful, matching future astronauts' high expectations of a Virgin-branded facility and delivering an aesthetic consistent with the Virgin Galactic experience. The form of the building in the landscape and its interior spaces capture the drama and mystery of spaceflight, reflecting the thrill of space travel for our future astronauts. The LEED-Gold certified building has ample capacity to accommodate our staff and our current fleet of vehicles.

Signature Campus in Sierra County

In August 2022, the Company secured land to move forward with the development of a new astronaut campus and training facility in the State of New Mexico, near Spaceport America. The land, located in Sierra County, will be home to a new, first-of-its-kind astronaut campus, for the exclusive use by Virgin Galactic future astronauts and up to three of their guests in advance of a spaceflight from Spaceport America. The master plan for the campus includes training facilities, purposeful accommodations, and tailored experiences as well as an observatory, wellness center, recreation activities, and unique dining options.

The Astronaut Journey

Our goal is to offer our future astronauts an unmatched but affordable opportunity to experience spaceflight safely and without the need for any prior experience or training. We have worked diligently for over a decade to plan every aspect of the customer's journey to become an astronaut, drawing on a world-class team with extensive experience with human spaceflight, high-end customer experiences and reliable transportation system operations and safety. We have had the considerable advantage of building and managing our initial community of future astronauts, comprised of individuals from 65 countries who have made reservations to fly on our spaceships. This community is actively engaged, allowing us to understand the style of customer service and experience expected before, during and after each flight. We have used customer input to ensure that each customer's journey with us, from end to end, will represent a pinnacle life experience and achievement.

The Virgin Galactic astronaut reservation process, honed and proven over many years, is personalized and consultative, but underpinned by a digital customer relationship management journey. It is designed to deliver a high-touch but efficient and scalable user experience. Once the reservation transaction is completed, the customer receives immediate membership of the Future Astronaut community and access to an annual calendar of money-can't-buy events and experiences, including exclusive weeks 'at home' with Sir Richard Branson, visits to Virgin Galactic's facilities in New Mexico and California, as well as space readiness activities such as zero-gravity aircraft flights and high-g centrifuge training. Each customer is welcomed and on-boarded into the Future Astronaut community via a call with our customer team in the London-

based ‘Astronaut Office.’ That welcome and sense of membership is reinforced by a high quality and personalized welcome pack sent to each customer. This pack contains specially designed branded assets, including a membership card and a personal letter from Sir Richard Branson, welcoming the future astronaut into the Virgin Galactic family. Future astronauts are kept apprised of community activity and company news through an app-accessed customer portal, which has undergone an extensive upgrade. Once we commence commercial operations, which is expected to begin in the second quarter of 2023, this portal will also be the principal tool by which we will provide and receive necessary information from our future astronauts in preparation for their spaceflights.

Prior to traveling to Spaceport America to begin their journey, each future astronaut will be required to complete a medical history questionnaire. In addition to completing this questionnaire, each future astronaut will also undergo a medical assessment with an aerospace medical specialist, typically within six months of flight. Some future astronauts may be asked for additional testing as indicated by their health status. Based on our observations in tests involving a large group of our future astronauts, we believe that the vast majority of people who want to travel to space in our program will not be prevented from doing so by health or fitness considerations.

Pre-Flight Training

Future astronauts will participate in several days of pre-flight training. The spaceflight is expected to occur following the completion of training.

Pre-flight training will include briefings, mock-up training and time spent with the mission’s fellow future astronauts and crew. The purpose of this training is to ensure that the future astronauts get the maximum enjoyment of their spaceflight experience while ensuring that they do so safely.

We have worked with training experts, behavioral health experts, experienced flight technicians, and experienced government astronauts in order to customize training for our suborbital missions. This program is expected to include training for emergency egress, flight communication systems, flight protocols, seat ingress and egress and will meet all training requirements prescribed by applicable regulation.

The training program has been built on the philosophy that familiarization with the systems, procedures, equipment and personnel that will be involved in the actual flight will make the future astronaut more comfortable and allow the customer to focus their attention on having the best possible experience. As a result, most training is expected to involve hands-on activities with real flight hardware or with high fidelity mock-ups.

Although broadly similar for each flight, the training program and the flight schedule may vary slightly depending on the backgrounds, personalities, physical health of the future astronauts and weather and other conditions. Additionally, we expect to review, assess and modify the program regularly as we gain commercial experience.

The Spaceflight Experience

On the morning of their flight to space, the future astronauts will head out to the spaceport for their final flight briefings and preparation. The future astronauts will then meet up with their fellow future astronauts and board our spaceship, which will already be mated to the mothership.

The spaceship cabin has been designed, like the spaceport interior, to deliver an aesthetic consistent with our brand values and optimize the flight experience. User experience features are expected to include strategically positioned high-definition video cameras, flight data displays and cabin lighting. Virgin companies are renowned for their interior design, particularly in the aviation industry. That experience and reputation have been brought to bear on both spaceship and spaceport interiors to optimize the customer journey.

Once all future astronauts are safely onboard and the pilots have coordinated with the appropriate regulatory and operational groups, the mothership will take-off and climb to an altitude of approximately 45,000 feet. Once at altitude, the pilots will perform all necessary vehicle and safety checks and then will release the spaceship from the mothership. Within seconds, the rocket motor will be fired, instantly producing acceleration forces of up to 4Gs as the spaceship undertakes a near vertical climb and achieves speeds of more than Mach 3.

The rocket motor will fire for approximately 60 seconds, burning all of its propellant, and the spaceship will coast up to apogee. Our astronauts will be able to exit their seats and experience weightlessness, floating about the cabin and positioning themselves at one of the dozen windows around the cabin sides and top. The vehicle’s two pilots will maneuver the spaceship to give the astronauts spectacular views of the Earth and an opportunity to look out into the blackness of space. While the

astronauts are enjoying their time in space, our spaceship's pilots will have reconfigured the spaceship into its feathered re-entry configuration.

After enjoying several minutes of weightlessness, our astronauts will maneuver back to their seats to prepare for re-entry. We have conducted seat egress and ingress testing in weightlessness to verify that our astronauts will be able to return to their seats quickly and safely. Our personalized seats, custom-designed to support each astronaut safely during each phase of flight, will cushion the astronauts as the spaceship rapidly decelerates upon re-entry. Our astronauts will enjoy the journey back into the Earth's atmosphere, at which time the vehicle's wings will be returned to their normal configuration, and the spaceship will glide back to the original runway from which the combined mothership and spaceship pair had taken off less than two hours prior. Upon landing, astronauts will disembark and join family and friends to celebrate their achievements and receive their Virgin Galactic astronaut wings.

Sales and Marketing

In August 2021, following Sir Richard Branson's successful test flight, we reopened ticket sales to a select group and increased the pricing of our consumer offerings to a base price of $450,000 per seat. In February 2022, we opened ticket sales to the general public. As of December 31, 2022, we had reservations for approximately 800 spaceflight tickets and collected $103.3 million in deposits and membership fees from future astronauts, representing potential spaceflight revenue of approximately $208 million. Through strong capabilities in community management, we have high retention rates, despite deposits being largely refundable. We are reserving 100 seats within our first 1,000 commercial seats sold for research and scientific experiments. We believe these sales are largely attributable to the strength and prominence of the Virgin Galactic brand, which has driven many of our future astronauts directly to us with inbound requests. We have also benefited from Sir Richard Branson's network to generate new inquiries and reservation sales, as well as referrals from existing reservation holders. As we transition to full commercialization, we intend to take a more active role in marketing and selling our spaceflight experience.

Given that sales of spaceflights are consultative and generally require a one-on-one sales approach, we intend to go to market using our direct sales organization as well as utilize partnerships with third-party luxury travel agencies. Our direct sales organization, known as the "Astronaut Office," is headquartered in London, England. The Astronaut Office also actively manages our Future Astronaut community and has expanded the reach of our direct sales organization using a global network of high-end travel professionals. Our current partnership with Virtuoso presents a referral and marketing opportunity to Virtuoso's network of more than 20,000 luxury travel advisors and their upscale clientele.

We are continuing to evaluate and develop our marketing strategy in anticipation of commercial operations and believe our existing direct sales organization possess the people, processes, systems and experience we will need to support profitable and fast-growing commercial operations.

Research and Education Applications

In addition to the potential market for human space travel, we believe our existing technology has potential application in additional markets, including scientific research and professional astronaut training. Historically, the ability to perform microgravity research has been limited by the same challenges facing human spaceflight, including the significant cost associated with traveling to space and the limited physical capacity available for passengers or other payloads. Additionally, the long launch lead times and the low launch rate for these journeys make it difficult to run an experiment quickly or to fly repeated experiments, and there has traditionally been a significant delay in a researcher's ability to obtain the data from the experiment once the journey was complete. As a result, researchers have used parabolic aircraft and drop towers to create moments of microgravity and conduct significant research activities. While these solutions help address cost concerns, they offer only seconds of continuous microgravity per flight. They do not offer access to the upper atmosphere or space, rapid re-flight or, in the case of drop towers and sounding rockets, the opportunity for the principal investigator to fly with the scientific payload. We believe our existing spaceflight system addresses many of these issues by providing:

- researchers the ability to accompany and tend to their experiments in space;
- the ability to fly payloads repeatedly, which can enable lower cost and iterative experiments;
- prompt access to experiments following landing;
- access to a large payload capacity; and
- in the case of sounding rockets, gentler G-loading.

We believe the demand for access to suborbital research is likely to come from educational and commercial research institutions across a broad range of technical disciplines. Multiple government agencies and research institutions have expressed interest in contracting with us to launch research payloads to space and to conduct suborbital experiments. We have flown twelve payloads for research-related missions and we expect research missions to form an important part of our launch manifest in the future.

Design, Development and Manufacturing

Our development and manufacturing team consists of talented and dedicated engineers, technicians and professionals with thousands of years of combined design, engineering, manufacturing and flight test experience from a wide variety of the world's leading research, commercial and military aerospace organizations.

We have developed extensive vertically integrated aerospace development capabilities for developing, manufacturing and testing aircraft and related propulsion systems. These capabilities encompass preliminary systems and vehicle design and analysis, detail design, manufacturing, ground testing, flight testing and post-delivery support and maintenance. We believe our unique approach and rapid prototyping capabilities enable innovative ideas to be designed quickly and built and tested with process rigor. In addition, we have expertise in configuration management and developing documentation needed to transition our technologies and systems to commercial applications. We believe our breadth of capabilities, experienced and cohesive team, and culture would be difficult to re-create and can be easily leveraged on the future design, build and test of transformational aerospace vehicles.

The first vehicle we manufactured was VSS Unity, the second SpaceShipTwo. Leveraging the extensive design engineering invested in VSS Unity, we are currently manufacturing additional spaceships based on that design, at a substantially lower cost. In addition, we are manufacturing rocket motors to support the growth of our commercial operations over time.

Additionally, we have developed a significant amount of know-how, expertise and capabilities that we believe we can leverage to capture growing demand for innovative, agile and low-cost development projects for third parties, including contractors, government agencies and commercial service providers. We are exploring strategic relationships to develop new applications for our technologies and to develop new aerospace technologies for commercial and transportation applications that we believe will accelerate progress within relevant industries and enhance our growth.

All of our manufacturing operations, which include, among others, fabrication, assembly, warehouse and both ground and test operations, are located in Mojave, California, at the Air and Space Port, where our campus spans over 200,000 square feet. This location provides us with year-round access to airspace for various flight test programs. The Company plans to assemble our next generation spaceships in Mesa, Arizona, which consists of approximately 151,000 square feet of manufacturing and operating facilities. Our Design and Engineering center is located in Tustin, California and encompasses approximately 61,000 square feet of office space and functions as our headquarters.

Additional Potential Applications of our Technology and Expertise

We believe we can leverage our robust platform of advanced technologies, significant design, engineering and manufacturing experience, and thousands of hours of flight training to develop additional aerospace applications, including, among others, the manufacturing of aircrafts capable of high-speed point-to-point travel. High-speed aircrafts are aircrafts capable of traveling at speeds faster than the speed of sound. We believe a significant market opportunity exists for vehicles with this capability, as they could be used to drastically reduce international travel times. In August 2020, following the completion of an internal mission concept review that allows progress to our next design phase, we unveiled the concept for our preliminary design of a high-speed aircraft. Under this initial design, the aircraft would be a Mach 3 certified delta-wing vehicle with a focus on environmental sustainability, and a cabin intended to accommodate 9 to 19 passengers flying at an altitude above 60,000 feet. We entered into a space act agreement with NASA in 2020 relating to the development of high-speed point-to-point travel technologies, and into a non-binding memorandum of understanding with Rolls-Royce to collaborate in designing and developing engine propulsion technology for high-speed commercial aircraft.

While our primary focus for the foreseeable future is on commencing and managing our commercial human spaceflight operations, we intend to expand our commitment to exploring and evaluating the application of our technologies and expertise into these and other ancillary applications.

Competition

The commercial spaceflight industry is still developing and evolving, but we expect it to be highly competitive. Currently, our primary competitor in establishing a suborbital commercial human spaceflight market is Blue Origin, a privately-funded company that has developed a vertically-launched, suborbital capsule. In addition, we are aware of several large, well-funded, public and private entities actively engaged in developing competitive products within the aerospace industry, including SpaceX and Boeing. While these companies are currently focused on providing orbital spaceflight transportation to government agencies, a fundamentally different product from ours, we cannot ensure that one or more of these companies will not shift their focus to include suborbital spaceflight and directly compete with us in the future. We may also explore the application of our proprietary technologies for other uses, such as high-speed point-to-point travel, where the industry is even earlier in its development.

Many of our current and potential competitors are larger and have substantially greater resources than we do. They may also be able to devote greater resources to the development of their current and future technologies or the promotion and sale of their offerings, or to offer lower prices. Our current and potential competitors may also establish cooperative or strategic relationships amongst themselves or with third parties that may further enhance their resources and offerings. Further, it is possible that domestic or foreign companies or governments, some with greater experience in the aerospace industry or greater financial resources than we possess, will seek to provide products or services that compete directly or indirectly with our products and services in the future. Any such foreign competitor could potentially, for example, benefit from subsidies from or other protective measures by its home country.

We believe our ability to compete successfully as a commercial provider of human spaceflight does and will depend on several factors, including the price of our offerings, consumer confidence in the safety of our offerings, consumer satisfaction for the experiences we offer, and the frequency and availability of our offerings. We believe that we compete favorably on the basis of these factors.

Intellectual Property

Our success depends in part upon our ability to protect our core technology and intellectual property. We attempt to protect our intellectual property rights, both in the United States and abroad, through a combination of patent, trademark, copyright, and trade secret laws, as well as nondisclosure and invention assignment agreements with our consultants and employees, and we seek to control access to and distribution of, our proprietary information through non-disclosure agreements with our vendors and business partners. Unpatented research, development and engineering skills make an important contribution to our business, but we pursue patent protection when we believe it is possible and consistent with our overall strategy for safeguarding intellectual property.

Virgin Trademark License Agreement

We possess certain exclusive and non-exclusive rights to use the name and brand "Virgin Galactic" and the Virgin signature logo pursuant to an amended and restated trademark license agreement (the "Amended TMLA"). Our rights under the Amended TMLA are subject to certain reserved rights and pre-existing licenses granted by Virgin to third parties. In addition, for the term of the Amended TMLA, to the extent the Virgin Group does not otherwise have a right to place a director on our board of directors, we have agreed to provide Virgin with the right to appoint one director to our board of directors, provided the designee is qualified to serve on the board under all applicable corporate governance policies and applicable regulatory and listing requirements.

Unless terminated earlier, the Amended TMLA will have an initial term of 25 years expiring October 2044, subject to up to two additional 10-year renewals by mutual agreement of the parties. The Amended TMLA may be terminated by Virgin upon the occurrence of several specified events, including if:

- we commit a material breach of our obligations under the Amended TMLA (subject to a cure period, if applicable);
- we materially damage the Virgin brand;
- we use the brand name "Virgin Galactic" outside of the scope of the activities licensed under the Amended TMLA (subject to a cure period);
- we become insolvent;
- we undergo a change of control to an unsuitable buyer, including to a competitor of Virgin;

- we fail to make use of the "Virgin Galactic" brand to conduct our business;
- we challenge the validity or entitlement of Virgin to own the "Virgin" brand; or
- the commercial launch of our services does not occur by a fixed date or thereafter if we are unable to undertake any commercial flights for paying passengers for a specified period (other than in connection with addressing a significant safety issue).

Upon any termination or expiration of the Amended TMLA, unless otherwise agreed with Virgin, we will have 90 days to exhaust, return or destroy any products or other materials bearing the licensed trademarks, and to change our corporate name to a name that does not include any of the licensed trademarks, including the Virgin name.

Pursuant to the terms of the Amended TMLA, we are obligated to pay Virgin quarterly royalties equal to the greater of (a) a low single-digit percentage of our gross sales and (b) (i) prior to the first spaceflight for paying future astronauts, a mid-five figure amount in dollars and (ii) from our first spaceflight for paying future astronauts, a low-six figure amount in dollars, which increases to a low-seven figure amount in dollars over a four-year ramp up and thereafter increases in correlation with the consumer price index. In relation to certain sponsorship opportunities, a higher, mid-double-digit percentage royalty on related gross sales applies.

The Amended TMLA also contains, among other things, customary mutual indemnification provisions, representations and warranties, information rights of Virgin and restrictions on our and our affiliates' ability to apply for or obtain registration for any confusingly similar intellectual property to that licensed to us pursuant to the Amended TMLA. Furthermore, Virgin is generally responsible for the protection, maintenance, enforcement and protection of the licensed intellectual property, including the Virgin brand, subject to our step-in rights in certain circumstances.

All Virgin and Virgin-related trademarks are owned by Virgin Investments Limited and our use of such trademarks is subject to the terms of the Amended TMLA, including our adherence to Virgin's quality control guidelines and granting Virgin customary audit rights over our use of the licensed intellectual property.

Spacecraft Technology License Agreement

We are party to a Spacecraft Technology License Agreement, as amended, with Mojave Aerospace Ventures, LLC ("MAV") pursuant to which we possess a non-exclusive, worldwide license under certain patents and patent applications, including improvements that have been reduced to practice within a specified period. Unless terminated earlier, the term of this license agreement will expire on the later of a fixed date and the expiration date of the last to expire of the patent rights granted under the agreement. The license agreement and the associated licenses granted thereunder may be terminated if we commit a material breach of our obligations under the agreement that is uncured for more than 30 days or if we become insolvent.

Under the terms of the license agreement, we are obligated to pay MAV license fees and royalties through the later of a fixed date and the expiration date of the last to expire of the patent rights granted under the agreement of (a) a low-single-digit percentage of our commercial spaceflight operating revenue, subject to an annual cap that is adjusted annually for changes in the consumer price index, (b) a low-single-digit percentage of our gross operating revenue on the operation of spacecraft, and (c) a mid-single-digit percentage of our gross sales revenue of spacecraft sold to third parties.

Regulatory

Federal Aviation Administration

The regulations, policies, and guidance issued by the FAA apply to the use and operation of our spaceflight system. When we operate our spaceflight system as "launch vehicles," meaning a vehicle built to operate in, or place a payload or human beings in, space, the FAA's commercial space transportation requirements apply. Operators of launch vehicles are required to have proper licenses, permits and authorizations from the FAA and comply with the FAA's financial responsibility and insurance requirements for third party liability and government property. Congress enacted a law prohibiting the FAA from issuing regulations until 2023 for the safety of persons on launch vehicles such as our spaceships and mothership unless a death or serious injury, or event that could have led to a death or serious injury, were to occur earlier. Once this law expires, we may face increased and more expensive regulation from the FAA relating to our spaceflight activities. The FAA recently issued a revision to their regulations governing commercial spaceflight that is intended to streamline the approach towards licensing. We are evaluating the scope and impact of these regulations on our existing license as well as any future operations.

When not operating as launch vehicles, our spaceflight system vehicles are regulated as experimental aircraft by the FAA. The FAA is responsible for the regulation and oversight of matters relating to experimental aircraft, the control of navigable air space, the qualification of flight personnel, flight training practices, compliance with FAA aircraft certification and maintenance, and other matters affecting air safety and operations.

We have a current FAA Reusable Launch Vehicle Operator License that allows test and payload revenue flights from both Mojave, California and Spaceport America, New Mexico.

Failure to comply with the FAA's aviation or space transportation regulations may result in civil penalties or private lawsuits, or the suspension or revocation of licenses or permits, which would prevent us from operating our spaceflight system.

Informed Consent and Waiver

Our commercial human spaceflight operations and any third-party claims that arise from our operation of spaceflights are subject to federal and state laws governing informed consents and waivers of claims, including under the Commercial Space Launch Amendments Act of 2004 ("CSLA") and the New Mexico Space Flight Informed Consent Act ("SFICA").

Under U.S. federal law and the CSLA, operators of spaceflights are required to obtain informed consent from both participants and members of the crew for any commercial human spaceflight. In addition, the CSLA requires that an operator must obtain any spaceflight participant's informed consent before receiving compensation or making an agreement to fly. While compensation is not defined in regulation or statute, the FAA does not consider refundable deposits for future spaceflight to be compensation. Moreover, the CSLA established a three-tiered indemnification system, subject to appropriations, for a portion of claims by third parties for injury, damage or loss that result from a commercial spaceflight incident. All operators with an FAA-license for commercial launches and reentries are covered by this federal indemnification and are required to carry insurance in amounts up to the maximum probable loss level likely to occur in an accident subject to a cap. In the instance of a catastrophic loss, U.S. law provides that the federal government will pay up to $3.0 billion to indemnify the operator above the levels covered by insurance.

Additionally, the SFICA offers spaceflight companies protection in New Mexico, where we will conduct our commercial operations, from lawsuits from passengers on space vehicles where spaceflight participants provide informed consent and a waiver of claims. This law generally provides coverage to operators, manufacturers and suppliers, and requires operators to maintain at least $1.0 million in insurance for all spaceflight activities.

At this time, no such claim regarding these informed consent provisions has been brought in New Mexico or in federal courts. We are unable to determine whether the immunity provided by the CSLA, the SFICA or other applicable laws or regulations would be upheld by the U.S. or foreign courts. The various federal and state regulations regarding informed consent for suborbital commercial spaceflight are evolving, and we continue to monitor these developments. However, we cannot predict the timing, scope or terms of any other state, federal or foreign regulations relating to informed consent and waivers of claims relating to commercial human spaceflight.

International Traffic in Arms Regulations and Export Controls

Our spaceflight business is subject to, and we must comply with, stringent U.S. import and export control laws, including the International Traffic in Arms Regulations ("ITAR") and the U.S. Export Administration Regulations ("EAR"). The ITAR generally restricts the export of hardware, software, technical data, and services that have defense or strategic applications. The EAR similarly regulates the export of hardware, software, and technology that has commercial or "dual-use" applications (i.e., for both military and commercial applications) or that have less sensitive military or space-related applications that are not subject to the ITAR. The regulations exist to advance the national security and foreign policy interests of the United States.

The U.S. government agencies responsible for administering the ITAR and the EAR have significant discretion in the interpretation and enforcement of these regulations. The agencies also have significant discretion in approving, denying, or conditioning authorizations to engage in controlled activities. Such decisions are influenced by the U.S. government's commitments to multilateral export control regimes, particularly the Missile Technology Control Regime with respect to the spaceflight business.

Many different types of internal controls and safeguards are required to maintain compliance with such export control rules. In particular, we are required to maintain a registration under the ITAR; determine the proper licensing jurisdiction and classification of products, software and technology; and obtain licenses or other forms of U.S. government authorizations to engage in certain activities, including the performance of services for foreign persons, related to and that support our spaceflight business. The authorization requirements include the need to get permission to release controlled technology to foreign persons, including foreign person employees. The inability to secure and maintain necessary licenses and other authorizations could negatively affect our ability to compete successfully or to operate our spaceflight business as planned. Any changes in the

export control regulations or U.S. government licensing policy, such as that necessary to implement U.S. government commitments to multilateral control regimes, may restrict our operations.

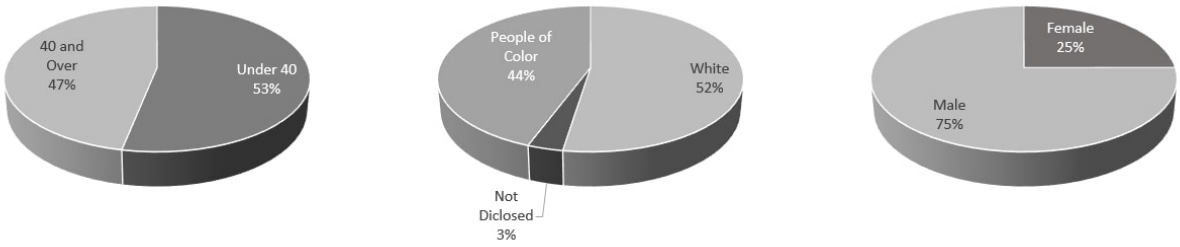
Failure by us to comply with applicable export control laws and regulations could result in reputational harm as well as significant civil or criminal penalties, fines, more onerous compliance requirements, loss of export privileges, debarment from government contracts, or limitations on our ability to enter into contracts with the U.S. government. Further, even investigations of suspected or alleged violations can be expensive and disruptive. Thus, violations (or allegations of violations) of applicable export control laws and regulations could materially adversely affect our reputation, business, financial condition and results of operations.

Human Capital

Our employees are the cornerstone to our success. As of December 31, 2022, we had 1,166 employees across the globe. Prior to joining our company, many of our employees had prior experience working for a wide variety of reputed commercial aviation, aerospace, high-technology, and world-recognized organizations.

Our integrated human capital management strategy includes the acquisition, development, and retention of our employees, as well as the design of market-based compensation and benefits programs to enable and achieve our strategic mission.

Total Workforce Demographics:



- Compensation and Benefits:
  - Virgin Galactic strives to offer competitive compensation, benefits and services that meet the needs of its employees, including short-term and long-term incentive programs, defined contribution plan, healthcare benefits, and wellness and employee assistance programs. Management monitors market compensation and benefits to attract, retain and promote high-performing employees and reduce turnover and associated costs. In addition, Virgin Galactic's incentive programs are aligned with the Company's mission and intended to motivate strong performance.

  - For the year ended December 31, 2022, the compensation and benefits expense earned by personnel totaled $162.0 million.

Available Information

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the internet at the SEC's website at *www.sec.gov*. Our SEC filings are also available free of charge on the Investor Information page of our website at *virgingalactic.com* as soon as reasonably practicable after they are filed with or furnished to the SEC. Our website and the information contained on or through that site are not incorporated into this Annual Report on Form 10-K.

Item 1A. Risk Factors

Our operations and financial results are subject to various risks and uncertainties, including those described below. Investors should consider carefully the risks and uncertainties described below, in addition to the other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and related notes. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties that we are unaware of, or that we currently believe are not material, may also become important factors that adversely affect our business. If any of the following risks or others not specified below materialize, our business, financial condition and results of operations could be materially and adversely affected. In that case, the trading price of our common stock could decline.

Risks Related to Our Business

We have incurred significant losses since inception, we expect to incur losses in the future and we may not be able to achieve or maintain profitability.

We have incurred significant losses since inception. We incurred net losses of $500.2 million, $352.9 million and $644.9 million for the years ended December 31, 2022, 2021 and 2020, respectively. While we have generated limited revenue from flying payloads into space, scientific research services, and fees related to our Future Astronaut community membership and Future Astronaut community event, we have not yet started commercial human spaceflight operations, and it is difficult for us to predict our future operating results. As a result, our losses may be larger than anticipated, and we may not achieve profitability when expected, or at all, and even if we do, we may not be able to maintain or increase profitability.

We expect our operating expenses to increase over the next several years as we prepare for and commence the commercial launch of our human spaceflight operations, continue to attempt to streamline our manufacturing process, increase our flight cadence, hire more employees and continue research and development efforts relating to new products and technologies. These efforts may be more costly than we expect and may not result in increased revenue or growth in our business. Any failure to increase our revenue sufficiently to keep pace with our investments and other expenses could prevent us from achieving or maintaining profitability or positive cash flow. Furthermore, if our future growth and operating performance fail to meet investor or analyst expectations, or if we have future negative cash flow or losses resulting from our investment in acquiring future astronauts or expanding our operations, this could have a material adverse effect on our business, financial condition and results of operations.

The success of our business will be highly dependent on our ability to effectively market and sell human spaceflights.

We have generated only limited revenue from spaceflight, and we expect that our success will be highly dependent, especially in the foreseeable future, on our ability to effectively market and sell human spaceflight experiences. We have limited experience in marketing and selling human spaceflights, which we refer to as our astronaut experience. If we are unable to utilize our current sales organization effectively, or to expand our sales organization as needed, to adequately target and engage our potential future astronauts, our business may be adversely affected. To date, we have primarily sold the reservations for our astronaut experience to future astronauts through direct sales and have sold a limited number of seats each year. Our success depends, in part, on our ability to attract new future astronauts in a cost-effective manner. While we had a backlog of approximately 800 future astronauts as of December 31, 2022, we are making, and we expect that we will need to continue to make, significant investments in order to attract new future astronauts. Our sales growth depends on our ability to implement strategic initiatives and these initiatives may not be effective in generating sales growth. In addition, marketing campaigns, which we have not historically utilized, can be expensive and may not result in the acquisition of future astronauts in a cost-effective manner, if at all. Further, as our brand becomes more widely known, future marketing campaigns or brand content may not attract new future astronauts at the same rate as past campaigns or brand content. If we are unable to attract new future astronauts, our business, financial condition and results of operations will be harmed.

The market for commercial human spaceflight has not been established with precision. It is still emerging and may not achieve the growth potential we expect or may grow more slowly than expected.

The market for commercial human spaceflight has not been established with precision and is still emerging. Our estimates for the total addressable market for commercial human spaceflight are based on a number of internal and third-party estimates, including our current backlog, the number of consumers who have expressed interest in our astronaut experience, assumed prices at which we can offer our astronaut experience, assumed flight cadence, our ability to leverage our current manufacturing and operational processes and general market conditions. While we believe our assumptions and the data underlying our estimates are reasonable, these assumptions and estimates may not be correct. The conditions supporting our assumptions or estimates may change at any time, thereby reducing the predictive accuracy of these underlying factors. As a result, our estimates of the annual total addressable market for our astronaut experience, as well as the expected growth rate for the total addressable market for that experience, may prove to be incorrect.

We anticipate commencing commercial spaceflight operations with a single spaceflight system, which has yet to complete flight testing. Delays in completing the flight test program and the final development of our existing spaceflight system would adversely impact our business, financial condition and results of operations.

We expect to commence commercial operations with a single spaceflight system in the second quarter of 2023, with both the spaceship and the carrier craft being needed to conduct commercial spaceflight operations. Following each flight test we undertake, we analyze the resulting data and determine whether additional changes to the spaceflight system are required. Historically, changes have been required and implementing those changes has resulted in additional delay and expense. For example, an unanticipated in-flight incident involving an earlier model of SpaceShipTwo manufactured and operated by a third-party contractor, led to the loss of that spaceship and significant delays in the planned launch of our spaceflight system as we addressed design and safety concerns, including with applicable regulators. If issues like this arise or recur, if our remediation measures and process changes do not continue to be successful or if we experience issues with manufacturing improvements or design and safety of either the spaceship or the carrier craft that comprise our spaceflight system, the anticipated launch of our commercial human spaceflight operations could be delayed.

Any inability to operate our spaceflight system after commercial launch at our anticipated flight rate could adversely impact our business, financial condition and results of operations.

Even if we complete development and commence commercial human spaceflight operations, we currently are dependent on a single spaceflight system. To be successful, we will need to maintain a sufficient flight rate, which will be negatively impacted if we are not able to operate that system for any reason. We may be unable to operate our current spaceflight system at our anticipated flight rate for a number of reasons, including, but not limited to, unexpected weather patterns, maintenance issues, pilot error, design and engineering flaws, natural disasters, epidemics or pandemics (including COVID-19), changes in governmental regulations or in the status of our regulatory approvals or applications or other events that force us to cancel or reschedule flights. Our spaceflight systems are highly sophisticated and depend on complex technology, and we require them to meet rigorous performance goals that may from time to time necessitate that we replace critical components or hardware. Our ability to operate in airspace may also be superseded by the U.S. Department of Defense priority missions. In the event we need to replace any components or hardware of our spaceflight system, there are limited numbers of replacement parts available, some of which have significant lead time associated with procurement or manufacture, so any failure of our systems or their components or hardware could result in reduced numbers of flights and significant delays to our planned growth.

Our ability to grow our business depends on the successful development of our spaceflight systems and related technology, which is subject to many uncertainties, some of which are beyond our control.

Our current primary research and development objectives focus on the development of our existing and any additional spaceflight systems and related technology. If we do not complete this development in our anticipated timeframes or at all, our ability to grow our business will be adversely affected. The successful development of our spaceflight systems and related technology involves many uncertainties, some of which are beyond our control, including:

- timing in finalizing spaceflight systems design and specifications;
- successful completion of flight test programs, including flight safety tests;
- our ability to obtain additional applicable approvals, licenses or certifications from regulatory agencies, if required, and maintaining current approvals, licenses or certifications;

- performance of our manufacturing facilities despite risks that disrupt productions, such as natural disasters and hazardous materials;
- performance of a limited number of suppliers for certain raw materials and supplied components;
- performance of our third-party contractors that support our research and development activities;
- performance of our third-party contractors to design and manufacture our next generation carrier aircraft as well as manufacture key subassemblies for our next generation spaceships;
- our ability to maintain rights from third parties for intellectual properties critical to our research and development activities;
- our ability to continue funding and maintain our current research and development activities; and
- the impact of the COVID-19, or an outbreak of another highly infectious or contagious disease or other health concern, on us, our customers, suppliers and distributors, and the global economy.

Unsatisfactory safety performance of our spaceflight systems or security incidents at our facilities could have a material adverse effect on our business, financial condition and results of operation.

We manufacture and operate highly sophisticated spaceflight systems and offer a specialized astronaut experience that depends on complex technology. While we have built operational processes to ensure that the design, manufacture, performance and servicing of our spaceflight systems meet rigorous performance goals, there can be no assurance that we will not experience operational or process failures and other problems, including through manufacturing or design defects, pilot error, natural disasters, cyber-attacks, or other intentional acts, that could result in potential safety risks. In addition, we may experience threats to the security of our facilities and employees or threats from terrorist or other acts. We work cooperatively with our suppliers, subcontractors, venture partners and other parties, such as our lessors, to address and prepare for these risks, but in some instances, we must rely on safeguards put in place by these third parties, some of which we may not control. There can be no assurance that our preparations, or those of third parties, will be able to prevent any such incidents.

Any actual or perceived safety issues may result in significant reputational harm to our businesses, in addition to tort liability, maintenance, increased safety infrastructure and other costs that may arise. Such issues with our spaceflight systems, facilities, or customer safety could result in delaying or cancelling planned flights, increased regulation or other systemic consequences. Our inability to meet our safety standards or adverse publicity affecting our reputation as a result of accidents, mechanical failures, damages to customer property or medical complications could have a material adverse effect on our business, financial condition and results of operation.

We may not be able to convert our orders in backlog or inbound inquiries about flight reservations into revenue.

As of December 31, 2022, our backlog represents orders from approximately 800 future astronauts for which we have not yet recognized spaceflight revenue. While many of these orders were accompanied by a significant deposit, the deposits are largely refundable and the reservations may be cancelled under certain circumstances without penalty. As a result, we may not receive revenue from these orders and deposits, and any order backlog or other deposits we report may not be indicative of our future revenue.

Many events may cause a delay in our ability to fulfill reservations or cause planned spaceflights to not be completed at all, some of which may be out of our control, including unexpected weather patterns, maintenance issues, natural disasters, epidemics or pandemics (including COVID-19), changes in governmental regulations or in the status of our regulatory approvals or applications or other events that may force us to cancel or reschedule flights. If we delay spaceflights or if future astronauts reconsider their astronaut experience, those future astronauts may seek to cancel their planned spaceflight, and may obtain a full or partial refund.

We have not yet tested flights at our anticipated full passenger capacity of our spaceship.

We have not yet tested flights at our full passenger capacity of six persons. The success of our human spaceflight operations will depend on our achieving and maintaining a sufficient level of passenger capacity on our spaceflights. We have not yet tested flights with this full cabin, and it is possible that the number of passengers per flight may not meet our expectations for a number of factors, including maximization of the passenger experience and satisfaction. Any decrease from our assumptions in the number of passengers per flight could adversely impact our ability to generate revenue at the rate we anticipate.

Any delays in the development and manufacture of additional spaceflight systems and related technology may adversely impact our business, financial condition and results of operations.

We have previously experienced, and may experience in the future, delays or other complications in the design, manufacture, launch, production, delivery and servicing ramp of new spaceflight systems and related technology, including due to the COVID-19 pandemic, as well as other factors. If delays like this arise or recur, if our remediation measures and process changes do not continue to be successful or if we experience issues with planned manufacturing improvements or design and safety, we could experience issues in sustaining the ramp of our spaceflight system or delays in increasing production further.

If we encounter difficulties in scaling our delivery or servicing capabilities, if we fail to develop and successfully commercialize spaceflight technologies, if we fail to develop such technologies before our competitors, or if such technologies fail to perform as expected, are inferior to those of our competitors or are perceived as less safe than those of our competitors, our business, financial condition and results of operations could be materially and adversely impacted.

If we are unable to adapt to and satisfy customer demands in a timely and cost-effective manner, our ability to grow our business may suffer.

The success of our business depends in part on effectively managing and maintaining our existing spaceflight system, manufacturing more spaceflight systems, operating a sufficient number of spaceflights to meet customer demand and providing future astronauts with an astronaut experience that meets or exceeds their expectations. If for any reason we are unable to manufacture new spaceflight systems or are unable to schedule spaceflights as planned, this could have a material adverse effect on our business, financial condition and results of operations. If our current or future spaceflight systems do not meet expected performance or quality standards, including with respect to customer safety and satisfaction, this could cause operational delays. In addition, any delay in manufacturing new spacecraft as planned could cause us to operate our existing spaceflight system more frequently than planned and in such a manner that may increase maintenance costs. Further, flight operations within restricted airspace require advance scheduling and coordination with government range owners and other users, and any high priority national defense assets will have priority in the use of these resources, which may impact our cadence of spaceflight operations or could result in cancellations or rescheduling. Any operational or manufacturing delays or other unplanned changes to our ability to operate spaceflights could have a material adverse effect on our business, financial condition and results of operations.

We may be unable to manage our future growth effectively, which could make it difficult to execute our business strategy.

If our operations continue to grow as planned, of which there can be no assurance, we will need to expand our sales and marketing, research and development, customer and commercial strategy, products and services, supply, and manufacturing and distribution functions. We will also need to continue to leverage our manufacturing and operational systems and processes, and there is no guarantee that we will be able to scale the business and the manufacture of spacecraft as currently planned or within the planned timeframe. The continued expansion of our business may also require additional manufacturing and operational facilities, as well as space for administrative support, and there is no guarantee that we will be able to find suitable locations or partners for the manufacture and operation of our spaceflight systems.

Our continued growth could increase the strain on our resources, and we could experience operating difficulties, including difficulties in hiring, training and managing an increasing number of pilots and employees, finding manufacturing capacity to produce our spaceflight systems and related equipment, and delays in production and spaceflights. These difficulties may result in the erosion of our brand image, divert the attention of management and key employees and impact financial and operational results. In addition, in order to continue to expand our fleet of spacecraft and increase our presence around the globe, we expect to incur substantial expenses as we continue to attempt to streamline our manufacturing process, increase our flight cadence, hire more employees, and continue research and development efforts relating to new products and technologies and expand internationally. If we are unable to drive commensurate growth, these costs, which include lease commitments, headcount and capital assets, could result in decreased margins, which could have a material adverse effect on our business, financial condition and results of operations.

Our prospects and operations may be adversely affected by changes in consumer preferences and economic conditions that affect demand for our spaceflights.

Because our business is currently concentrated on a single, discretionary product category, commercial human spaceflight, we are vulnerable to changes in consumer preferences or other market changes. The global economy has in the past, and will in the future, experience recessionary periods and periods of economic instability. During such periods, our potential future astronauts may choose not to make discretionary purchases or may reduce overall spending on discretionary purchases,

which may include not scheduling spaceflight experiences or cancelling existing reservations for spaceflight experiences. There could be a number of other effects from adverse general business and economic conditions on our business, including insolvency of any of our third-party suppliers or contractors, decreased consumer confidence, decreased discretionary spending and reduced consumer demand for spaceflight experiences. Moreover, future shifts in consumer spending away from our spaceflight experience for any reason, including decreased consumer confidence, adverse economic conditions or heightened competition, could have a material adverse effect on our business, financial condition and results of operations. If such business and economic conditions are experienced in future periods, this could reduce our sales and adversely affect our profitability, as demand for discretionary purchases may diminish during economic downturns, which could have a material adverse effect on our business, financial condition and results of operations.

Adverse publicity stemming from any incident involving us or our competitors, or an incident involving a commercial airline or other air travel provider, could have a material adverse effect on our business, financial condition and results of operations.

We are at risk of adverse publicity stemming from any public incident involving our company, our people or our brand. If our personnel or one of our spaceflight systems, or the personnel or spacecraft of one of our competitors or the personnel or aircraft of a commercial airline or governmental agency, were to be involved in a public incident, accident or catastrophe, this could create an adverse public perception of spaceflight and result in decreased customer demand for spaceflight experiences, which could cause a material adverse effect on our business, financial conditions and results of operations. Further, if our personnel or our spaceflight systems were to be involved in a public incident, accident or catastrophe, we could be exposed to significant reputational harm or potential legal liability. Any reputational harm to our business could cause future astronauts with existing reservations to cancel their spaceflights and could significantly impact our ability to make future sales. The insurance we carry may be inapplicable or inadequate to cover any such incident, accident or catastrophe. In the event that our insurance is inapplicable or not adequate, we may be forced to bear substantial losses from an incident or accident.

Due to the inherent risks associated with commercial spaceflight, there is the possibility that any accident or catastrophe could lead to the loss of human life or a medical emergency.

Human spaceflight is an inherently risky activity that can lead to accidents or catastrophes impacting human life. For example, on October 31, 2014, VSS Enterprise, an earlier model of SpaceShipTwo manufactured and operated by a third-party contractor, had an accident during a rocket-powered test flight. The pilot was seriously injured, the co-pilot was fatally injured and the vehicle was destroyed. As part of its 2015 accident investigation report, the National Transportation Safety Board (the "NTSB") determined that the probable cause of the accident related to the failure by a third-party contractor to consider and protect against the possibility that a single human error could result in a catastrophic hazard to the vehicle. After the accident, we assumed responsibility for the completion of the flight test program and submitted a report to the NTSB that listed the actions we were taking for reducing the likelihood and effect of human error. This included modification of the feather lock control mechanism to add automatic inhibits that would prevent inadvertent operation during safety critical periods of flight. We have implemented and repeatedly demonstrated the efficacy of these actions, including implementing more rigorous protocols and procedures for safety-critical aircrew actions, requiring additional training for pilots that focuses on response protocols for safety critical actions, and eliminating certain single-point human performance actions that could potentially lead to similar accidents. We believe the steps we have taken are sufficient to address the issues noted in the NTSB's report; however, it is impossible to completely eliminate the potential for human error, and there is a possibility that other accidents may occur in the future as a result of human error or for a variety of other reasons, some of which may be out of our control. Any such accident could result in substantial losses to us, including reputational harm and legal liability, and, as a result, could have a material adverse effect on our business, financial condition and results of operations.

We may require substantial additional funding to finance our operations, but adequate additional financing may not be available when we need it, on acceptable terms or at all.

In the future, we could be required to raise capital through public or private financing or other arrangements. Such financing may not be available on acceptable terms, or at all, and our failure to raise capital when needed could harm our business. For example, unfavorable economic conditions, whether related to the COVID-19 pandemic, inflation, interest rates or otherwise have resulted in, and may continue to result in, significant disruption and volatility of global financial markets that could adversely impact our ability to access capital. We may sell equity securities or debt securities in one or more transactions at prices and in a manner as we may determine from time to time. If we sell any such securities in subsequent transactions, our current investors may be materially diluted. Any debt financing, if available, may involve restrictive covenants and could reduce our operational flexibility or profitability. If we cannot raise funds on acceptable terms, we may not be able to grow our business or respond to competitive pressures.

Certain future operational facilities may require significant expenditures in capital improvements and operating expenses to develop and foster basic levels of service needed by the spaceflight operation, and the ongoing need to maintain existing operational facilities requires us to expend capital.

As part of our growth strategy, we may utilize additional spaceports outside the United States. Construction of a spaceport or other facilities in which we conduct our operations may require significant capital expenditures to develop, and in the future we may be required to make similar expenditures to expand, improve or construct adequate facilities for our spaceflight operations. While Spaceport America was funded by the State of New Mexico and we intend to pursue similar arrangements in the future, we cannot assure that such arrangements will be available to us on terms similar to those we have with the State of New Mexico or at all. If we cannot secure such an arrangement, we would need to use cash flows from operations or raise additional capital in order to construct additional spaceports or facilities. In addition, as Spaceport America and any other facilities we may utilize mature, our business will require capital expenditures for the maintenance, renovation and improvement of such existing locations to remain competitive and maintain the value of our brand standard. This creates an ongoing need for capital, and, to the extent we cannot fund capital expenditures from cash flows from operations, we will need to borrow or otherwise obtain funds. If we cannot access the capital we need, we may not be able to execute on our growth strategy, take advantage of future opportunities or respond to competitive pressures. If the costs of funding new locations or renovations or enhancements at existing locations exceed budgeted amounts or the time for building or renovation is longer than anticipated, our business, financial condition and results of operations could be materially adversely affected.

We rely on a limited number of suppliers for certain raw materials and supplied components. We may not be able to obtain sufficient raw materials or supplied components to meet our manufacturing and operating needs, or obtain such materials on favorable terms, which could impair our ability to fulfill our orders in a timely manner or increase our costs of production.

Our ability to produce our current and future spaceflight systems and other components of operation is dependent upon sufficient availability of raw materials and supplied components, such as nitrous oxide, valves, tanks, special alloys, helium and carbon fiber, which we secure from a limited number of suppliers. Our reliance on suppliers to secure these raw materials and supplied components exposes us to volatility in the prices and availability of these materials. We may not be able to obtain sufficient supply of raw materials or supplied components, on favorable terms or at all, which could result in delays in manufacture of our spacecraft or increased costs. For example, there are only a few nitrous oxide plants around the world and if one or more of these plants were to experience a slowdown in operations or to shutdown entirely, including as a result of the COVID-19 pandemic, we may need to qualify new suppliers or pay higher prices to maintain the supply of nitrous oxide needed for our operations.

In addition, we have in the past and may in the future experience delays in manufacture or operation as we go through the requalification process with any replacement third-party supplier, as well as the limitations imposed by ITAR and other restrictions on transfer of sensitive technologies. Additionally, the imposition of tariffs on such raw materials or supplied components could have a material adverse effect on our operations. Prolonged disruptions in the supply of any of our key raw materials or components, difficulty qualifying new sources of supply, implementing use of replacement materials or new sources of supply or any volatility in prices could have a material adverse effect on our ability to operate in a cost-efficient, timely manner and could cause us to experience cancellations or delays of scheduled spaceflights, customer cancellations or reductions in our prices and margins, any of which could harm our business, financial condition and results of operations.

Our spaceflight systems and related equipment may have shorter useful lives than we anticipate.

Our growth strategy depends in part on the continued operation of our current spaceflight system and related equipment, as well as the manufacture of other spaceflight systems in the future. Each spaceflight system has a limited useful life, which is driven by the number of cycles that the system undertakes. While the vehicle is designed for a certain number of cycles, known as the design life, there can be no assurance as to the actual operational life of a spaceflight system or that the operational life of individual components will be consistent with its design life. A number of factors impact the useful lives of the spaceflight systems, including, among other things, the quality of their design and construction, the durability of their component parts and availability of any replacement components, the actual combined environment experienced compared to the assumed combined environment for which the spaceflight systems were designed and tested and the occurrence of any anomaly or series of anomalies or other risks affecting the spaceflight systems during launch, flight and reentry. In addition, we are continually learning, and as our engineering and manufacturing expertise and efficiency increases, we aim to leverage this learning to be able to manufacture our spaceflight systems and related equipment using less of our currently installed equipment, which could render our existing inventory obsolete. Any continued improvements in spaceflight technology may

make obsolete our existing spaceflight systems or any component of our spacecraft prior to the end of its life. If the spaceflight systems and related equipment have shorter useful lives than we currently anticipate, this may lead to greater maintenance costs than previously anticipated such that the cost to maintain the spacecraft and related equipment may exceed their value, which would have a material adverse effect on our business, financial condition and results of operations.

Failure of third-party contractors could adversely affect our business.

We are dependent on various third-party contractors to develop and provide critical technology, systems and components required for our spaceflight system. For example, each spaceflight currently requires replenishment of certain components of our rocket motor propulsion system that we obtain from third-party contractors. Should we experience complications with any of these components, which are critical to the operation of our spacecraft, we may need to delay or cancel scheduled spaceflights. We face the risk that any of our contractors may not fulfill their contracts and deliver their products or services on a timely basis, or at all. We have experienced, and may in the future experience, operational complications with our contractors. The ability of our contractors to effectively satisfy our requirements could also be impacted by such contractors' financial difficulty or damage to their operations caused by fire, terrorist attack, military conflict, natural disaster, pandemic, such as the COVID-19 pandemic, or other events. The failure of any contractors to perform to our expectations could result in shortages of certain manufacturing or operational components for our spacecraft or delays in spaceflights and harm our business. In addition, the failure of third-party providers to design and manufacture our next generation carrier aircraft as well as manufacture key subassemblies for our next generation spaceships in accordance with our expectations could result in delays to our next generation vehicles service dates and adversely impact our future flight rate. Our reliance on contractors and inability to fully control any operational difficulties with our third-party contractors could have a material adverse effect on our business, financial condition and results of operations.

We expect to face intense competition in the commercial spaceflight industry and other industries in which we may develop products.

The commercial spaceflight industry is still developing and evolving, but we expect it to be highly competitive. Currently, our primary competitor in establishing a commercial suborbital spaceflight offering is Blue Origin, a privately funded company founded in 2000. In addition, we are aware of several large, well-funded, public and private entities actively engaged in developing products within the aerospace industry, including SpaceX and Boeing. While SpaceX and Boeing are currently focused on providing orbital spaceflight transportation to government agencies, a fundamentally different product from ours, we cannot assure you that one or more of these companies will not shift their focus to include suborbital spaceflight and directly compete with us in the future. We may also explore the application of our proprietary technologies for other uses, such as high-speed point-to-point travel, where the industry is even earlier in its development.

Many of our current and potential competitors are larger and have substantially greater resources than we have and expect to have in the future. They may also be able to devote greater resources to the development of their current and future technologies or the promotion and sale of their offerings, or offer lower prices. Our current and potential competitors may also establish cooperative or strategic relationships amongst themselves or with third parties that may further enhance their resources and offerings. Further, it is possible that domestic or foreign companies or governments, some with greater experience in the aerospace industry or greater financial resources than we possess, will seek to provide products or services that compete directly or indirectly with ours in the future. Any such foreign competitor, for example, could benefit from subsidies from, or other protective measures by, its home country.

We believe our ability to compete successfully as a commercial provider of human spaceflight does and will depend on a number of factors, which may change in the future due to increased competition, including the price of our offerings, consumer confidence in the safety of our offerings, consumer satisfaction for the experiences we offer, and the frequency and availability of our offerings. If we are unable to compete successfully, our business, financial condition and results of operations could be adversely affected.

Our investments in developing new offerings and technologies and exploring the application of our existing proprietary technologies for other uses and those offerings, technologies or opportunities may never materialize.

While our primary focus for the foreseeable future will be on commercializing and expanding access to human spaceflight, we have invested certain of our resources in developing new technologies, services, products and offerings, such as high speed point-to-point travel and expect that we may invest a more significant amount of resources to those purposes in the future. However, we may not realize the expected benefits of these investments. These anticipated technologies, services, products and offerings are unproven and subject to significant continued design and development efforts, may take longer than

anticipated to materialize, if at all, and may never be commercialized in a way that would allow us to generate revenue from the sale of these technologies, services, products and offerings. Relatedly, if such technologies become viable offerings in the future, we may be subject to competition, some of which may have substantially greater monetary and knowledge resources than we have and expect to have in the future to devote to the development of these technologies. We may also seek to expand the application of our existing proprietary technology in new and unproven offerings. Further, under the terms of an amended and restated trademark license agreement (the "Amended TMLA"), our ability to operationalize some of the technologies may be dependent upon the consent of Virgin Enterprises Limited ("VEL"). Such competition or any limitations on our ability to take advantage of such technologies could impact our market share, which could have a material adverse effect on our business, financial condition and results of operations.

Such research and development initiatives may also have a high degree of risk and involve unproven business strategies and technologies with which we have limited operating or development experience. They may involve claims and liabilities (including, but not limited to, personal injury claims), expenses, regulatory challenges and other risks that we may not be able to anticipate. There can be no assurance that consumer demand for such initiatives will exist or be sustained at the levels that we anticipate, or that any of these initiatives will gain sufficient traction or market acceptance to generate sufficient revenue to offset any new expenses or liabilities associated with these new investments. Further, any such research and development efforts could distract management from current operations, and would divert capital and other resources from our more established offerings and technologies. Even if we were to be successful in developing new products, services, offerings or technologies, regulatory authorities may subject us to new rules or restrictions in response to our innovations that may increase our expenses or prevent us from successfully commercializing new products, services, offerings or technologies.

The "Virgin" brand is not under our control, and negative publicity related to the Virgin brand name could materially adversely affect our business.

We possess certain exclusive and non-exclusive rights to use the name and brand "Virgin Galactic" and the Virgin signature logo pursuant to the Amended TMLA. We believe the "Virgin" brand, is integral to our corporate identity and represents quality, innovation, creativity, fun, a sense of competitive challenge and employee-friendliness. We expect to rely on the general goodwill of consumers and our pilots and employees towards the Virgin brand as part of our internal corporate culture and external marketing strategy. The Virgin brand is also licensed to and used by a number of other companies unrelated to us and in a variety of industries, and the integrity and strength of the Virgin brand will depend in large part on the efforts and the licensor and any other licensees of the Virgin brand and how the brand is used, promoted and protected by them, which will be outside of our control. Consequently, any adverse publicity in relation to the Virgin brand name or its principals, or in relation to another Virgin-branded company over which we have no control or influence, could have a material adverse effect on our business, financial condition and results of operations.

If we fail to adequately protect our proprietary intellectual property rights, our competitive position could be impaired and we may lose valuable assets, generate reduced revenue and incur costly litigation to protect our rights.

Our success depends, in part, on our ability to protect our proprietary intellectual property rights, including certain methodologies, practices, tools, technologies and technical expertise we utilize in designing, developing, implementing and maintaining applications and processes used in our spaceflight systems and related technologies. To date, we have relied primarily on trade secrets and other intellectual property laws, non-disclosure agreements with our employees, consultants and other relevant persons and other measures to protect our intellectual property, and intend to continue to rely on these and other means, including patent protection, in the future. However, the steps we take to protect our intellectual property may be inadequate, and we may choose not to pursue or maintain protection for our intellectual property in the United States or foreign jurisdictions. We will not be able to protect our intellectual property if we are unable to enforce our rights or if we do not detect unauthorized use of our intellectual property. Despite our precautions, it may be possible for unauthorized third parties to copy our technology and use information that we regard as proprietary to create technology that competes with ours.

Further, the laws of some countries do not protect proprietary rights to the same extent as the laws of the United States, and mechanisms for enforcement of intellectual property rights in some foreign countries may be inadequate. To the extent we expand our international activities, our exposure to unauthorized copying and use of our technologies and proprietary information may increase. Accordingly, despite our efforts, we may be unable to prevent third parties from infringing upon, misappropriating or otherwise violating our technology and intellectual property.

We rely in part on trade secrets, proprietary know-how and other confidential information to maintain our competitive position. Although we enter into non-disclosure and invention assignment agreements with our employees, enter into non-disclosure agreements with our future astronauts, consultants and other parties with whom we have strategic relationships and business alliances and enter into intellectual property assignment agreements with our consultants and vendors, no assurance

can be given that these agreements will be effective in controlling access to and distribution of our technology and proprietary information. Further, these agreements do not prevent our competitors from independently developing technologies that are substantially equivalent or superior to our products.

We rely on licenses from third parties for intellectual property that is critical to our business, and we would lose the rights to use such intellectual property if those agreements were terminated or not renewed.

We rely on licenses from third parties for certain intellectual property that is critical to our branding and corporate identity, as well as the technology used in our spacecraft. Termination of our current or future license agreements could cause us to have to negotiate new or restated agreements with less favorable terms or cause us to lose our rights under the original agreements.

In the case of our branding, we do not own the Virgin brand or any other Virgin-related assets, as we license the right to use the Virgin brand pursuant to the Amended TMLA. Virgin controls the Virgin brand, and the integrity and strength of the Virgin brand will depend in large part on the efforts and businesses of Virgin and the other licensees of the Virgin brand and how the brand is used, promoted and protected by them, which will be outside of our control. For example, negative publicity or events affecting or occurring at Virgin or other entities who use the Virgin brand, including transportation companies and/or other entities unrelated to us that presently or in the future may license the Virgin brand, may negatively impact the public's perception of us, which may have a material adverse effect on our business, contracts, financial condition, operating results, liquidity and prospects.

In addition, there are certain circumstances under which the Amended TMLA may be terminated in its entirety, including our material breach of the Amended TMLA (subject to a cure period, if applicable), our insolvency, our improper use of the Virgin brand, our failure to commercially launch a spaceflight for paying passengers by a specified date, if we are unable to undertake any commercial flights for paying passengers for a specified period (other than in connection with addressing a significant safety issue), and our undergoing of a change of control to an unsuitable buyer, including a competitor of VEL's group. Termination of the Amended TMLA would eliminate our rights to use the Virgin brand and may result in our having to negotiate a new or reinstated agreement with less favorable terms or cause us to lose our rights under the Amended TMLA, including our right to use the Virgin brand, which would require us to change our corporate name and undergo other significant rebranding efforts. These rebranding efforts may require significant resources and expenses and may affect our ability to attract and retain future astronauts, all of which may have a material adverse effect on our business, contracts, financial condition, operating results, liquidity and prospects.

In the case of a loss of technology used in our spaceflight systems, we may not be able to continue to manufacture certain components for our spacecraft or for our operations or may experience disruption to our manufacturing processes as we test and requalify any potential replacement technology. Even if we retain the licenses, the licenses may not be exclusive with respect to such component design or technologies, which could aid our competitors and have a negative impact on our business.

Protecting and defending against intellectual property claims may have a material adverse effect on our business.

Our success depends in part upon successful prosecution, maintenance, enforcement and protection of our owned and licensed intellectual property, including the Virgin brand and other intellectual property that we license from Virgin under the Amended TMLA. Under the terms of the Amended TMLA, Virgin has the primary right to take actions to obtain, maintain, enforce and protect the Virgin brand. If, following our written request, Virgin elects to not take an action to maintain, enforce or protect the Virgin brand, we may do so, at our expense, subject to various conditions including that so long as doing so would not have a material adverse effect on Virgin, any of Virgin's other licensees or the Virgin brand and we reasonably believe failing to do so would materially adversely affect our business. Should Virgin determine not to maintain, enforce or protect the Virgin brand, we and/or the Virgin brand could be materially harmed and we could incur substantial cost if we elect to take any such action.

To protect our intellectual property rights, we may be required to spend significant resources to monitor and protect these rights. Litigation may be necessary in the future to enforce our intellectual property rights and to protect our trade secrets. Such litigation could be costly, time consuming and distracting to management and could result in the impairment or loss of portions of our intellectual property. Furthermore, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims and countersuits attacking the validity and enforceability of our intellectual property rights. Our inability to protect our proprietary technology, as well as any costly litigation or diversion of our management's attention and resources, could disrupt our business, as well as have a material adverse effect on our financial condition and results of operations. The results of intellectual property litigation are difficult to predict and may require us to stop using certain

technologies or offering certain services or may result in significant damage awards or settlement costs. There is no guarantee that any action to defend, maintain or enforce our owned or licensed intellectual property rights will be successful, and an adverse result in any such proceeding could have a material adverse impact on our business, financial condition, operating results and prospects.

In addition, we may from time to time face allegations that we are infringing, misappropriating or otherwise violating the intellectual property rights of third parties, including the intellectual property rights of our competitors. We may be unaware of the intellectual property rights that others may claim cover some or all of our technology or services. Irrespective of the validity of any such claims, we could incur significant costs and diversion of resources in defending against them, and there is no guarantee any such defense would be successful, which could have a material adverse effect on our business, contracts, financial condition, operating results, liquidity and prospects.

Even if these matters do not result in litigation or are resolved in our favor or without significant cash settlements, these matters, and the time and resources necessary to litigate or resolve them, could divert the time and resources of our management team and harm our business, our operating results and our reputation.

We have government customers, which subjects us to risks including early termination, audits, investigations, sanctions and penalties.

We derive limited revenue from contracts with NASA and may enter into further contracts with the U.S. or foreign governments in the future, and this subjects us to statutes and regulations applicable to companies doing business with the government, including the Federal Acquisition Regulation. These government contracts customarily contain provisions that give the government substantial rights and remedies, many of which are not typically found in commercial contracts and which are unfavorable to contractors. For instance, most U.S. government agencies include provisions that allow the government to unilaterally terminate or modify contracts for convenience, and in that event, the counterparty to the contract may generally recover only its incurred or committed costs and settlement expenses and profit on work completed prior to the termination. If the government terminates a contract for default, the defaulting party may be liable for any extra costs incurred by the government in procuring undelivered items from another source.

Some of our federal government contracts are subject to the approval of appropriations being made by the U.S. Congress to fund the expenditures under these contracts. In addition, government contracts normally contain additional requirements that may increase our costs of doing business, reduce our profits, and expose us to liability for failure to comply with these terms and conditions. These requirements include, for example:

- specialized disclosure and accounting requirements unique to government contracts;
- financial and compliance audits that may result in potential liability for price adjustments, recoupment of government funds after such funds have been spent, civil and criminal penalties, or administrative sanctions such as suspension or debarment from doing business with the U.S. government;
- public disclosures of certain contract and company information; and
- mandatory socioeconomic compliance requirements, including labor requirements, non-discrimination and affirmative action programs and environmental compliance requirements.

Government contracts are also generally subject to greater scrutiny by the government, which can initiate reviews, audits and investigations regarding our compliance with government contract requirements. In addition, if we fail to comply with government contract laws, regulations and contract requirements, our contracts may be subject to termination, and we may be subject to financial and/or other liability under our contracts, the Federal Civil False Claims Act (including treble damages and other penalties), or criminal law. In particular, the False Claims Act's "whistleblower" provisions also allow private individuals, including present and former employees, to sue on behalf of the U.S. government. Any penalties, damages, fines, suspension, or damages could adversely affect our ability to operate our business and our financial results.

If we commercialize outside the United States, we will be exposed to a variety of risks associated with international operations that could materially and adversely affect our business.

As part of our growth strategy, we expect to leverage our initial U.S. operations to expand internationally. In that event, we expect that we would be subject to additional risks related to entering into international business relationships, including:

- restructuring our operations to comply with local regulatory regimes;
- identifying, hiring and training highly skilled personnel;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- the need for U.S. government approval to operate our spaceflight systems outside the United States;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue;
- government appropriation of assets;
- workforce uncertainty in countries where labor unrest is more common than in the United States; and
- disadvantages of competing against companies from countries that are not subject to U.S. laws and regulations, including anti-corruption laws and anti-money laundering regulations, as well as exposure of our foreign operations to liability under these regulatory regimes.

We could suffer increased costs, exposure to significant liability, reputational harm and other serious negative consequences if we sustain cyber-attacks or other data security breaches that disrupt our operations or result in the dissemination of proprietary or confidential information about us or our customers, suppliers or other third parties.

We manage and store proprietary information and sensitive or confidential data relating to our operations. We may be subject to cyber-attacks on and breaches of the information technology systems we use for these purposes. If we are unable to protect sensitive information, including complying with evolving information security and data protection/privacy regulations, our customers or governmental authorities could question the adequacy of our threat mitigation and detection processes and procedures.

Experienced computer programmers and hackers may be able to penetrate our network security and misappropriate or compromise our confidential information or that of third parties, create system disruptions or cause shutdowns. Computer programmers and hackers also may be able to develop and deploy viruses, worms, malware, ransomware and other malicious software programs that attack our systems or otherwise exploit any security vulnerabilities of our systems or products. In addition, sophisticated hardware and operating system software and applications that we produce or procure from third parties may contain defects in design or manufacture, including “bugs” and other problems that could unexpectedly interfere with the operation of our systems. Cyber-threats in particular vary in technique and sources, are persistent, frequently change and increasingly are more sophisticated, targeted and difficult to detect and prevent against.

Given the rapidly evolving nature and proliferation of cyber threats, there can be no assurance that our employee training, operational and other technical security measures or other controls will detect, prevent or remediate security or data breaches in a timely manner or otherwise prevent unauthorized access to, damage to, or interruption of our systems and operations. We are likely to face attempted cyber-attacks in the future. Accordingly, we may be vulnerable to losses associated with the improper functioning, security breach or unavailability of our information systems as well as any systems used in acquired operations.

In addition, breaches of our security measures and the unapproved use or disclosure of proprietary information or sensitive or confidential data about us or our suppliers, customers or other third parties could expose us or any such affected third party to a risk of loss or misuse of this information, result in litigation and potential liability for us, damage our brand and reputation or otherwise harm our business, even if we were not responsible for the breach. Furthermore, we are exposed to additional risks because we rely in certain capacities on third-party data management and cloud service providers with possible security problems and security vulnerabilities beyond our control. Media or other reports of perceived security vulnerabilities to our systems or those of our third-party suppliers, even if no breach has been attempted or occurred, could adversely impact our brand and reputation and materially impact our business.

Given increasing cyber security threats, there can be no assurance that we will not experience business interruptions, data loss, ransom, misappropriation or corruption or theft or misuse of proprietary information or related litigation and investigation, any of which could have a material adverse effect on our financial condition and results of operations and harm our business reputation.

The costs related to cyber or other security threats or disruptions may not be fully insured or indemnified by other means. Our disclosure controls and procedures address cybersecurity and include elements intended to ensure that there is an analysis of potential disclosure obligations arising from security breaches.

Our business is subject to a wide variety of extensive and evolving government laws and regulations. Failure to comply with such laws and regulations could have a material adverse effect on our business.

We are subject to a wide variety of laws and regulations relating to various aspects of our business, including with respect to our spaceflight system operations, employment and labor, health care, tax, privacy and data security, health and safety, and environmental issues. Laws and regulations at the foreign, federal, state and local levels frequently change, especially in relation to new and emerging industries, and we cannot always reasonably predict the impact from, or the ultimate cost of compliance with, current or future regulatory or administrative changes. We monitor these developments and devote a significant amount of management's time and external resources towards compliance with these laws, regulations and guidelines, and such compliance places a significant burden on management's time and other resources, and it may limit our ability to expand into certain jurisdictions. Moreover, changes in law, the imposition of new or additional regulations or the enactment of any new or more stringent legislation that impacts our business could require us to change the way we operate and could have a material adverse effect on our sales, profitability, cash flows and financial condition.

Failure to comply with these laws, such as with respect to obtaining and maintaining licenses, certificates, authorizations and permits critical for the operation of our business, may result in civil penalties or private lawsuits, or the suspension or revocation of licenses, certificates, authorizations or permits, which would prevent us from operating our business. For example, commercial space launches, reentry of our spacecraft and the operation of our spaceflight system in the United States require licenses and permits from certain agencies of the Department of Transportation, including the FAA, and review by other agencies of the U.S. Government, including the Department of Defense, Department of State, and Federal Communications Commission. License approval includes an interagency review of safety, operational, national security, and foreign policy and international obligations implications, as well as a review of foreign ownership.

Additionally, the FAA and other state government agencies also enforce informed consent and cross-waiver requirements for spaceflight participants and have the authority to regulate training and medical requirements for crew. Certain related federal and state laws provide for indemnification or immunity in the event of certain losses. However, this indemnification is subject to limits, and money to be used for indemnification under federal laws is still subject to approval by the FAA and Congress. Furthermore, no such claim regarding the immunity provided by these informed consent provisions has been brought in New Mexico or in federal courts, and we are unable to determine whether the protections provided by applicable laws or regulations would be upheld by U.S. or foreign courts.

Moreover, regulation of our industry is still evolving, and new or different laws or regulations could affect our operations, increase direct compliance costs for us or cause any third-party suppliers or contractors to raise the prices they charge us because of increased compliance costs. For example, the FAA has recently released new licensing rules relating to commercial space launches, and our ability to achieve compliance with these rules by the 2026 deadline and maintain compliance thereafter could affect us and our operations. Application of these laws to our business may negatively impact our performance in various ways, limiting the collaborations we may pursue, further regulating the export and re-export of our products, services, and technology from the United States and abroad, and increasing our costs and the time necessary to obtain required authorization. The adoption of a multi-layered regulatory approach to any one of the laws or regulations to which we are or may become subject, particularly where the layers are in conflict, could require alteration of our manufacturing processes or operational parameters which may adversely impact our business. Potential conflicts between U.S. policy and international norms defining the altitude above the earth's surface where "space" begins and defining the status of, and obligations toward, spaceflight participants could introduce an additional level of legal and commercial complexity. We may not be in complete compliance with all such requirements at all times and, even when we believe we are in complete compliance, a regulatory agency may determine that we are not.

We are subject to stringent U.S. export and import control laws and regulations. Unfavorable changes in these laws and regulations or U.S. government licensing policies, our failure to secure timely U.S. government authorizations under these laws and regulations, or our failure to comply with these laws and regulations could have a material adverse effect on our business, financial condition and results of operation.

Our business is subject to stringent U.S. import and export control laws and regulations as well as economic sanctions laws and regulations. We are required to import and export our products, software, technology and services, as well as run our operations in the United States, in full compliance with such laws and regulations, which include the U.S. Export

Administration Regulations, the ITAR, and economic sanctions administered by the Treasury Department's Office of Foreign Assets Controls. Similar laws that impact our business exist in other jurisdictions. These foreign trade controls prohibit, restrict, or regulate our ability to, directly or indirectly, export, deemed export, re-export, deemed re-export or transfer certain hardware, technical data, technology, software, or services to certain countries and territories, entities, and individuals, and for end uses. If we are found to be in violation of these laws and regulations, it could result in civil and criminal liabilities, monetary and non-monetary penalties, the loss of export or import privileges, debarment and reputational harm.

Pursuant to these foreign trade control laws and regulations, we are required, among other things, to (i) maintain a registration under the ITAR, (ii) determine the proper licensing jurisdiction and export classification of products, software, and technology, and (iii) obtain licenses or other forms of U.S. government authorization to engage in the conduct of our spaceflight business. The authorization requirements include the need to get permission to release controlled technology to foreign person employees and other foreign persons. Changes in U.S. foreign trade control laws and regulations, or reclassifications of our products or technologies, may restrict our operations. The inability to secure and maintain necessary licenses and other authorizations could negatively impact our ability to compete successfully or to operate our spaceflight business as planned. Any changes in the export control regulations or U.S. government licensing policy, such as those necessary to implement U.S. government commitments to multilateral control regimes, may restrict our operations. Given the great discretion the government has in issuing or denying such authorizations to advance U.S. national security and foreign policy interests, there can be no assurance we will be successful in our future efforts to secure and maintain necessary licenses, registrations, or other U.S. government regulatory approvals.

Failure to comply with U.S. federal, state and foreign laws and regulations relating to privacy, data protection and consumer protection, or the expansion of current or the enactment of new laws or regulations relating to privacy, data protection and consumer protection, could adversely affect our business and our financial condition.

We collect, store, process, and use personal information and other customer data, including health information, of customers and employees, and we rely in part on third parties that are not directly under our control to manage certain of these operations and to collect, store, process and use payment information. Due to the volume and sensitivity of the personal information and data we and these third parties manage and expect to manage in the future, as well as the nature of our customer base, the security features of our information systems are critical. A variety of U.S. federal, state and foreign laws and regulations govern the handling and security of this information. These laws and regulations are continuously evolving and subject to potentially differing interpretations. Additionally, as these requirements may be inconsistent from one jurisdiction to another or conflict with other rules or our practices, our practices may not have complied or may not comply in the future with all such laws, regulations, requirements and obligations.

We expect that new industry standards, laws and regulations will continue to evolve regarding privacy, data protection and information security in many jurisdictions, including the California Consumer Privacy Act as amended by the California Privacy Rights Act, the European General Data Protection Regulation ("GDPR") and to the United Kingdom General Data Protection Regulation and Data Protection Act 2018 (collectively, the "UK GDPR").

As we have expanded our international presence, we are also subject to additional privacy rules, many of which, such as the GDPR and national laws supplementing the GDPR, are significantly more stringent than those currently enforced in the United States. The GDPR and UK GDPR require companies to meet stringent requirements regarding the handling of personal data of individuals located in the European Economic Area ("EEA") and the UK. These more stringent requirements include comprehensive data privacy compliance obligations in relation to our collection, processing, sharing, disclosure, transfer and other use of data relating to an identifiable living individual or "personal data", including a principal of accountability and the obligation to demonstrate compliance through policies, procedures, training and audit. The GDPR and UK GDPR also include significant penalties for non-compliance, which may result in monetary penalties of up to the higher of €20.0 million/GBP 17.5 million or 4% of a group's worldwide turnover. In addition to fines, a breach of the GDPR or UK GDPR may result in regulatory investigations, reputational damage, orders to cease/change our data processing activities, enforcement notices, assessment notices (for a compulsory audit) and/or civil claims (including class actions).

The GDPR and UK GDPR regulate cross-border transfers of personal data out of the EEA and the UK. Recent legal developments in Europe have created complexity and uncertainty regarding such transfers, in particular in relation to transfers to the United States. On July 16, 2020, the Court of Justice of the European Union ("CJEU") invalidated the EU-US Privacy Shield Framework, or Privacy Shield, under which personal information could be transferred from the EEA (and the UK) to relevant self-certified U.S. entities. The CJEU further noted that reliance on the standard contractual clauses (a standard form of contract approved by the European Commission as an adequate personal data transfer mechanism and potential alternative to the Privacy Shield) alone may not necessarily be sufficient in all circumstances and that transfers must be assessed on a case-

by-case basis. European court and regulatory decisions subsequent to the CJEU decision of July 16, 2020 have taken a restrictive approach to international data transfers. As the enforcement landscape further develops, and supervisory authorities issue further guidance on international data transfers, we could suffer additional costs, complaints and/or regulatory investigations or fines; we may have to stop using certain tools and vendors and make other operational changes; we may have to implement revised standard contractual clauses for existing intragroup, customer and vendor arrangements within required time frames; and/or it could otherwise affect the manner in which we provide our services, and could adversely affect our business, operations and financial condition.

We are also subject to evolving U.S., EU and UK online services and digital privacy and data laws as well as privacy laws on cookies, pixels, tracking technologies and e-marketing. Recent European court and regulator decisions are driving increased attention to cookies and tracking technologies. If the trend of increasing enforcement by regulators of the strict approach to opt-in consent for all but essential use cases, as seen in recent guidance and decisions continues, this could lead to substantial costs, require significant systems changes, limit the effectiveness of our marketing activities, divert the attention of our technology personnel, adversely affect our margins, and subject us to additional liabilities. In light of the complex and evolving nature of U.S., EU, EU Member State and UK online services and digital privacy and data laws as well as privacy laws on cookies, pixels and tracking technologies, there can be no assurances that we will be successful in our efforts to comply with such laws; violations of such laws could result in regulatory investigations, fines, orders to cease/change our use of such technologies, as well as civil claims including class actions, and reputational damage.

A significant data breach or any failure, or perceived failure, by us to comply with any U.S. federal, state or foreign privacy or consumer protection-related laws, regulations or other principles or orders to which we may be subject or other legal obligations relating to privacy or consumer protection could adversely affect our reputation, brand and business, and may result in claims, investigations, proceedings or actions against us by governmental entities or others or other penalties or liabilities or require us to change our operations and/or cease using certain data sets. Depending on the nature of the information compromised, we may also have obligations to notify users, law enforcement or payment companies about the incident and may need to provide some form of remedy, such as refunds, for the individuals affected by the incident.

Failures in our technology infrastructure could damage our business, reputation and brand and substantially harm our business and results of operations.

If our main data center were to fail, or if we were to suffer an interruption or degradation of services at our main data center, we could lose important manufacturing and technical data, which could harm our business. Our facilities are vulnerable to damage or interruption from earthquakes, hurricanes, floods, fires, terrorist attacks, power losses, telecommunications failures and similar events. In the event that our or any third-party provider's systems or service abilities are hindered by any of the events discussed above, our ability to operate may be impaired. A decision to close the facilities without adequate notice, or other unanticipated problems, could adversely impact our operations. Any of the aforementioned risks may be augmented if our or any third-party provider's business continuity and disaster recovery plans prove to be inadequate. Our data center, third-party cloud, and managed service provider infrastructure also could be subject to break-ins, sabotage, intentional acts of vandalism, other misconduct, or other unforeseeable events impacting availability of infrastructure technology services. Significant unavailability of our services could cause users to cease using our services and materially and adversely affect our business, prospects, financial condition and results of operations.

We use complex proprietary software in our technology infrastructure, which we seek to continually update and improve. Replacing such systems is often time-consuming and expensive, and can also be intrusive to daily business operations. Further, we may not always be successful in executing these upgrades and improvements, which may occasionally result in a failure of our systems. We may experience periodic system interruptions from time to time. Any slowdown or failure of our underlying technology infrastructure could harm our business, reputation and ability to acquire and serve our future astronauts, which could materially adversely affect our results of operations. Our disaster recovery plan or those of our third-party providers may be inadequate, and our business interruption insurance may not be sufficient to compensate us for the losses that could occur.

We are highly dependent on our senior management team and other highly skilled personnel, and if we are not successful in attracting or retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

Our success depends, in significant part, on the continued services of our senior management team and on our ability to attract, motivate, develop and retain a sufficient number of other highly skilled personnel, including pilots, manufacturing and quality assurance, engineering, design, finance, marketing, sales and support personnel. Our senior management team has extensive experience in the aerospace industry, and we believe that their depth of experience is instrumental to our continued success. The loss of any one or more members of our senior management team, for any reason, including resignation or

retirement, could impair our ability to execute our business strategy and have a material adverse effect on our business, financial condition and results of operations.

Competition for qualified highly skilled personnel can be strong, and we can provide no assurance that we will be successful in attracting or retaining such personnel now or in the future. We have not yet started commercial spaceflight operations, and our estimates of the required team size to support our estimated flight rates may require increases in staffing levels that may require significant capital expenditure. Further, any inability to recruit, develop and retain qualified employees may result in high employee turnover and may force us to pay significantly higher wages, which may harm our profitability. Additionally, we do not carry key man insurance for any of our management executives, and the loss of any key employee or our inability to recruit, develop and retain these individuals as needed, could have a material adverse effect on our business, financial condition and results of operations.

We are subject to many hazards and operational risks that can disrupt our business, including interruptions or disruptions in service at our primary facilities, which could have a material adverse effect on our business, financial condition and results of operations.

Our operations are subject to many hazards and operational risks inherent to our business, including general business risks, product liability and damage to third parties, our infrastructure or properties that may be caused by fires, floods and other natural disasters, power losses, telecommunications failures, terrorist attacks, human errors and similar events. Additionally, our manufacturing operations are hazardous at times and may expose us to safety risks, including environmental risks and health and safety hazards to our employees or third parties.

Any significant interruption due to any of the above hazards and operational to the manufacturing or operation of our spaceflight systems at one of our primary facilities, including from weather conditions, growth constraints, performance by third-party providers (such as electric, utility or telecommunications providers), failure to properly handle and use hazardous materials, failure of computer systems, power supplies, fuel supplies, infrastructure damage, disagreements with the owners of the land on which our facilities are located, or damage sustained to our runway could result in manufacturing delays or the delay or cancellation of our spaceflights and, as a result, could have a material adverse effect on our business, financial condition and results of operations.

In addition, Spaceport America is run by a state agency, the New Mexico Spaceport Authority, and there may be delays or impacts to operations due to considerations unique to doing business with a government agency. For example, governmental agencies often have an extended approval process for service contracts, which may result in delays or limit the timely operation of our Spaceport America facilities.

Moreover, our insurance coverage may be inadequate to cover our liabilities related to such hazards or operational risks. In addition, passenger insurance may not be accepted or may be prohibitive to procure. Moreover, we may not be able to maintain adequate insurance in the future at rates we consider reasonable and commercially justifiable, and insurance may not continue to be available on terms as favorable as our current arrangements. The occurrence of a significant uninsured claim, or a claim in excess of the insurance coverage limits maintained by us, could harm our business, financial condition and results of operations.

We may become involved in litigation that may materially adversely affect us.

From time to time, we may become involved in various legal proceedings relating to matters incidental to the ordinary course of our business, including intellectual property, commercial, product liability, employment, class action, whistleblower and other litigation and claims, and governmental and other regulatory investigations and proceedings. A class action complaint alleging violations of federal securities laws has also been filed against us in the Eastern District of New York alleging, among other things, that we and certain of our current and former officers and directors made false and misleading statements and failed to disclose certain information regarding the safety of its ships and success of its commercial flight program. Four derivative suits have also been filed in the Eastern District of New York alleging, in some combination and among other claims, violations of federal securities laws and fiduciary duty breaches, including substantially similar allegations as those in the class action lawsuit. Attending to such matters can be time-consuming, divert management's attention and resources, cause us to incur significant expenses or liability or require us to change our business practices. Because of the potential risks, expenses and uncertainties of litigation, we may, from time to time, settle disputes, even where we believe that we have meritorious claims or defenses. Because litigation is inherently unpredictable, we cannot assure you that the results of any of these actions will not have a material adverse effect on our business.

Natural disasters, unusual weather conditions, epidemic outbreaks, terrorist acts, military conflicts, macroeconomic conditions and political events could disrupt our business and flight schedule.

The occurrence of one or more natural disasters such as tornadoes, hurricanes, fires, floods and earthquakes, unusual weather conditions, epidemic or pandemic outbreaks (including COVID-19), terrorist attacks, military conflicts or disruptive political events in certain regions where our facilities are located, or where our third-party contractors' and suppliers' facilities are located, could adversely affect our business. Natural disasters including tornados, hurricanes, floods and earthquakes may damage our facilities or those of our suppliers, which could have a material adverse effect on our business, financial condition and results of operations. Severe weather, such as rainfall, snowfall or extreme temperatures, may impact the ability for spaceflight to occur as planned, resulting in additional expense to reschedule the operation and customer travel plans, thereby reducing our sales and profitability.

Terrorist attacks, actual or threatened acts of war or the escalation of current hostilities, such as the ongoing conflict between Russia and Ukraine, or any other military or trade disruptions impacting our domestic or foreign suppliers of components of our products, may impact our operations by, among other things, causing supply chain disruptions and increases in commodity prices, which could adversely affect our raw materials or transportation costs. In addition, other potential supply chain disruptions, such as product recalls, labor supply or stoppages, reduced freight availability and increased costs, port disruption, manufacturing facility closures, the financial or operational instability of key suppliers and carriers, changes in diplomatic or trade relationships (including any sanctions, restrictions, and other responses such as those related to current geopolitical events), or other reasons, could impair our ability to develop our next generation vehicles. To the extent we are unable to mitigate the likelihood or potential impact of such events, there could be a material adverse effect on our operating and financial results.

These events also could cause or act to prolong an economic recession or depression in the United States or abroad, such as the business disruption and related financial impact that resulted from the global COVID-19 pandemic. To the extent these events also impact one or more of our suppliers or contractors or result in the closure of any of their facilities or our facilities, we may be required to delay our commercial launch, be unable to maintain spaceflight schedules, provide other support functions to our astronaut experience or fulfill our other contracts. In addition, the disaster recovery and business continuity plans we have in place currently are limited and are unlikely to prove adequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans and, more generally, any of these events could cause consumer confidence and spending to decrease, which could adversely impact our commercial spaceflight operations.

Our operating results may fluctuate significantly, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations or any guidance we may provide.

Our quarterly and annual operating results may fluctuate significantly, which makes it difficult for us to predict our future operating results. These fluctuations may occur due to a variety of factors, many of which are outside of our control, including:

- the number of flights we schedule for a period, the number of seats we are able to sell in any given spaceflight and the price at which we sell them;
- unexpected weather patterns, maintenance issues, natural disasters or other events that force us to cancel or reschedule flights;
- the cost of raw materials or supplied components critical for the manufacture and operation of our spaceflight system;
- the timing and cost of, and level of investment in, research and development relating to our technologies and our current or future facilities;
- developments involving our competitors;
- changes in governmental regulations or in the status of our regulatory approvals or applications;
- future accounting pronouncements or changes in our accounting policies;
- the impact of epidemics or pandemics, including the business disruption and related financial impact resulting from the global COVID-19 pandemic; and
- general market conditions and other factors, including factors unrelated to our operating performance or the operating performance of our competitors.

The individual or cumulative effects of the factors discussed above could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful.

This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any guidance we may provide, or if the guidance we provide is below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated guidance we may provide.

The COVID-19 pandemic has disrupted and may continue to adversely affect our business operations and our financial results.

The global spread of COVID-19 disrupted certain aspects of our operations and may adversely impact our business operations, including our ability to execute on our business strategy and goals. Specifically, the spread of COVID-19 and precautionary actions taken related to COVID-19 adversely impacted our operations, including our ability to complete the development of our spaceflight systems, or our spaceflight test programs, causing delays or disruptions in our supply chain, and decreasing our operational efficiency in space flight system manufacturing, maintenance, ground operations and flight operations.

Many jurisdictions, including in California, New Mexico and the United Kingdom, where most of our workforce is located, imposed “shelter-in-place” orders, quarantines or similar orders or restrictions to control the spread of COVID-19 by restricting non-essential activities and business operations. Compliance with these orders disrupted our standard operations, including disruption of operations necessary to complete the development of our spaceflight systems and postponement of our scheduled spaceflight test programs. For example, consistent with the actions taken by governmental authorities, we initially reduced and then temporarily suspended on-site operations at our facilities in Mojave, Spaceport America, Washington D.C. and London in March 2020. Although all of our facilities have reopened, there can be no assurance that additional closures or re-closures will not be mandated in the future.

The pandemic has also resulted in, and may continue to result in, significant disruption and volatility of global financial markets. This disruption and volatility may adversely impact our ability to access capital, which could in the future negatively affect our liquidity and capital resources. Given the impact of the pandemic, responsive measures taken by governmental authorities and the uncertainty about its impact on society and the global economy, we cannot predict the extent to which it will further affect our global operations. To the extent COVID-19 adversely affects our business operations and financial results, it may also have the effect of heightening many of the other risks described in this "Risk Factors" section. In addition, if in the future there is a further outbreak of COVID-19 or a variation thereof, or an outbreak of another highly infectious or contagious disease or other health concern, the Company may be subject to similar risks as posed by COVID-19.

We are subject to environmental regulation and may incur substantial costs.

We are subject to federal, state, local and foreign laws, regulations and ordinances relating to the protection of the environment, including those relating to emissions to the air, discharges to surface and subsurface waters, safe drinking water, greenhouse gases and the management of hazardous substances, oils and waste materials. Federal, state and local laws and regulations relating to the protection of the environment may require a current or previous owner or operator of real estate to investigate and remediate hazardous or toxic substances or petroleum product releases at or from the property. Under federal law, generators of waste materials, and current and former owners or operators of facilities, can be subject to liability for investigation and remediation costs at locations that have been identified as requiring response actions. Compliance with environmental laws and regulations can require significant expenditures. In addition, we could incur costs to comply with such current or future laws and regulations, the violation of which could lead to substantial fines and penalties.

We may have to pay governmental entities or third parties for property damage and for investigation and remediation costs that they incurred in connection with any contamination at our current and former properties without regard to whether we knew of or caused the presence of the contaminants. Liability under these laws may be strict, joint and several, meaning that we could be liable for the costs of cleaning up environmental contamination regardless of fault or the amount of waste directly attributable to us. Even if more than one person may have been responsible for the contamination, each person covered by these environmental laws may be held responsible for all of the clean-up costs incurred. Environmental liabilities could arise and have a material adverse effect on our financial condition and performance. We do not believe, however, that pending

environmental regulatory developments in this area will have a material effect on our capital expenditures or otherwise materially adversely affect our operations, operating costs, or competitive position.

We may be adversely affected by global climate change or by legal, regulatory or market responses to such change.

Increasing stakeholder environmental, social and governance ("ESG") expectations, physical and transition risks associated with climate change, and emerging ESG regulation and policy requirements may pose risk to our market outlook, brand and reputation, financial outlook, cost of capital, global supply chain and production continuity, which may impact our ability to achieve long-term business objectives. Changes in environmental and climate change laws or regulations could lead to additional operational restrictions and compliance requirements upon us or our products, require new or additional investment in product designs, result in carbon offset investments or otherwise could negatively impact our business and/or competitive position. Increasing aircraft performance standards and requirements on manufacturing and product air pollutant emissions, especially greenhouse gas ("GHG") emissions, may result in increased costs or reputational risks and could limit our ability to manufacture and/or market certain of our products at acceptable costs, or at all. Physical impacts of climate change, increasing global chemical restrictions and bans, and water and waste requirements may drive increased costs to us and our suppliers. Additionally, if we fail to achieve or improperly report on any stated environmental goals and commitments, the resulting negative publicity could adversely affect our reputation and/or our access to capital.

Failure to keep up with evolving trends and shareholder expectations relating to environmental, social and governance practices or reporting could adversely impact our reputation, share price and access to and cost of capital.

Certain institutional investors, investor advocacy groups, investment funds, creditors and other influential financial market participants have become increasingly focused on companies' ESG practices in evaluating their investments and business relationships, including the impact of business on the environment. Certain organizations also provide ESG ratings, scores and benchmarking studies that assess companies' ESG practices. Although there are no universal standards for such ratings, scores or benchmarking studies, they are used by some investors to inform their investment and voting decisions. It is possible that our future stockholders or organizations that report on, rate or score ESG practices will not be satisfied with our ESG strategy or performance. Unfavorable press about or ratings or assessments of our ESG strategies or practices, regardless of whether or not we comply with applicable legal requirements, may lead to negative investor sentiment toward us, which could have a negative impact on our share price and our access to and cost of capital.

We are exposed to changes to the global macroeconomic environment beyond our control, including inflation fluctuations.

We are exposed to fluctuations in inflation, which could negatively affect our business, financial condition and results of operation. The United States has recently experienced historically high levels of inflation. If the inflation rate continues to increase, it will likely affect our expenses, including, but not limited to, employee compensation expenses and increased costs for supplies. Moreover, to the extent inflation results in rising interest rates, reduces discretionary spending, and has other adverse effects on the market, it may adversely affect our business, financial condition and results of operations.

Risks Related to Our Ownership Structure

Virgin Investments Limited has significant ability to control the direction of our business, which may prevent potential investors and other stockholders from influencing significant decisions.

Pursuant to the terms of the stockholders' agreement entered in connection with the consummation of the Virgin Galactic Business Combination (the "Stockholders' Agreement"), Virgin Investments Limited ("VIL") has a contractual right to be able to influence the outcome of corporate actions so long as it owns a significant portion of our total outstanding shares of common stock. Specifically, under the terms of the Stockholders' Agreement, for so long as VIL continues to beneficially own, in the aggregate, at least 25% of the shares of our common stock that an affiliate of VIL beneficially owned upon completion of the Virgin Galactic Business Combination, VIL's consent is required for, among other things:

- any non-ordinary course sales of our assets having a fair market value of at least $10.0 million;
- any acquisition of an entity, or the business or assets of any other entity, having a fair market value of at least $10.0 million;
- certain non-ordinary course investments having a fair market value of at least $10.0 million;
- any increase or decrease in the size of our board of directors;

- any payment by us of dividends or distributions to our stockholders or repurchases of stock by us, subject to certain limited exceptions; or
- incurrence of certain indebtedness.

Furthermore, VIL's consent is also required for the following, among other things, for so long as VIL continues to beneficially own, in the aggregate, at least 10% of the shares of our common stock that an affiliate of VIL beneficially owned upon completion of the Virgin Galactic Business Combination:

- any sale, merger, business combination or similar transaction to which we are a party;
- any amendment, modification or waiver of any provision of our certificate of incorporation or bylaws;
- any liquidation, dissolution, winding-up or causing any voluntary bankruptcy or related actions with respect to us; or
- any issuance or sale of any shares of our capital stock or securities convertible into or exercisable for any shares of our capital stock in excess of 5% of our then-issued and outstanding shares, other than issuances of shares of capital stock upon the exercise of options to purchase shares of our capital stock.

Because the interests of VIL may differ from our interests or the interests of our other stockholders, actions that VIL may take with respect to us may not be favorable to us or our other stockholders.

Delaware law and our organizational documents contain certain provisions, including anti-takeover provisions, that limit the ability of stockholders to take certain actions and could delay or discourage takeover attempts that stockholders may consider favorable.

Our certificate of incorporation and bylaws and Delaware law contain provisions that could have the effect of rendering more difficult, delaying, or preventing an acquisition that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, and therefore depress the trading price of our common stock. These provisions could also make it difficult for stockholders to take certain actions, including electing directors who are not nominated by the current members of our board of directors or taking other corporate actions, including effecting changes in our management. Among other things, our certificate of incorporation and bylaws include provisions regarding:

- the ability of our board of directors to issue shares of preferred stock, including "blank check" preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;
- subject to the terms of the Stockholders' Agreement, our board of directors has the exclusive right to expand the size of the board of directors and to elect directors to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which will prevent stockholders from being able to fill vacancies on the board of directors;
- the prohibition of cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the limitation of the liability of, and the indemnification of, our directors and officers;
- the ability of our board of directors to amend the bylaws, which may allow our board of directors to take additional actions to prevent an unsolicited takeover and inhibit the ability of an acquirer to amend the bylaws to facilitate an unsolicited takeover attempt; and
- advance notice procedures with which stockholders must comply to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which could preclude stockholders from bringing matters before annual or special meetings of stockholders and delay changes in our board of directors and also may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our board of directors or management.

The provisions of our certificate of incorporation requiring exclusive forum in the Court of Chancery of the State of Delaware for certain types of lawsuits may have the effect of discouraging lawsuits against our directors and officers.

Our certificate of incorporation provides that, to the fullest extent permitted by law, and unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or agents to us or our stockholders, (iii) any action asserting a claim against us or any of our directors, officers, stockholders, employees or agents arising out of or related to any provision of the General Corporation Law of the State of Delaware or our certificate of incorporation or bylaws or (iv) any action asserting a claim against us or any of our directors, officers, stockholders, employees or agents governed by the internal affairs doctrine; provided, however, that, in the event that the Court of Chancery of the State of Delaware lacks subject matter jurisdiction over any such action or proceeding, the sole and exclusive forum for such action or proceeding will be another state or federal court located within the State of Delaware, in each such case, unless the Court of Chancery (or such other state or federal court located within the State of Delaware, as applicable) has dismissed a prior action by the same plaintiff asserting the same claims because such court lacked personal jurisdiction over an indispensable party named as a defendant therein. Notwithstanding the foregoing, our certificate of incorporation provides that the exclusive forum provision will not apply to suits brought to enforce a duty or liability created by the Securities Act of 1933, as amended (the "Securities Act"), or the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or any other claim for which the federal courts have exclusive jurisdiction.

These provisions may have the effect of discouraging lawsuits against our directors and officers. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in the certificate of incorporation to be inapplicable or unenforceable in such action.

Our certificate of incorporation expressly limits the liability of certain parties to us for breach of fiduciary duty and could also prevent us from benefiting from corporate opportunities that might otherwise have been available to us.

Our certificate of incorporation provides that, to the fullest extent permitted by law, and other than corporate opportunities that are expressly presented to one of our directors in his or her capacity as such, VIL and its respective affiliates (but in each case, other than us and our officers and employees):

- will not have any fiduciary duty to refrain from engaging in the same or similar business activities or lines of business as us, even if the opportunity is one that we might reasonably be deemed to have pursued or had the ability or desire to pursue if granted the opportunity to do so;
- will have no duty to communicate or offer such business opportunity to us; and
- will not be liable to us for breach of any fiduciary or other duty, as a director or officer or otherwise, by reason of the fact that such exempted person pursues or acquires such business opportunity, directs such business opportunity to another person or fails to present such business opportunity, or information regarding such business opportunity, to us.

Risks Related to Our Securities and Indebtedness

Our indebtedness could expose us to risks that could adversely affect our business, financial condition and results of operations.

In 2022, we sold $425,000,000 aggregate principal amount of 2.50% convertible senior notes due 2027 (the "2027 Notes"). We may also incur additional indebtedness to meet future needs. Our indebtedness could have significant negative consequences for our security holders, business, results of operations and financial condition by, among other things:

- increasing our vulnerability to adverse economic and industry conditions;
- limiting our ability to obtain additional financing;
- in the event interest accrues on the 2027 Notes or additional indebtedness, requiring the dedication of a substantial portion of our cash flow from operations to service our indebtedness, which will reduce the amount of cash available for other purposes;
- limiting our flexibility to plan for, or react to, changes in our business;
- diluting the interests of our existing stockholders if we issue shares of our common stock upon conversion of the Notes or additional indebtedness; and

- placing us at a possible competitive disadvantage with competitors that are less leveraged than us or have better access to capital.

Our business may not generate sufficient funds, and we may otherwise be unable to maintain sufficient cash reserves, to pay amounts due under the 2027 Notes or any additional indebtedness that we may incur. In addition, any future indebtedness that we may incur may contain financial and other restrictive covenants that will limit our ability to operate our business, raise capital or make payments under our indebtedness. If we fail to comply with such covenants or to make payments under any of our indebtedness when due, then we would be in default under that indebtedness, which could, in turn, result in that indebtedness becoming immediately payable in full and cross-default or cross-acceleration under our other indebtedness and other liabilities.

The conditional conversion feature of the 2027 Notes, if triggered, may adversely affect our financial condition and conversion of the 2027 Notes, to the extent the 2027 Notes are not redeemed or repurchased, will dilute the ownership interest of existing stockholders, and even if anticipated, may otherwise depress the price of our common stock.

In the event the conditional conversion feature of the 2027 Notes is triggered, holders of the 2027 Notes will be entitled to convert their 2027 Notes upon the occurrence of certain events. If one or more holders of the 2027 Notes elect to convert their 2027 Notes, we will satisfy our conversion obligation by delivering only shares of our common stock, unless we elect a different settlement method for conversions of the 2027 Notes, in which case we would be required to settle all or a portion of our conversion obligation through the payment of cash, which could adversely affect our financial condition. In the event the conditional conversion feature of the 2027 Notes is triggered, the conversion of some or all of the 2027 Notes will dilute the ownership interests of our existing stockholders to the extent we deliver shares of our common stock upon such conversion. Prior to November 1, 2026, noteholders will have the right to convert their notes only upon the occurrence of certain events. On and after November 1, 2026, noteholders will have the right to convert their notes at any time at their election until the close of business on the second scheduled trading day immediately before the maturity date. Any sales in the public market of shares of our common stock issuable upon such conversion could adversely affect the price of our common stock. In addition, the existence of the 2027 Notes may encourage short selling by market participants because the conversion of the 2027 Notes could be used to satisfy short positions, and even anticipated conversion of the 2027 Notes into shares of our common stock could depress the price of our common stock.

The convertible note hedge may affect the value of the 2027 Notes and our common stock.

In connection with the sale of the 2027 Notes, we entered into convertible note hedge transactions in the form of capped call transactions ("the 2027 Note Hedge"), with certain financial institutions, or option counterparties. The 2027 Note Hedge transactions are expected generally to reduce the potential dilution upon any conversion of the 2027 Notes and/or offset any cash payments we are required to make in excess of the principal amount of converted 2027 Notes, subject to a cap.

The option counterparties and/or their respective affiliates may modify their hedge positions by entering into or unwinding various derivatives with respect to our common stock and/or purchasing or selling our common stock in secondary market transactions prior to the maturity of the 2027 Notes (and are likely to do so (x) during any observation period related to a conversion of the Notes and (y) following any repurchase of the 2027 Notes by us on any fundamental change repurchase date (as provided in the indenture governing the 2027 Notes) or otherwise, in each case, to the extent we exercise the relevant election under the 2027 Note Hedge transactions to unwind them early, (z) during the observation period for conversions of the Notes at maturity). This activity could also cause or avoid an increase or a decrease in the market price of our common stock or the 2027 Notes, which could affect note holders' ability to convert the 2027 Notes and, to the extent the activity occurs during any observation period related to a conversion of the 2027 Notes, it could affect the amount and value of the consideration that note holders will receive upon conversion of the 2027 Notes.

The potential effect, if any, of these transactions and activities on the market price of our common stock or the 2027 Notes will depend in part on market conditions and cannot be ascertained at this time. Any of these activities could adversely affect the value of our common stock and the value of the 2027 Notes (and, as a result, the value of the consideration, the amount of cash and/or the number of shares, if any, that note holders would receive upon the conversion of the 2027 Notes) and, under certain circumstances, the ability of the note holders to convert the 2027 Notes.

We do not make any representation or prediction as to the direction or magnitude of any potential effect that the 2027 Note Hedge transactions described above may have on the price of the 2027 Notes or our common stock. In addition, we do not make any representation that the option counterparties will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

We are subject to counterparty risk with respect to the 2027 Note Hedge transactions.

The option counterparties are financial institutions, and we will be subject to the risk that any or all of them may default under the 2027 Note Hedge transactions. Our exposure to the credit risk of the option counterparties will not be secured by any collateral. If an option counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings, with a claim equal to our exposure at that time under our transactions with that option counterparty. Our exposure will depend on many factors but, generally, an increase in our exposure will be correlated to an increase in the market price and in the volatility of our common stock. In addition, upon a default by an option counterparty, we may suffer adverse tax consequences and more dilution than we currently anticipate with respect to our common stock. We can provide no assurances as to the financial stability or viability of the option counterparties.

We do not intend to pay cash dividends for the foreseeable future.

We currently intend to retain our future earnings, if any, to finance the further development and expansion of our business and do not intend to pay cash dividends in the foreseeable future. Any future determination to pay dividends will be at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements, restrictions contained in the Stockholders' Agreement and future agreements and financing instruments, business prospects and such other factors as our board of directors deems relevant.

General Risk Factors

The trading price of our common stock may be volatile, and you may be unable to sell your shares above your purchase price.

The trading price of our common stock may fluctuate due to a variety of factors, including:

- changes in the industries in which we operate;
- the number of flights we schedule for a period, the number of seats we are able to sell in any given spaceflight and the price at which we sell them;
- delays in development of additional spaceships and motherships or in the completion of our ground and flight testing programs;
- developments involving our competitors;
- unexpected weather patterns, maintenance issues, natural disasters or other events that force us to cancel or reschedule flights;
- variations in our operating performance and the performance of our competitors in general;
- actual or anticipated fluctuations in our quarterly or annual operating results;
- publication of research reports by securities analysts about us, our competitors or our industry;
- the public's reaction to our press releases, public announcements and filings with the SEC;
- additions and departures of key employees and personnel;
- competition for talent and skill-sets required;
- changes in laws and regulations affecting our business;
- commencement of, or involvement in, litigation involving us;
- changes in our capital structure, such as future issuances of securities or the incurrence of debt;
- investors mistaking developments involving other companies, including Virgin-branded companies, as involving us and our business;
- the volume of shares of our common stock available for public sale;
- sales of common stock by our directors, officers or significant stockholders, or the perception that such sales may occur;

- short sales of our common stock; and
- general economic and political conditions such as the COVID-19 global health crisis or other pandemics or epidemics, recessions, inflation, interest rates, fuel prices, international currency fluctuations, corruption, political instability and acts of war or terrorism.

These market and industry factors may materially reduce the market price of our common stock regardless of our operating performance.

In addition, in the past, class action litigation has often been instituted against companies whose securities have experienced periods of volatility in market price. Securities litigation brought against us following volatility in our stock price, regardless of the merit or ultimate results of such litigation, could result in substantial costs, which would hurt our financial condition and operating results and divert management's attention and resources from our business.

Any acquisitions, partnerships or joint ventures that we enter into could disrupt our operations and have a material adverse effect on our business, financial condition and results of operations.

From time to time, we may evaluate potential strategic acquisitions of businesses, including partnerships or joint ventures with third parties. We may not be successful in identifying acquisition, partnership and joint venture candidates. In addition, we may not be able to continue the operational success of such businesses or successfully finance or integrate any businesses that we acquire or with which we form a partnership or joint venture. We may have potential write-offs of acquired assets and/or an impairment of any goodwill recorded as a result of acquisitions. Furthermore, the integration of any acquisition may divert management's time and resources from our core business and disrupt our operations or may result in conflicts with our business. Any acquisition, partnership or joint venture may not be successful, may reduce our cash reserves, may negatively affect our earnings and financial performance and, to the extent financed with the proceeds of debt, may increase our indebtedness. We cannot ensure that any acquisition, partnership or joint venture we make will not have a material adverse effect on our business, financial condition and results of operations.

Changes in tax laws or regulations may increase tax uncertainty and adversely affect results of our operations and our effective tax rate.

We will be subject to taxes in the United States and certain foreign jurisdictions. Due to economic and political conditions, tax rates in various jurisdictions, including the United States, may be subject to change. Our future effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities and changes in tax laws or their interpretation. In addition, we may be subject to income tax audits by various tax jurisdictions. Although we believe our income tax liabilities are reasonably estimated and accounted for in accordance with applicable laws and principles, an adverse resolution by one or more taxing authorities could have a material impact on the results of our operations.

Our ability to use our U.S. federal and state operating loss carryforwards and certain other tax attributes may be limited.

Under Section 382 of the Internal Revenue Code of 1986, the Company's ability to utilize net operating loss carryforwards or other tax attributes such as research tax credits, in any taxable year, may be limited if the Company experiences, or has experienced, an "ownership change." A Section 382 "ownership change" generally occurs if one or more stockholders or groups of stockholders, who own at least 5% of the Company's stock, increase their ownership by more than 50 percentage points over their lowest ownership percentage within a rolling three-year period. Similar rules may apply under state tax laws. The Company may have or may in the future, experience one or more Section 382 "ownership changes." As a result, we may be unable to use a material portion of our net operating loss carryforwards and other tax attributes, which could adversely affect our future cash flows.

The obligations associated with being a public company involve significant expenses and require significant resources and management attention, which divert from our business operations.

As a public company, we are subject to the reporting requirements of the Exchange Act and the Sarbanes-Oxley Act. The Exchange Act requires the filing of annual, quarterly and current reports with respect to a public company's business and financial condition. The Sarbanes-Oxley Act requires, among other things, that a public company establish and maintain effective internal control over financial reporting. As a result, we are incurring, and will continue to incur significant legal, accounting and other expenses. Our management team and many of our other employees will need to devote substantial time to compliance, which may divert management's attention and resources from our business.

An active trading market for our common stock may not be maintained.

We can provide no assurance that we will be able to maintain an active trading market for our common stock on the NYSE or any other exchange in the future. If an active market for our common stock is not maintained, or if we fail to satisfy the continued listing standards of the NYSE for any reason and our securities are delisted, it may be difficult for our security holders to sell their securities without depressing the market price for the securities or at all. An inactive trading market may also impair our ability to both raise capital by selling shares of common stock and acquire other complementary products, technologies or businesses by using our shares of common stock as consideration.

Securities analysts may not publish favorable research or reports about our business or may publish no information at all, which could cause our stock price or trading volume to decline.

The trading market for our common stock is influenced to some extent by the research and reports that industry or financial analysts publish about us and our business. We do not control these analysts, and the analysts who publish information about our common stock may have had relatively little experience with us or our industry, which could affect their ability to accurately forecast our results and could make it more likely that we fail to meet their estimates. In the event we obtain securities or industry analyst coverage, if any of the analysts who cover us provide inaccurate or unfavorable research or issue an adverse opinion regarding our stock price, our stock price could decline. If one or more of these analysts cease coverage of us or fail to publish reports covering us regularly, we could lose visibility in the market, which in turn could cause our stock price or trading volume to decline.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We operate primarily at three locations in California and New Mexico. All of our current operating facilities are located on land that is leased from third parties. We also currently lease facilities in Arizona and own land in New Mexico, which we plan to develop further to support the manufacturing of our next generation spaceships and develop a new astronaut campus and training facility, respectively. We believe that such facilities meet our current and future anticipated needs.

We maintain more than 200,000 square feet of manufacturing and operations facilities at the Mojave Air and Space Port in Mojave, California. This campus includes six main operational buildings and several storage buildings under separate lease agreements that collectively house fabrication, assembly, warehouse, office and test operations. These facilities are leased pursuant to several agreements, which generally have two- or three-year initial terms coupled with renewal options. Several leases are either operating in renewal periods or on a month-to-month basis.

We will conduct our commercial operations at Spaceport America in Sierra County, New Mexico. Located on more than 25 square miles of desert landscape and with access to more than 6,000 square miles of protected airspace, Spaceport America is the world's first purpose-built commercial spaceport and is home to the Virgin Galactic Gateway to Space terminal. State and local governments in New Mexico have invested more than $200.0 million in Spaceport America, with Virgin Galactic serving as the facility's anchor tenant under a 20-year lease scheduled to expire in 2028, subject to our right to extend the term for an additional five years.

Our Design and Engineering center located in Tustin, California encompasses approximately 61,000 square feet of office space and functions as our headquarters. This facility houses our management, research, design, development, marketing, finance and other administrative functions.

On July 14, 2022, the Company entered into an agreement to lease approximately 151,000 square feet of manufacturing and operations facilities in Mesa, Arizona which consists of two hangars. The lease has an initial term of ten years and five months after its commencement with options for extension. We plan to use the facilities to assemble our next generation Delta class spaceships.

Item 3. Legal Proceedings

We are from time to time subject to various claims, lawsuits and other legal and administrative proceedings arising in the ordinary course of business. Some of these claims, lawsuits and other proceedings may involve highly complex issues that

are subject to substantial uncertainties, and could result in damages, fines, penalties, non-monetary sanctions or relief. However, we do not consider any such claims, lawsuits or proceedings that are currently pending, including the matters described in the notes to the consolidated financial statements included in Item 8 in this Annual Report on Form 10-K, individually or in the aggregate, to be material to our business or likely to result in a material adverse effect on our future operating results, financial condition or cash flows.

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

Our common stock is traded on the NYSE under the symbol "SPCE."

Holders

As of February 15, 2023, there were 716 holders of record of our shares of common stock. The actual number of stockholders of our common stock is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares of common stock are held in street name by banks, brokers and other nominees.

Recent Sales of Unregistered Equity Securities

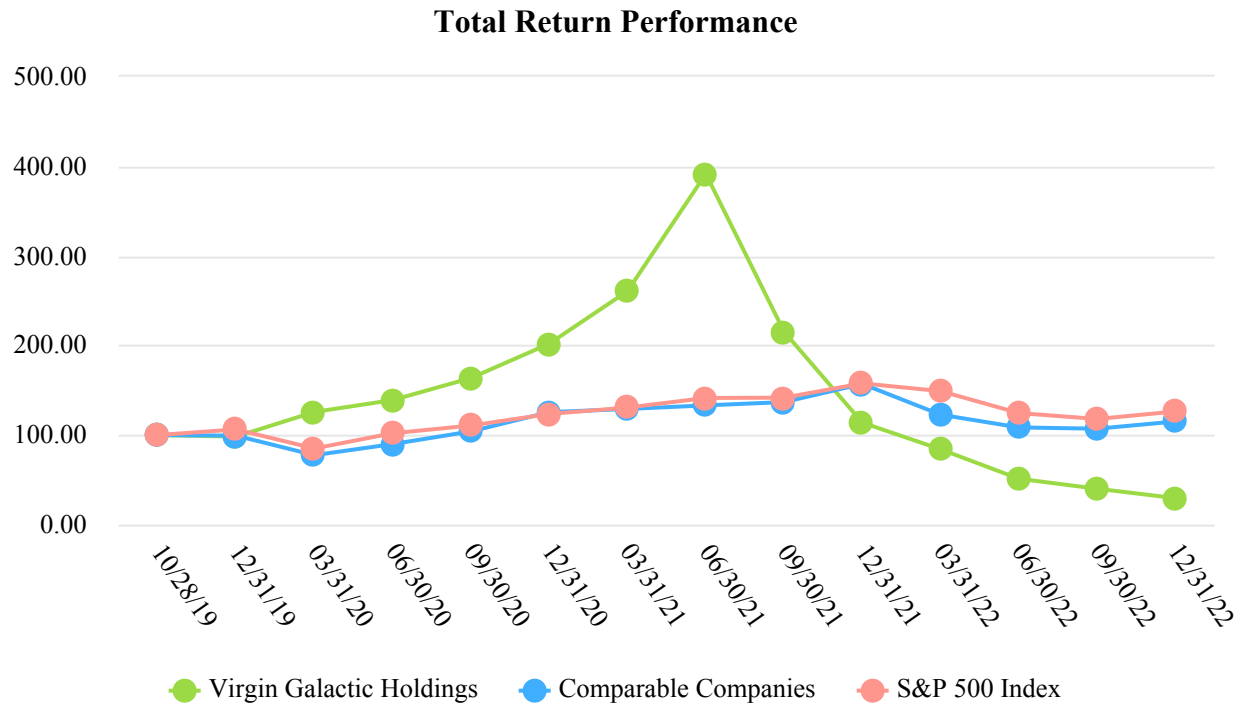
None.

Issuer Purchases of Equity Securities

None.

Stock Performance Graph

The following graph shows the total stockholder return of an investment of $100 cash on October 28, 2019 (the date our common stock began trading on the NYSE after the Virgin Galactic Business Combination) through December 31, 2022 for (1) our common stock, (2) Standard & Poor's ("S&P") 500 Index and (3) the average of comparable companies listed in the NYSE. All values assume reinvestment of the full amount of all dividends. The comparisons in the table are required by the SEC and are not intended to forecast or be indicative of possible future performance of our common stock. This graph shall not be deemed "soliciting material" or be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities under that section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.



As of December 31, 2022, the comparable companies used are comprised of the following companies: Atlas Air Worldwide Holdings, Inc., The Boeing Company, Comtech Telecommunications Corp., EchoStar Corporation, Hexcel Corporation, Iridium Communications Inc., KVH Industries Inc., L3 Harris Technologies Inc., Lockheed Martin Corp., Northrop Grumman Corp., and Tesla, Inc.

Item 6. [Reserved]

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

Unless the context otherwise requires, all references in this section to the "Company," "Virgin Galactic," "we," "us," or "our" refer to Virgin Galactic Holdings, Inc. and its subsidiaries.

You should read the following discussion and analysis of our financial condition and results of operations together with the consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements that reflect our plans, estimates, and beliefs that involve risks and uncertainties. As a result of many factors, such as those set forth under the "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements" sections and elsewhere in this Annual Report on Form 10-K, our actual results may differ materially from those anticipated in these forward-looking statements.

The following is a discussion and analysis of, and a comparison between, our results of operations for the years ended December 31, 2022 and 2021. A discussion and analysis of, and a comparison between, our results of operations for the years ended December 31, 2021 and 2020 can be found in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

Overview

We are at the vanguard of a new industry, pioneering a consumer space experience using reusable spaceflight systems. We believe the commercial exploration of space represents one of the most exciting and important technological initiatives of our time. Approximately 640 humans have ever traveled above the Earth's atmosphere into space. This industry is growing dramatically due to new products, new sources of private and government funding, and new technologies. Demand is emerging from new sectors and demographics, which we believe is broadening the total addressable market. As government space agencies have retired or reduced their capacity to send humans into space, private companies are beginning to make exciting inroads into the fields of human space exploration. We have embarked on this journey with a mission to put humans and research experiments into space and return them safely to Earth on a routine and consistent basis. We believe that opening access to space will connect the world to the wonder and awe created by space travel, offering customers a transformative experience, and providing the foundation for a myriad of exciting new industries.

We are an aerospace and space travel company offering access to space for private individuals, researchers and government agencies. Our missions include flying passengers to space as tourists, as well as flying scientific payloads and researchers to space in order to conduct experiments for scientific and educational purposes. Our operations include the design and development, manufacturing, ground and flight testing, and post-flight maintenance of our spaceflight system vehicles. Our spaceflight system is developed using our proprietary technology and processes and is focused on providing space experiences for private astronauts, researcher flights and professional astronaut training.

We intend to offer our customers a unique, multi-day experience culminating in a spaceflight that includes several minutes of weightlessness and views of Earth from space. Our elegant and distinctive spaceflight system – which takes off and lands on a runway – has been designed for optimal safety and comfort. As part of our commercial operations, we have exclusive access to the Gateway to Space facility at Spaceport America located in New Mexico. Spaceport America is the world's first purpose-built commercial spaceport and will be the site of our initial commercial spaceflight operations. We believe the site provides us with a competitive advantage as it has a desert climate with relatively predictable weather conditions preferable to support our spaceflights and it also has airspace that is restricted for surrounding general commercial air traffic which facilitates frequent and consistent flight scheduling.

Our near-term focus is to launch the commercial program for human spaceflight. In December 2018, we made history by flying our groundbreaking spaceship, VSS Unity, to space. This represented the first flight of a spaceflight system built for commercial service to take humans into space. In February 2019, we flew our second spaceflight with VSS Unity, which carried a crew member in the cabin in addition to the two pilots. After relocating our operations to Spaceport America, we have flown an additional two spaceflights in May and July of 2021. The May 2021 flight carried revenue-generating research experiments as part of NASA's Flight Opportunities Program. This was the third time Virgin Galactic had flown technology experiments in the cabin on a spaceflight. This flight also completed the data submission to the FAA resulting in the approval for the expansion of our commercial space transportation operator license to allow for the carriage of space flight participants. This marked the first time the FAA licensed a spaceline to fly customers and was further validation of the inherent safety of our system.

Our flight in July 2021 was the 22nd flight of VSS Unity, the fourth rocket powered spaceflight and the first spaceflight with a full crew of four mission specialists in the cabin, including our Founder, Sir Richard Branson.

We believe that the market for commercial human spaceflight is significant and untapped. As of December 31, 2022, we received reservations for approximately 800 spaceflight tickets and collected $103.3 million of deposits and membership fees from future astronauts. With each ticket purchased, future astronauts will experience a multi-day journey to prepare their mind and body for their upcoming flight, which includes a comprehensive spaceflight training preparation program and culminates with a trip to space on the final day. Each ticket purchased after our ticket sale reopening in 2021 also includes a membership in Virgin Galactic's Future Astronaut community. This membership provides access to events and experiences, including exclusive weeks 'at home' with Virgin Galactic Astronaut 001, Sir Richard Branson.

We have developed an extensive set of integrated aerospace development capabilities encompassing preliminary vehicle design and analysis, detail design, manufacturing, ground testing, flight testing, and maintenance of our spaceflight system. Our reusable spaceflight system consists of two primary components: our carrier aircraft, which is called the mothership, and our spaceship.

Our mothership is a twin-fuselage, custom-built aircraft designed to carry the spaceship up to an altitude of approximately 45,000 feet, where it is released for its flight into space. Using the mothership's air launch capability, rather than a standard ground-launch, reduces the energy requirements of our spaceflight system as the spaceship does not have to ascend through the higher density atmosphere closest to the Earth's surface. It is also a fully reusable part of our spaceflight system. The spaceship is a vehicle with the capacity to carry pilots and private astronauts, research experiments, and researchers that travel with their experiments for human tended research flights into space and return them safely to Earth. It is powered by a hybrid rocket propulsion system, which propels the spaceship on a trajectory into space. The hybrid rocket motor utilizes liquid oxidizer and solid fuel and is designed to be a simple, safe, reliable propulsion system for the spaceship. The spaceship's cabin has been designed to maximize the future astronaut's safety, experience and comfort. A dozen windows line the sides and ceiling of the spaceship, offering customers the ability to view the blackness of space as well as stunning views of the Earth below.

Our team is currently in various stages of designing, testing and manufacturing additional spaceships, motherships, and rocket motors in order to meet the expected demand for human spaceflight experiences. Our next generation spaceships will include the various learnings from our flight test program so we are able to design and manufacture our future spaceships to allow for greater predictability, faster turnaround time and easier maintenance. Concurrently, we are also researching and developing new products and technologies to grow our company.

Our operations also include spaceflight opportunities for research and technology development. Researchers have historically utilized parabolic aircraft and drop towers to create moments of microgravity and conduct significant research activities related to the space environment. In most cases, these solutions offer only seconds of continuous microgravity time and do not offer access to the upper atmosphere or space itself. Researchers can also conduct experiments on sounding rockets or satellites. These opportunities are expensive, infrequent and may impose highly limiting operational constraints. Our spaceflight system is intended to provide the scientific research community access to space for affordable and repeatable access to microgravity. Our suborbital platform is an end-to-end offering, which includes not only our vehicles, but also the hardware such as middeck lockers that we provide to researchers that request them, along with the processes and facilities needed for a successful campaign. The platform offers a routine, reliable and responsive service allowing for experiments to be repeated rapidly and frequently and with the opportunity to be tended in-flight by one or more researchers. This capability will enable scientific experiments as well as educational and research programs to be carried out by a broader range of individuals, organizations and institutions than ever before. Our commitment to advancing research and science has been present in all of our spaceflights to date. In May 2021, we carried payloads into space for research purposes through NASA's Flight Opportunities Program, and our flight in July 2021 included research payloads from the University of Florida.

We have also leveraged our knowledge and expertise in manufacturing spaceships to occasionally perform engineering services for third parties, such as research, design, development, manufacturing and integration of advanced technology systems.

Factors Affecting Our Performance

We believe that our performance and future success depend on a number of factors that present significant opportunities for us but also pose risks and challenges, including those discussed below and in the section of this Annual Report on Form 10-K titled "Risk Factors."

Impact of COVID-19

The COVID-19 pandemic and the protocols and procedures we implemented in response to the pandemic caused delays to our business and operations, which led to accumulated impacts to both schedule and cost efficiency and some delays in operational and maintenance activities, including delays in our test flight program. While we are no longer experiencing

delays from these measures, the long-term effects of the COVID-19 pandemic on our business remain uncertain. Measures we may need to take in the future and challenges that result from the pandemic could affect our operations necessary to complete the development of our spaceflight systems, our scheduled flight test programs and commencement of our commercial flights. If the pandemic worsens and we experience an additional delay, we may take additional actions, such as further reducing costs.

Commercial Launch of Our Human Spaceflight Program

We are the first spaceline to receive FAA approval to carry commercial customers to space. This was through an update to our existing commercial spaceflight license which we have held since 2016. We are in the final phases of developing our commercial spaceflight program. Prior to launch of commercial service, we must complete a period of planned maintenance and enhancements to the vehicles, as well as subsequent vehicle flight testing. Commercial service is currently expected to commence in the second quarter of 2023. We continuously monitor our supply chain for potential risk associated with the delivery of materials from our suppliers, which in turn could impact the schedule for completion of the enhancement period and the start of commercial service. We have identified some areas of risk for timely delivery and continue to work on mitigating these identified risks. Any delays in successful completion of our test flight program, whether due to the supply chain, the impact of COVID-19 and related macroeconomic factors or otherwise, will impact our ability to generate revenue from human spaceflight.

Customer Demand

While not yet in commercial service for human spaceflight, we have already received significant interest from potential future astronauts. Going forward, we expect the size of our backlog and the number of future astronauts that have flown to space on our spaceflight system to be an important indicator of our future performance. As of December 31, 2022, we had reservations for space flights for approximately 800 future astronauts. In August 2021, following Sir Richard Branson's successful test flight, we reopened ticket sales to a select group and increased the pricing of our consumer offerings to a base price of $450,000 per seat. In February 2022, we opened ticket sales to the general public. We are reserving our first 100 seats within our first 1,000 commercial seats sold for research and scientific experiments. As of December 31, 2022, the tickets sold represent approximately $208 million in expected future spaceflight revenue upon completion of space flights.

Available Capacity and Annual Flight Rate

We expect to commence commercial operations with a single spaceship, VSS Unity, and a single mothership carrier aircraft, VMS Eve, which together comprise our only spaceflight system. As a result, our annual flight rate will be constrained by the availability and capacity of this spaceflight system. Additionally, we may commence commercial operations while temporarily assigning one of the four passenger seats in VSS Unity to be occupied by one of our employees to gather input about the experience in order to help us create a better experience for our customers in the long-term. To reduce the capacity constraint associated with having only one spaceflight system, we are currently developing our newest spaceship, VSS Imagine. We intend to expand our fleet further with our next generation vehicles, our Delta class spaceships and our next generation motherships, which will allow us to increase our annual flight rate. We believe that expanding the fleet will allow us to increase our annual flight rate once commercialization is achieved. We are dedicating significant engineering resources to the work that precedes production of the future fleet. Simultaneously, we are focused on the launch and flight consistency of Unity and Eve to begin bringing our customers to space and to demonstrate the value of our product. Prioritizing our resources against these important efforts will likely impact the pace of work on our second spaceship, VSS Imagine, and we are reassessing its schedule for entering commercial service.

Safety Performance of Our Spaceflight Systems

Our spaceflight systems are highly specialized with sophisticated and complex technology. We have built operational processes to ensure that the design, manufacture, performance and servicing of our spaceflight systems meet rigorous quality standards. However, our spaceflight systems are still subject to operational and process risks, such as manufacturing and design issues, human errors, or cyber-attacks. Any actual or perceived safety issues may result in significant reputational harm to our business and our ability to generate human spaceflight revenue.

Component of Results of Operations

Revenue

To date, we have primarily generated revenue from fees related to our Future Astronaut community membership and Future Astronaut community event, by transporting scientific commercial research and development payloads using our

spaceflight systems and by providing engineering and scientific research services. We also have generated revenues from sponsorship arrangements.

Following the commercial launch of our human spaceflight services, we expect the significant majority of our revenue to be derived from ticket sales to fly to space and related services. We also expect that we will continue to receive a small portion of our revenue by providing services relating to the research, design, development, manufacture and integration of advanced technology systems.

Customer Experience

Customer experience expenses related to spaceflight operations include the consumption of a rocket motor and fuel and other consumables, as well as payroll and benefits for our pilots and ground crew. Customer experience expenses related to the payload cargo services, as well as engineering services, consist of materials and human capital, such as payroll and benefits, to perform these services. Additionally, customer experience expenses include costs associated with maintaining and growing our Future Astronaut community through offerings provided to community members, as well as hospitality, medical, safety, security, training, and facility costs that are for the benefit of our astronauts.

Selling, General and Administrative

Selling, general and administrative expenses consist of human capital related expenses for employees involved in general corporate functions, including executive management and administration, accounting, finance, tax, legal, information technology, marketing and commercial, and human resources; rent relating to facilities, including a portion of the lease with Spaceport America, and equipment; professional fees; and other general corporate costs. Human capital expenses primarily include salaries, cash bonuses, stock-based compensation and benefits. As we continue to grow as a company, we expect that our selling, general and administrative costs will increase on an absolute dollar basis.

Research and Development

Research and development expense represents costs incurred to support activities that advance our human spaceflight system towards commercialization, including basic research, applied research, concept formulation studies, design, development, and related testing activities. Research and development costs consist primarily of the following costs for developing our spaceflight systems:

- flight testing programs, including rocket motors, fuel, and payroll and benefits for pilots and ground crew performing test flights;
- equipment, material, and labor hours (including from third-party contractors) for developing the spaceflight system's structure, spaceflight propulsion system, and flight profiles;
- rent, maintenance, and other overhead expenses allocated to the research and development departments; and
- third-party fees to design and manufacture our next generation motherships, as well as manufacture key subassemblies for our next generation spaceships.

As of December 31, 2022, our current primary research and development objectives focus on the development of our mothership and spaceship vehicles for commercial spaceflights and developing our rocket motor, a hybrid rocket propulsion system that is used to propel our spaceship vehicles into space. The successful development of our motherships, spaceships and rocket motors involves many uncertainties, including:

- our ability to recruit and retain skilled engineering and manufacturing staff;
- timing in finalizing spaceflight systems design and specifications;
- successful completion of flight test programs, including flight safety tests;
- our ability to obtain additional applicable approvals, licenses or certifications from regulatory agencies, if required, and maintaining current approvals, licenses or certifications;

- performance of our manufacturing facilities despite risks that disrupt productions, such as natural disasters and hazardous materials;
- performance of a limited number of suppliers for certain raw materials and components;
- performance of our third-party contractors that support our manufacturing and research and development activities including the quality of components and subassemblies;
- our ability to maintain rights from third parties for intellectual properties critical to research and development activities;
- continued access to launch sites and airspace;
- our ability to continue funding and maintain our current research and development activities; and
- the impact of the global COVID-19 pandemic.

A change in the outcome of any of these variables could delay the development of our motherships, spaceships, or rocket motors, which in turn could impact when we are able to commence our human spaceflights.

As we are currently still in our final development and testing stage of our spaceflight system, we have expensed all research and development costs associated with developing and building our spaceflight system. We expect that our research and development expenses will decrease once technological feasibility is reached for our spaceflight systems as the costs incurred to manufacture additional spaceship vehicles, built by leveraging the invested research and development, will no longer qualify as research and development activities.

Interest Income

Interest income primarily includes interest earned on our cash, cash equivalents and marketable securities.

Interest Expense

Interest expense consists of amortization of debt issuance costs and interest expense for our 2027 Notes, as well as interest expense related to our finance lease obligations.

Change in Fair Value of Warrants

Change in fair value of warrants reflects the non-cash change in the fair value of warrants. Certain warrants issued as part of the Company's initial public offering in 2017 and assumed upon the consummation of the Virgin Galactic business combination in October 2019 (the "Business Combination") were recorded at their fair value on the date of the Business Combination and are remeasured at the end of each reporting period and no warrants were outstanding as of each of December 31, 2022 and 2021.

Other Income, net

Other income, net consists of miscellaneous non-operating items, such as gains and losses on marketable securities and handling fees related to customer refunds.

Income Tax Provision

We are subject to income taxes in the United States and the United Kingdom. Our income tax provision consists of an estimate of federal, state, and foreign income taxes based on enacted federal, state, and foreign tax rates, as adjusted for allowable credits, deductions, uncertain tax positions, changes in the valuation of our deferred tax assets and liabilities, and changes in tax laws.

Results of Operations

The following tables set forth our results of operations for the periods presented. The period-to-period comparisons of financial results is not necessarily indicative of future results.

	Year Ended December 31,		
	2022	2021	2020
	(In thousands)		
Revenue	$ 2,312	$ 3,292	$ 238
Operating expenses:			
Customer experience	1,906	272	173
Selling, general and administrative	175,118	166,814	111,203
Research and development	314,174	144,223	154,365
Depreciation and amortization	11,098	11,518	9,781
Total operating expenses	502,296	322,827	275,522
Operating loss	(499,984)	(319,535)	(275,284)
Interest income	12,502	1,208	2,277
Interest expense	(12,130)	(25)	(36)
Change in fair value of warrants	—	(34,650)	(371,852)
Other income, net	58	182	14
Loss before income taxes	(499,554)	(352,820)	(644,881)
Income tax expense	598	79	6
Net loss	$ (500,152)	$ (352,899)	$ (644,887)

Comparison of Results of Operations for Year Ended December 31, 2022 to Year Ended December 31, 2021

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Revenue	$ 2,312	$ 3,292	$ (980)	(29.8)%

Revenue decreased by $1.0 million, or 29.8%, to $2.3 million for the year ended December 31, 2022 from $3.3 million for the year ended December 31, 2021. Revenue recorded for the year ended December 31, 2022 was primarily attributable to membership fees related to our Future Astronaut community, fees related to our Future Astronaut community event, and scientific research services under government contracts. Revenue recorded for the year ended December 31, 2021 was primarily attributable to sponsorship revenue and revenue earned under government contracts from progress on the completion of certain technical milestones related to payload services. In addition, we recognized revenue related to the performance of our spaceflights in May and July 2021.

Customer Experience

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Customer experience	$ 1,906	$ 272	$ 1,634	n.m

We recorded $1.9 million and $0.3 million of customer experience costs for the years ended December 31, 2022 and December 31, 2021, respectively. Customer experience costs for the year ended December 31, 2022 were primarily attributable

to costs related to our Future Astronaut community event, other costs to maintain our Future Astronaut community, labor costs provided for scientific research services, and incremental costs related to payload services. Customer experience costs for the year ended December 31, 2021 were primarily attributable to the incremental costs related to the completion of payload services, labor costs provided for engineering services under long-term U.S. government contracts, and agent fees related to sponsorship revenue.

Selling, General and Administrative

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Selling, general and administrative	$ 175,118	$ 166,814	$ 8,304	5.0 %

Selling, general and administrative expenses increased by $8.3 million, or 5.0%, to $175.1 million for the year ended December 31, 2022 from $166.8 million for the year ended December 31, 2021. This increase was primarily due to a $18.8 million increase in salary, bonus and other employee benefits, a $7.0 million increase in consulting, legal and other professional costs, a $2.3 million increase in software licensing costs, and a $1.9 million increase in contract and subcontract labor. These increases were partially offset by a $14.2 million decrease in stock-based compensation and a $7.4 million decrease in marketing and advertising related expenses attributable to our spaceflights in May and July 2021.

Research and Development

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Research and development	$ 314,174	$ 144,223	$ 169,951	117.8 %

Research and development expenses increased by $170.0 million, or 117.8%, to $314.2 million for the year ended December 31, 2022 from $144.2 million for the year ended December 31, 2021. This increase was primarily due to costs associated with developing our spaceflight system, specifically a $138.8 million increase in material costs, contract and subcontract labor, and technical consulting costs and a $23.2 million increase in salaries, bonus, and other employee benefits. In addition, there was a $5.4 million increase in facilities costs.

Depreciation and Amortization

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Depreciation and amortization	$ 11,098	$ 11,518	$ (420)	(3.6)%

Depreciation and amortization expense decreased from $11.5 million for the year ended December 31, 2021 to $11.1 million for the year ended December 31, 2022, a decrease of $0.4 million when compared to 2021.

Interest Income

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Interest income	$ 12,502	$ 1,208	$ 11,294	n.m

Interest income increased by $11.3 million to $12.5 million for the year ended December 31, 2022 from $1.2 million for the year ended December 31, 2021. This increase was primarily driven by higher interest rates on marketable securities and a full year of our investment program in 2022 compared to a partial year in 2021.

Interest Expense

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Interest expense	$ (12,130)	$ (25)	$ (12,105)	n.m.

Interest expense increased to $(12.1) million for the year ended December 31, 2022. This increase was primarily driven by interest expense and amortization of debt issuance costs related to our January 2022 senior convertible notes.

Change in the Fair Value of Warrants

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Change in fair value of warrants	$ —	$ (34,650)	$ 34,650	(100.0)%

Change in fair value of warrants reflects the non-cash change in the fair value of warrants. No warrants were outstanding during the year ended December 31, 2022.

Other Income, net

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Other income, net	$ 58	$ 182	$ (124)	n.m.

Other income, net decreased from $0.2 million for the year ended December 31, 2021 to less than $0.1 million for the year ended December 31, 2022, a decrease of $0.1 million when compared to 2021.

Income Tax Expense

	Year Ended December 31,		$	%
	2022	2021	Change	Change
	(In thousands, except %)			
Income tax expense	$ 598	$ 79	$ 519	n.m.

Income tax expense increased from $0.1 million for the year ended December 31, 2021 to $0.6 million for the year ended December 31, 2022. As we have not yet started commercial operations we have accumulated net operating losses at the U.S. federal and state levels, and we maintain a valuation allowance against a substantial portion of our U.S. federal and state deferred tax assets. The change in income tax expense shown above is primarily related to corporate income taxes for our operations in the United Kingdom, which operates on a cost-plus arrangement.

Liquidity and Capital Resources

As of December 31, 2022, we had cash, cash equivalents and restricted cash of $342.6 million and $637.1 million in marketable securities. Our principal sources of liquidity have come from our sales of our common stock and offering of convertible senior notes ("2027 Notes"). We believe our cash and cash equivalents on hand at December 31, 2022, and management's operating plan, will provide sufficient liquidity to fund our operations for at least the next twelve months from the issuance of the consolidated financial statements included in this Annual Report on Form 10-K.

Historical Cash Flows

	Year Ended December 31,	
	2022	2021
	(In thousands)	
Net cash provided by (used in):		
Operating activities	$ (380,241)	$ (230,763)
Investing activities	(286,165)	(387,519)
Financing activities	459,003	489,357
Net decrease in cash, cash equivalents and restricted cash	$ (207,403)	$ (128,925)

Operating Activities

Net cash used in operating activities was $380.2 million for the year ended December 31, 2022, and consisted primarily of $500.2 million of net losses, adjusted for non-cash items, which primarily included stock-based compensation expense of $45.7 million, depreciation and amortization expense of $11.1 million, amortization of debt issuance costs of $2.0 million, other non-cash items of $10.8 million, as well as a $50.3 million of cash provided from changes in working capital.

Net cash used in operating activities was $230.8 million for the year ended December 31, 2021, and consisted primarily of $352.9 million of net losses, adjusted for non-cash items, which primarily included stock-based compensation expense of $61.8 million, depreciation and amortization expense of $11.5 million, and change in fair value of warrants of $34.7 million, as well as a $14.2 million of cash provided from changes in working capital.

Investing Activities

Net cash used in investing activities was $286.2 million for the year ended December 31, 2022, and consisted primarily of $704.6 million in purchases of marketable securities and $16.5 million in purchases of capital expenditures, partially offset by $434.9 million in proceeds from maturities and calls of marketable securities.

Net cash used in investing activities was $387.5 million for the year ended December 31, 2021, and consisted primarily of $382.9 million in purchases of marketable securities and $4.6 million in purchases of capital expenditures.

Financing Activities

Net cash provided by financing activities was $459.0 million for the year ended December 31, 2022, and consisted primarily of the issuance of the 2027 Notes for net proceeds of $413.7 million and proceeds from the sale and issuance of common stock of $103.3 million, partially offset by the purchase of the 2027 Capped Calls of $52.3 million, tax withholdings paid for net settled stock-based awards of $4.0 million and transaction costs incurred for the issuance of common stock of $1.2 million.

Net cash provided by financing activities was $489.4 million for the year ended December 31, 2021, and consisted primarily of $500.0 million cash proceeds from the sale and issuance of common stock and $20.0 million in cash received from the issuance of common stock pursuant to stock options exercised, partially offset by tax withholdings paid for net settled stock-based awards of $23.4 million and transaction costs incurred for the issuance of common stock of $6.8 million.

Contractual Obligations

We lease certain facilities and data centers under non-cancellable operating lease arrangements that expire at various dates through 2065. As of December 31, 2022, future minimum payments under noncancellable operating leases was $110.9 million. For additional information regarding our lease obligations, see Note 16 in our consolidated financial statements included in Item 8 of this Annual Report in Form 10-K.

Funding Requirements

We expect our expenses to increase substantially in connection with our ongoing activities, particularly as we continue to advance the development of our spaceflight system and the commercialization of our human spaceflight operations. In addition, we expect customer experience expenses to increase significantly as we commence commercial operations and add additional spaceships to our operating fleet.

Specifically, our operating expenses will increase as we:

- scale up our manufacturing processes and capabilities to support expanding our fleet with additional spaceships, carrier aircraft and rocket motors upon commercialization;
- pursue further research and development on our future human spaceflights, including those related to our research and education efforts on point-to-point travel;
- hire additional personnel in research and development, manufacturing operations, testing programs, maintenance operations and guest services as we increase the volume of our spaceflights upon commercialization;
- seek regulatory approval for any changes, upgrades or improvements to our spaceflight technologies and operations in the future, especially upon commercialization;
- maintain, expand and protect our intellectual property portfolio;
- establish our astronaut campus in New Mexico; and
- hire additional personnel in management to support the expansion of our operational, financial, information technology, and other areas to support our operations as a public company.

In some cases, we expect our arrangements with third-party providers, including under our Master Agreements with Aurora Flight Sciences Corporation (“Aurora"), a wholly owned subsidiary of The Boeing Company, for the design and manufacture of our next generation of carrier aircraft and Bell Textron Inc. ("Bell") and Qarbon Aerospace ("Qarbon") to manufacture key subassemblies for our next generation spaceships, will require significant capital expenditures from us, but such amounts are subject to future negotiations and cannot be estimated with reasonable certainty. Although we believe that our current capital is adequate to sustain our operations for at least the next twelve months, changing circumstances may cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more money than currently expected because of circumstances beyond our control. Additionally, we are in the final phases of developing our commercial spaceflight program. While we anticipate initial commercial launch with a single spaceship, we currently have additional spaceship vehicles under construction. We anticipate the costs to manufacture additional vehicles will begin to decrease as we continue to scale up our manufacturing processes and capabilities. Until we achieve technological feasibility with our spaceflight systems, we will not capitalize expenditures incurred to construct any additional components of our spaceflight systems and we will continue to expense these costs as incurred to research and development.

Issuances of Common Stock

On July 12, 2021, we entered into a distribution agency agreement with Credit Suisse Securities (USA) LLC, Morgan Stanley & Co. LLC and Goldman Sachs & Co. LLC (each, an “Agent” and collectively, the “Agents”) providing for the offer and sale of up to $500.0 million of shares of our common stock, par value $0.0001 per share, through an "at the market offering" program ("ATM"), from time to time by us through the Agents, acting as our sales agents, or directly to one or more of the Agents, acting as principal (the “2021 ATM program”).

We completed available offerings under the 2021 ATM program on July 16, 2021, generating $500.0 million in gross proceeds through the sale of 13,740,433 shares of our common stock, before deducting $6.2 million in underwriting discounts, commissions and other expenses payable by us.

On August 4, 2022, we entered into a distribution agency agreement with Credit Suisse Securities (USA) LLC, Morgan Stanley & Co. LLC and Goldman Sachs & Co. LLC providing for the offer and sale of up to $300.0 million of shares of our common stock, par value $0.0001 per share, through an ATM (the "2022 ATM program").

As of December 31, 2022, we sold a total of 16,265,700 shares of our common stock under the 2022 ATM program, generating $103.3 million in gross proceeds, before deducting $1.2 million in underwriting discounts, commissions and other expenses payable by us.

Short-term Liquidity and Capital Resources

For at least the next twelve months, we expect our principal demand for funds will be for our ongoing activities described above. We expect to meet our short-term liquidity requirements primarily through our cash, cash equivalents and marketable securities on hand. We believe we will have sufficient liquidity available to fund our business needs, commitments and contractual obligations for the next twelve months.

Long-term Liquidity and Capital Resources

Beyond the next twelve months, our principal demand for funds will be to sustain our operations, including the construction of additional motherships under an agreement with a third-party contractor, and spaceship vehicles, construction of our astronaut campus, expansion of the New Mexico Spaceport, and for the payment of the principal amount of our convertible senior notes as it becomes due. We expect to begin generating revenue from our human spaceflight program, which is expected to launch in the second quarter of 2023. To the extent this source of capital as well as the sources of capital described above are insufficient to meet our needs, we will also conduct additional offerings of our securities or may refinance debt. We expect these resources will be adequate to fund our ongoing operating activities.

The commercial launch of our human spaceflight program and the anticipated expansion of our fleet have unpredictable costs and are subject to significant risks, uncertainties and contingencies, many of which are beyond our control, that may affect the timing and magnitude of these anticipated expenditures. Some of these risk and uncertainties are described in more detail in this Annual Report on Form 10-K under the heading Item 1A. "*Risk Factors—Risks Related to Our Business*."

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of our consolidated financial statements and related disclosures requires us to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. We believe that the estimates, assumptions and judgments involved in the accounting policies described below have the greatest potential impact on our consolidated financial statements and, therefore, we consider these to be our critical accounting policies. Accordingly, we evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions and conditions. Please refer to Note 2 in our consolidated financial statements included in Item 8 of this Annual Report on Form 10-K for information about these critical accounting policies, as well as a description of our other significant accounting policies.

Revenue Recognition

We recognize revenue when control of the promised service is transferred to our customers in an amount that reflects the consideration we expect to receive based on the contracted amount for those services. We determine revenue recognition by first identifying the contract or contracts with a customer, identifying the performance obligations in the contract, determining the transaction price, allocating the transaction price to the performance obligations in the contract, and recognizing revenue when, or as, we satisfy a performance obligation. Our contracts generally include spaceflight operations, Future Astronaut community services, and other revenue and engineering services.

Inventories

Inventories consist of raw materials expected to be used for the development of the human spaceflight program and customer-specific contracts. Inventories are stated at the lower of cost or net realizable value. At the end of each reporting period, we evaluate whether the utility of our inventories have diminished through damage, deterioration, obsolescence, changes in price or other causes, and if so, a loss is recognized in the period in which it occurs. We determine the costs of other product and supply inventories by using the first-in, first-out or average cost methods. Our status of pre-technological feasibility means that material issued from inventory into production of our vehicles, labor charges and overhead charges are charged to research and development expense.

Research and Development

We conduct research and development activities to develop existing and future technologies that advance our spaceflight system towards commercialization. Research and development activities include basic research, applied research, concept formulation studies, design, development, and related test program activities. Costs incurred for developing our spaceflight system and flight profiles primarily include equipment, material, and labor hours. Costs incurred for performing test flights primarily include rocket motors, fuel, and payroll and benefits for pilots and ground crew. Research and development costs also include rent, maintenance, and depreciation of facilities and equipment and other allocated overhead expenses. We expense all research and development costs as incurred. Once we have achieved technological feasibility, we will capitalize the costs to construct any additional components of our spaceflight systems.

Income Taxes

We record income tax expense for the anticipated tax consequences of the reported results of operations using the asset and liability method. Under this method, we recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial reporting and tax basis of assets and liabilities, as well as for operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using the tax rates that are expected to apply to taxable income for the years in which those tax assets and liabilities are expected to be realized or settled. We record valuation allowances to reduce our deferred tax assets to the net amount that we believe is more likely than not to be realized. Our assessment considers the recognition of deferred tax assets on a jurisdictional basis. Accordingly, in assessing our future taxable income on a jurisdictional basis, we consider the effect of our transfer pricing policies on that income.

We recognize tax benefits from uncertain tax positions only if we believe that it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. As we grow, we will face increased complexity in determining the appropriate tax jurisdictions for revenue and expense items. We adjust these reserves when facts and circumstances change, such as the closing of a tax audit or refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the income tax expense in the period in which such determination is made and could have a material impact on our financial condition and operating results. The income tax expense includes the effects of any accruals that we believe are appropriate, as well as the related net interest and penalties.

We have not yet started commercial operations, and as such, we are accumulating net operating losses at the federal and state levels. Income taxes included in the consolidated financial statements are primarily related to corporate income taxes for our operations in the United Kingdom, which operates on a cost-plus arrangement.

Stock-Based Compensation

We have granted stock-based awards consisting of restricted stock units ("RSUs"), performance-based stock units ("PSUs"), performance-based stock options ("PSOs"), and service-based stock options. Our outstanding RSUs and stock options contain a service-based vesting condition. The service-based vesting condition for the majority of these awards is satisfied over four years. Our outstanding PSUs contain a service-based vesting condition, as well as a market-based vesting condition that is satisfied based on the Company's common stock performance following the end of the three-year performance measurement period based on the highest closing price over twenty consecutive trading days during the performance measurement period. Our outstanding PSOs contain a market-based vesting condition that is satisfied based on the attainment of certain stock price goals.

We recognize all stock-based awards to employees and directors as stock-based compensation expense based upon their fair values on the date of grant. Compensation expense is recognized over the requisite service periods. We account for forfeitures when they occur.

We have estimated the fair value for each service-based stock option award as of the date of grant using the Black-Scholes option pricing model. The Black-Scholes option pricing model considers, among other factors, the expected life of the award and the expected volatility of our stock price. We have estimated the fair value for each PSO and PSU award with market-based conditions as of the grant date using the Monte-Carlo simulation method. The Monte-Carlo simulation method considers, among other factors, the discount rates and future market conditions.

In connection with the Business Combination, our board of directors and stockholders adopted the 2019 Incentive Award Plan (the "2019 Plan"). Pursuant to the 2019 Plan, up to 21,208,755 shares of common stock have been reserved for issuance to employees, directors and other service providers. Please refer to Notes 2 and 14 in our consolidated financial statements included in Item 8 of this Annual Report on Form 10-K for further information regarding stock-based compensation.

Warrant Liability

We account for the public and private placement warrants issued in connection with our initial public offering in accordance with Accounting Standards Codification ("ASC") 815-40, "Derivatives and Hedging—Contracts in Entity's Own Equity" ("ASC 815"), under which the warrants do not meet the criteria for equity classification and must be recorded as liabilities. As the warrants meet the definition of a derivative as contemplated in ASC 815, the warrants are measured at fair value at inception and at each reporting date in accordance with ASC 820, "Fair Value Measurement," with changes in fair value recognized as a component of non-operating income (expense) on the consolidated statements of operations and comprehensive loss.

Recent Accounting Pronouncements

Please refer to Note 3 in our consolidated financial statements included in Item 8 of this Annual Report on Form 10-K for a description of recently adopted accounting pronouncements and recently issued accounting pronouncements not yet adopted as of the date of this Annual Report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We have operations within the United States and the United Kingdom and, as such, we are exposed to market risks in the ordinary course of our business, including the effects of interest rate changes and fluctuations in foreign currency exchange rates. We are also exposed to market risk from changes in our stock prices, which impact the fair value of our 2027 Notes. Information relating to quantitative and qualitative disclosures about these market risks is set forth below.

Interest Rate Risk

We had cash, cash equivalents and marketable securities totaling $1.0 billion as of December 31, 2022, of which $928.1 million was invested in money market funds, certificate of deposits, U.S. treasury securities, and corporate debt securities. Our cash and cash equivalents are held for working capital purposes and to enable us to earn low-risk returns on our investments. Our investment in marketable securities are made for capital preservation purposes. We do not enter into investments for trading or speculative purposes.

Our cash equivalents and our investment portfolio are subject to market risk due to changes in interest rates. Fixed rate securities may have their market value adversely affected due to a rise in interest rates. Due in part to these factors, our future investment income may fall short of our expectations due to changes in interest rates or we may suffer losses in principal if we are forced to sell securities that decline in market value due to changes in interest rates. However, because we classify our marketable securities as "available for sale," no gains are recognized due to changes in interest rates. As losses due to changes in interest rates are generally not considered to be credit-related changes, no losses in such securities are recognized due to changes in interest rates unless we intend to sell, it is more likely than not that we will be required to sell, we sell prior to maturity or we otherwise determine that all or a portion of the decline in fair value are due to credit related factors.

In January 2022, we issued the 2027 Notes in an aggregate principal amount of $425.0 million. Concurrently with the issuance of the 2027 Notes, we entered into separate capped call transactions. The 2027 Capped Calls were completed to reduce the potential dilution from the conversion of the 2027 Notes. The 2027 Notes have a fixed annual interest rate of 2.50%. Accordingly, we do not have economic interest rate exposure on the 2027 Notes. However, changes in market interest rates impact the fair value of the 2027 Notes. In addition, the fair value of the 2027 Notes fluctuates when the market price of our common stock fluctuates. The fair value is determined based on the quoted bid price of the 2027 Notes in an over-the-counter market on the last trading day of the reporting period.

As of December 31, 2022, a hypothetical 100 basis point change in interest rates would not have had a material impact on the value of our cash equivalents or investment portfolio.

Foreign Currency Risk

The functional currency of our operations in the United Kingdom is the local currency. We translate the financial statements of the operations in the United Kingdom to United States Dollars and as such we are exposed to foreign currency risk. Currently, we do not use foreign currency forward contracts to manage exchange rate risk, as the amount subject to foreign currency risk is not material to our overall operations and results.

Item 8. Financial Statements and Supplementary Data

The financial statements required by this Item are included in Item 15 of this report and are presented beginning on page F-1 and are incorporated herein by reference.

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

None.

Item 9A. Controls and Procedures

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K. Based on this evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that, as of December 31, 2022, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Report on Internal Controls Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based upon criteria established in Internal Control – Integrated Framework (2013) by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management concluded that our internal control over financial reporting was effective as of December 31, 2022.

KPMG LLP, an independent registered public accounting firm, has audited the consolidated financial statements included in the Annual Report on Form 10-K and, as part of their audit, has issued their report, included herein, on the effectiveness of our internal control over financial reporting.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting 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.

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

Part III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item will be included in an amendment to this Annual Report on Form 10-K or incorporated by reference from our Proxy Statement for our Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the year ended December 31, 2022.

Item 11. Executive Compensation

The information required by this item will be included in an amendment to this Annual Report on Form 10-K or incorporated by reference from our Proxy Statement for our Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the year ended December 31, 2022.

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

The information required by this item will be included in an amendment to this Annual Report on Form 10-K or incorporated by reference from our Proxy Statement for our Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the year ended December 31, 2022.

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

The information required by this item will be included in an amendment to this Annual Report on Form 10-K or incorporated by reference from our Proxy Statement for our Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the year ended December 31, 2022.

Item 14. Principal Accountant Fees and Services

Our independent registered public accounting firm is KPMG LLP, Los Angeles, CA, Auditor Firm ID: 185

The information required by this item will be included in an amendment to this Annual Report on Form 10-K or incorporated by reference from our Proxy Statement for our Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the year ended December 31, 2022.

Part IV

Item 15. Exhibits and Financial Statement Schedules

The following documents are filed as part of this report:

(1) Financial Statements. Reference is made to the Index to Consolidated Financial Statements beginning on Page F-1 hereof.

(2) Financial Statement Schedules. None.

(3) Exhibits. The following exhibits are filed, furnished or incorporated by reference as part of this Annual Report on Form 10-K.

		Incorporated by Reference				
Exhibit No.	Exhibit Description	Form	File No.	Exhibit	Filing Date	Filed/Furnished Herewith
3.1	Certificate of Incorporation of the Registrant	8-K	001-38202	3.1	10/29/2019	
3.2	By-Laws of the Registrant	8-K	001-38202	3.2	10/29/2019	
4.1	Specimen Common Stock Certificate of the Registrant	8-K	001-38202	4.2	10/29/2019	
4.2	Description of the Registrant's Securities Registered under Section 12 of the Exchange Act	10-K	001-38202	4.2	2/28/2022	
4.3	Indenture, dated as of January 19, 2022 between the Registrant and U.S. Bank National Association, as trustee	8-K	001-38202	4.1	1/20/2022	
4.4	Form of certificate representing the 2.50% Convertible Senior Notes due 2027 (included as Exhibit A to Exhibit 4.3)	8-K	001-38202	4.2	1/20/2022	
10.1	Form of Indemnification Agreement	S-4/A	333-233098	10.46	10/03/2019	
10.2[(1)]	2019 Incentive Award Plan	8-K	001-38202	10.2	10/29/2019	
10.2(a)[(1)]	Form of Director Restricted Stock Unit Award Agreement	S-4	333-233098	10.26	08/07/2019	
10.2(b)[(1)]	Form of Restricted Stock Unit Agreement under the 2019 Incentive Award Plan	8-K	001-38202	10.2(b)	10/29/2019	
10.2(c)[(1)]	Form of Stock Option Agreement under the 2019 Incentive Award Plan	8-K	001-38202	10.2(c)	10/29/2019	
10.2(d)[(1)]	Form of Director Restricted Stock Unit Award (Annual Award)	10-Q	001-38202	10.4	5/11/2021	
10.3[(1)]	Amended Non-Employee Director Compensation Program	10-K	001-38202	10.3	3/01/2021	
10.4[(1)]	Non-Employee Director Compensation Program	10-Q	001-38202	10.2	5/11/2021	
10.5[(1)(3)]	Employment Agreement, dated October 25, 2019, by and among the Registrant, Virgin Galactic, LLC and Michael Moses	8-K	001-38202	10.5	10/29/2019	
10.6[(1)(3)]	Employment Agreement, dated July 10, 2020, by and between the Registrant, Virgin Galactic, LLC and Michael Colglazier, Form of Restricted Stock Unit Award Agreement with Michael Colglazier and Form of Stock Option Award Agreement with Michael Colglazier	8-K	001-38202	10.1	07/15/2020	
10.7[(1)(3)]	Employment Agreement, dated December 2, 2019, by and among the Registrant, Virgin Galactic Holdings, LLC and Michelle Kley	10-K	001-38202	10.10	03/01/2021	
10.8[(1)(3)]	Agreement and General Release, dated August 30, 2022, by and between the Registrant and Michelle Kley	10-Q	001-38202	10.4	11/3/2022	
10.9[(1)(3)]	Employment Agreement, dated February 22, 2021, by and among the Registrant, Galactic Co., LLC and Doug Ahrens	10-K	001-38202	10.11	03/01/2021	
10.10[(1)(3)]	Employment Agreement, dated October 24, 2022, by and among the Registrant, Galactic Co., LLC and Sarah Kim					*

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed/Furnished Herewith
		Form	File No.	Exhibit	Filing Date	
10.11[(1)(3)]	Offer Letter from Virgin Galactic, LLC, dated October 6, 2020, to Alistair Burns					*
10.12[(1)(3)]	Employment Agreement, dated September 11, 2021, by and among the Registrant, Galactic Co., LLC and Aparna Chitale					*
10.13[(1)(3)]	Employment Agreement, dated February 22, 2021, by and between Galactic Co., LLC and Swami Iyer					*
10.13(a)[(1)]	Transition and Separation Agreement, dated January 11, 2023, by and between Galactic Co., LLC and Swami Iyer					*
10.14	Stockholders' Agreement, dated October 25, 2019, by and among the Registrant, SCH Sponsor Corp., Chamath Palihapitiya and Vieco USA, Inc.	8-K	001-38202	10.9	10/29/2019	
10.14(a)	Joinder to Stockholders' Agreement, dated March 16, 2020, by and between Vieco 10 Limited and the Registrant	S-1	333-237961	10.9(a)	05/01/2020	
10.14(b)	Joinder to Stockholders' Agreement, dated July 30, 2020, by and among Virgin Investments Limited, Aabar Space, Inc. and the Registrant	8-K	001-38202	99.1	07/31/2020	
10.15	Amended and Restated Registration Rights Agreement, dated October 25, 2019, by and among the Registrant, Vieco USA, Inc., SCH Sponsor Corp. and Chamath	8-K	001-38202	10.10	10/29/2019	
10.15(a)	Joinder to Amended and Restated Registration Rights Agreement, dated March 16, 2020, by and between Vieco 10 Limited and the Registrant	S-1	333-237961	10.10(a)	05/01/2020	
10.15(b)	Joinder to Amended and Restated Registration Rights Agreement, dated July 30, 2020, by and among Virgin Investments Limited, Aabar Space, Inc. and the	8-K	001-38202	99.2	07/31/2020	
10.16[(2)]	Deed of Novation, Amendment and Restatement, dated July 9, 2019, by and among the Registrant, Virgin Enterprises Limited and Virgin Galactic, LLC	S-4	333-233098	10.20	08/07/2019	
10.16(a)[(2)]	Deed of Amendment, dated October 2, 2019, by and among the Registrant, Virgin Enterprises Limited and Virgin Galactic, LLC	S-4	333-233098	10.21(a)	10/03/2019	
10.17[(2)]	Spacecraft Technology License Agreement, dated September 24, 2004, by and between Mojave Aerospace Ventures, LLC and Virgin Galactic, LLC	S-4	333-233098	10.27	08/07/2019	
10.17(a)[(2)]	Amendment No. 1 to the Spacecraft Technology License Agreement, dated July 27, 2009, by and between Mojave Aerospace Ventures, LLC and Virgin Galactic, LLC	S-4	333-233098	10.28	08/07/2019	
10.18	Facilities Lease, dated December 31, 2008, by and between Virgin Galactic, LLC and New Mexico Spaceport Authority	S-4	333-233098	10.29	08/07/2019	
10.18(a)	First Amendment to the Facilities Lease, dated 2009, by and between Virgin Galactic, LLC and New Mexico Spaceport Authority	S-4	333-233098	10.30	08/07/2019	
10.18(b)	Letter Agreement to Amend Facilities Lease, dated December 21, 2018, by and between Virgin Galactic, LLC and New Mexico Spaceport Authority	10-Q	001-38202	10.5	5/11/2021	
10.19	Building 79A Lease Agreement, dated January 1, 2018, by and between Mojave Air and Space Port and TSC, LLC	S-4	333-233098	10.32	09/13/2019	
10.20	Land Lease Agreement, dated October 1, 2010, by and between East Kern Airport District and TSC, LLC	S-4	333-233098	10.33	09/13/2019	

		Incorporated by Reference				
Exhibit No.	Exhibit Description	Form	File No.	Exhibit	Filing Date	Filed/Furnished Herewith
10.20(a)	Amendment No. 1 to the Land Lease Agreement, dated October 1, 2013, by and between Mojave Air and Space Sport and TSC, LLC	S-4	333-233098	10.34	09/13/2019	
10.21	Site 14 Lease Agreement, dated February 18, 2015, by and between Mojave Air and Space Sport and TSC, LLC	S-4	333-233098	10.35	09/13/2019	
10.21(a)	First Amendment to the Site 14 Lease Agreement, dated July 1, 2017, by and between Mojave Air and Space Sport and TSC, LLC	S-4	333-233098	10.36	09/13/2019	
10.22	Building 79B Lease Agreement, dated March 1, 2013, by and between Mojave Air and Space Port and TSC, LLC	S-4	333-233098	10.37	10/03/2019	
10.22(a)	First Amendment to Building 79B Lease, dated June 2, 2014, by and between Mojave Air and Space Port and TSC, LLC	S-4	333-233098	10.38	10/03/2019	
10.23	Form of Confirmation of a Capped Call Transaction	8-K	001-38202	10.1	1/20/2022	
10.24[(2)(3)]	Master Agreement, dated July 5, 2022, by and between the Registrant and Aurora Flight Sciences Corporation	10-Q	001-38202	10.1	8/4/2022	
10.25[(2)(3)]	Standard Industrial/Commercial Multi-Tenant Sublease - Net, dated July 14, 2022, by and between the Registrant and Gateway Executive Airpark, LLC	10-Q	001-38202	10.2	11/3/2022	
10.25(a)[(2)(3)]	First Amended and Restated Standard Industrial/ Commercial Multi-Tenant Sublease - Net, dated July 14, 2022, by and between the Registrant and Gateway Executive Airpark, LLC	10-Q	001-38202	10.3	11/3/2022	
10.26	Distribution Agency Agreement, dated August 4, 2022, by and among the Registrant, Credit Suisse Securities (USA) LLC, Morgan Stanley & Co. LLC and Goldman Sachs & Co. LLC (including the form of Terms Agreement)	8-K	001-38202	1.1	8/4/2022	
10.27[(2)]	Master Agreement, dated October 28, 2022, by and between Virgin Galactic, LLC and Qarbon Aerospace (Foundation), LLC					*
10.28[(2)]	Master Agreement, dated November 1, 2022, by and between Virgin Galactic, LLC and Bell Textron Inc.					*
21.1	List of Subsidiaries					*
23.1	Consent of KPMG LLP					*
24.1	Powers of Attorney (incorporated by reference to the signature page hereto)					*
31.1	Certification of Principal Executive Officer Pursuant to Securities Exchange Act Rules 13a-14(a) and 15(d)-14(a), as adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					*
31.2	Certification of Principal Financial Officer Pursuant to Securities Exchange Act Rules 13a-14(a) and 15(d)-14(a), as adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					*
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					**
32.2	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					**
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document					*

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed/Furnished Herewith
		Form	File No.	Exhibit	Filing Date	
101.SCH	Inline XBRL Taxonomy Extension Schema Document					*
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					*
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					*
101.LAB	Inline XBRL Taxonomy Extension Labels Linkbase					*
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					*
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)					*

* Filed herewith.

** Furnished herewith.

(1) Indicates management contract or compensatory plan.

(2) Certain portions of this exhibit (indicated by "[***]") have been omitted pursuant to Regulation S-K, Item (601)(b)(10).

(3) Schedules and exhibits have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Registrant agrees to furnish supplementally a copy of any omitted schedule or exhibit to the SEC upon request.

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.

Virgin Galactic Holdings, Inc.

Date: February 28, 2023

By: /s/ Michael Colglazier

Name: Michael Colglazier

Title: Chief Executive Officer and President
(Principal Executive Officer)

Date: February 28, 2023

By: /s/ Douglas Ahrens

Name: Douglas Ahrens

Title: Chief Financial Officer
(Principal Financial and Accounting Officer)

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael Colglazier and Douglas Ahrens, or either of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to file and sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the United States Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities 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/ Michael Colglazier Michael Colglazier	Chief Executive Officer and President (Principal Executive Officer) and Director	February 28, 2023
/s/ Douglas Ahrens Douglas Ahrens	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 28, 2023
/s/ Wanda Austin Wanda Austin	Director	February 28, 2023
/s/ Adam Bain Adam Bain	Director	February 28, 2023
/s/ Tina Jonas Tina Jonas	Director	February 28, 2023

/s/ Craig Kreeger Craig Kreeger	Director	February 28, 2023
/s/ Evan Lovell Evan Lovell	Director	February 28, 2023
/s/ George Mattson George Mattson	Director	February 28, 2023
/s/ Wanda Sigur Wanda Sigur	Director	February 28, 2023
/s/ W. Gilbert West W. Gilbert West	Director	February 28, 2023